GOVERNMENT DEGREE COLLEGE FOR WOMEN (AUTONOMOUS)

BEGUMPET, HYDERABAD-16

Affiliated To Osmania University, Re-Accredited With 'A^{+}' Grade by NAAC

DEPARTMENT OF APPLIED NUTRITION AND PUBLIC HEALTH

SYLLABUS (2021-2022)

Programme Outcomes

PO1. Domain Expertise:

- Gain thorough knowledge in the chosen domain and be able to apply it wherever necessary in an innovative manner.

PO2. Modern equipment Usage:

- Equip the students with modern technological skills, so that they are able to use software applications in their careers.

PO3. Computing Skills and Ethics:

- Students learn critical thinking and are able to analyse and solve problems rationally and ethically for communication, entertainment and for the benefit of mankind throughout ones endeavours for the wellbeing of human race.

PO4. Complex Problem Investigation & Solving

- Learn to analyze the problem, frame hypotheses, interpret empirical data and execute action

PO5. Perform effectively as Individuals and in Teams

- Be able to contribute at individual level and as team member and prioritize institutional interest over individual.

PO6. Efficient Communication & Life skills

- Learn efficient communication to express, listen, understand and project views in a convincing manner clearly and concisely

PO7. Environmental Sustainability

- Understand current environmental challenges faced by the country & propagate and follow environment friendly practices.

PO8. Societal contribution

- Develop the pride in volunteering to address societal issues *viz:* calamities, disasters, poverty, epidemics and involve voluntarily in social development activities at Regional, National, global levels.

PO9. Effective Project Management

- Identify the goals, objectives and components of a project and then implementation so that deadlines are achieved, even when there are setbacks.

PROGRAMME SPECIFIC OUTCOMES

PSO1: Gain in depth knowledge on nutritional basics

PSO2: Understand fundamentals of nutritional biochemistry in relation to health and disease.

PSO3: Utilize basic nutrition knowledge and the dietary guidelines for making food choices that will promote optimal health.

PSO4: Develop understanding about nutrition in disease management, its prevention through various government programmes and policies.

PSO5: Plan a balanced diet for different age groups based on the nutritional concerns

PSO6: Able to provide nutrition counseling to patients using a variety of techniques.

PSO7: Gain competancy in food management for entrepreneurship.

PS08: Emphasize the correlation between nutrition and staying fit and understand the role of exercise and physical activity.

PSO9: Apply acquired skills in diet therapy, food service management, nutrition/health education.

PSO10:Understand the significance of beneficial microbes in foods as well as pathogen microbes - their sources, and the conditions under which they flourish.

PSO11: Gain in-depth knowledge on Physical and chemical contaminants and natural toxic substances.

PSO12: Assess the adulterants present in the food samples.

PSO13: Gain in-depth knowledge on various quality control measures of food products.

PSO14: Examine and judge the appropriateness of packaging of food to ensure compliance with Indian laws.

GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET-HYDERABAD

(AUTONOMOUS) CBCS

ACCREDITED WITH 'B+' GRADE BY NAAC

DEPARTMENT OF APPLIED NUTRITION

BOS 2020-2021 (CBCS)

GOVERNMENT DEGREE COLLEGE FOR WOMEN (A) BEGUMPET
DEPARTMENT OF APPLIED NUTRITION

Composition of the Board of Studies

1.	In-charge of the Department Concerned (Chairman)	Dr. T. Annie Sheron
2.	The entire faculty of each specialization	Dr. T. Annie Sheron
3.	Two subject experts nominated by Academic Council	1.Dr. Meena Kumari Dean, Admin, HoD Applied Nutrition St.Ann's College for Women Contact No.8790418881 Email id: meena.patangay@gmail.com 2.Dr. B. Anila Kumari Assistant Professor, Dept. of Food and Nutrition, College of Community Science, Postgraduate and Research centre, Prof. Jayashanker Telangana State Agriculture University, Rajendranagar, HYDERABAD. P. No:9948123355 Mail id: baniladr@gmail.com
4.	One expert to be nominated by the Vice-Chancellor from a panel of six recommended by the principal	Dr.B.Manjula-Chairperson BOS. University College of Science, Osmania University Contact No. 9989661469 Email id: bhanoorim@yahoo.co.in
5.	One representative from industry/corporate sector /allied area relating to placement.	Dr. Ms Radhika Food Scientist(D) NIN Contact No. 9440401160 Mail id: radhika.madhari@gmail.com
6.	One Postgraduate meritorious alumnus to be nominated by the principal. The chairman, Board of Studies, may with approval of the principal of the college, co-opt: (a)Experts from outside the college whenever special courses of studies are formulated. (b)Other members of staff of the same faculty.	Not Applicable

Term: The term of the Nominated Members shall be three years.
Meetings: The Board of studies shall meet at least twice a year.

Functions:

The Board of Studies of a Department in the college shall.

(a) Prepare syllabi for various courses keeping in view the objectives of the college, interest of the stakeholders and national requirement for consideration and approval of the Academic Council.
(b) Suggest methodologies for innovative teaching and evaluation techniques.
(c) Suggest panel of names to the Academic Council for appointment of examiners.
(d) Coordinate research, teaching, extension and other academic activities in the department /college.

GOVERNMENT DEGREE COLLEGE FOR WOMEN (A) BEGUMPET

DEPARTMENT OF APPLIED NUTRITION & PUBLIC HEALTH

BOARD OF STUDIES MEETING

5TH October 2021

AGENDA

1. Approval of the syllabus for V & VI Semesters of the B.Sc., II year (2021-22) according to CBCS.
2. Approval of Scheme of Evaluation for V & VI Semesters (60 External, 40 Internal)
3. Re Approval of the syllabus for I , II, III & IV Semesters of B.Sc.1st & 2nd year according to CBCS.
4. Ratification of SEC1 in 2020-21.
5. Review of the Syllabus and model papers.
6. Suggestions on Project Work
7. Panel of Examiners and their Approval
8. Review and suggestions on methodologies for Innovative Teaching and Evaluation.
9. Any other matter with the permission of the Chair.

GOVERNMENT DEGREE COLLEGE FOR WOMEN (A) BEGUMPET
HYDERABAD.

DEPARTMENT OF APPLIED NUTRITION & PUBLIC HEALTH

FIRST YEAR			**SEMESTER I**	
CODE	**COURSE TITLE**	**COURSE TYPE**	**HPW**	**CREDITS**
BS101	ENVIRONMENTAL STUDIES	AECC I	2	2
BS102	ENGLISH	CC- I A	4	4
BS103	SECOND LANGUAGE	CC -2 A	4	4
BS104	**BASICS OF BIOCHEMISTRY**	DSC-IA	4T+2P=6	4+1=5
BS105	OPTIONAL II	DSC -2A	4T+2P=6	4+1=5
BS 106	OPTIONAL III	DSC- 3A	4T+2P=6	4+1=5
	TOTAL			**25**
FIRST YEAR			**SEMESTER II**	
BS 201	GENDER SENSITIZATION	AECC 2	2	2
BS 202	ENGLISH	CC- I B	4	4
BS 203	SECOND LANGUAGE	CC -2 B	4	4
BS 204	**NUTRITIONAL BIOCHEMISTRY**	DSC- IB	4T+2P=6	4+1=5
BS 205	OPTIONALII	DSC- 2B	4T+2P=6	4+1=5
BS 206	OPTIONALIII	DSC- 3B	4T+2P=6	4+1=5
	TOTAL			**25**
SECOND YEAR			**SEMESTER III**	
BS 301	**FOOD SERVICE MANAGEMENT SKILLS**	SEC - I	2	2
BS 302	**PATIENT COUNSELING SKILLS**	SEC - II	2	2
BS 303	ENGLISH	CC- IC	3	3
BS 304	SECOND LANGUAGE	CC -2C	3	3
BS 305	**FOOD SCIENCE & TECHNOLOGY**	DSC - IC	4T+2P=6	4+1=5
BS 306	OPTIONAL- II	DSC- 2C	4T+2P=6	4+1=5
BS 307	OPTIONAL- III	DSC- 3C	4T+2P=6	4+1=5
	TOTAL			**25**
SECOND YEAR			**SEMESTER IV**	
BS 401	**QUANTITY FOOD PRODUCTION**	SEC – 3	2	2
BS402	**NUTRITION AND FITNESS**	SEC - 4	2	2
BS 403	ENGLISH	CC- I D	3	3
BS 404	SECOND LANGUAGE	CC -2 D	3	3
BS 405	**FAMILY & COMMUNITY NUTRITION**	DSC –1D	4T+2P=6	4+1=5
BS 406	OPTIONAL- II	DSC- 2D	4T+2P=6	4+1=5
BS 407	OPTIONAL- III	DSC- 3D	4T+2P=6	4+1=5
	TOTAL			**25**

THIRD YEAR			**SEMESTER V**	
BS 501	ENGLISH	CC – 1E	3	3
BS502	SECOND LANGUAGE	CC – 2E	3	3
BS 503	FUNDAMENTALS OF FOOD & NUTRITION	GE	4	4
BS 504	**FOOD SAFETY & QUALITY CONTROL**	DSE-1E	4T+2P=6	4+1=5
BS 505	OPTIONAL- II	DSE-2E	4T+2P=6	4+1=5
BS 506	OPTIONAL- III	DSE-3E	4T+2P=6	4+1=5
	TOTAL			**25**
THIRD YEAR			**SEMESTER VI**	
BS 601	ENGLISH	CC – 1F	3	3
BS 602	SECOND LANGUAGE	CC – 2F	3	3
BS 603	**PUBLIC HEALTH FOOD HYGIENE & SANITATION**	DSE-1F	4T+2P=6	4+1=5
BS 604	OPTIONAL- II	DSE-2F	4T+2P=6	4+1=5
BS 605	OPTIONAL- III	DSE-3F	4T+2P=6	4+1=5
BS 606	PROJECT WORK		4	4
	TOTAL			**25**
GRAND TOTAL		**150**		

CC-Core Course AECC- Ability Enhancement Compulsory Course

GE- General Elective DSC- Discipline Specific Course

SEC- Skill Enhancement Course DSE- Discipline Specific Elective

HPW- Hours per Week P- Practical T- Theory

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S.NO	COURSE CATEGORY	NO.OF COURSES	CREDITS PER COURSE	CREDITS
1.	AECC	02	2	4
2.	SEC	04	2	8
3.	CC	02	4 (I YEAR), 3 (II YEAR) & 3 (III YEAR)	40
4.	DSC	12	5	60
6.	DSE	06	5	30
7.	GE	01	4	4
8.	PROJECT WORK	01	4	4
	TOTAL	**37**		**150**
	CREDITS UNDER NON CGPA			
	NSS / NCC/ SPORTS/ EXTRA CURRICULAR		**UPTO 6 (2 IN EACH YEAR)**	
	SUMMER INTERNSHIP		**UPTO 4 (2 IN EACH YEAR)**	

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DEPARTMENT OF APPLIED NUTRITION
B.Sc., APPLLIED NUTRITION & PUBLIC HEALTH
I YEAR I - SEMESTER
BS104 DISCIPLINE SPECIFIC COURSE IA- (DSC IA):

BASICS OF BIOCHEMISTRY

CREDITS 4 **60 HOURS**

UNIT 1- INTRODUCTION TO NUTRITION& CARBOHYDRATES 16 HOURS

1.1 Introductory Nutrition, Definition of Nutrition, Food, Nutrients, or Proximate Principles, Nutritional needs of body, specific role of nutrients, classification of foods, food groups.

1.2 Carbohydrates — Composition and chemistry, classification, sources, nutritional significance, digestion, absorption and metabolism - Glycolysis, TCA Cycle with bioenergetics.

UNIT II- PROTEINS & NUCLEIC ACIDS 18 HOURS

2.1 Proteins: Composition and chemistry, classification sources, functions, digestion and absorption, denaturation. Nutritional significance of some amino acids. General properties of proteins, metabolism, deamination, transamination, decarboxylation. Outlines supplementary value of amino acids. Deficiency of Protein — PEM definition, classification, and age groups affected

2.2 Nucleic acids: Composition — purine and pyrimidine bases DNA, RNA — structure and biological functions

Unit III- LIPIDS 14 HOURS

3.1 Composition Chemistry classification- simple, compound & derived lipids with functions, cholesterol functions & ranges sources, chemical properties. Digestion and Absorption,

3.2 Essential fatty acids-omega3 & omega 6: functions and deficiency,

Elements of fat analysis, Metabolism: Beta- oxidation of fatty acids. Types of Rancidity, Ketosis

Unit IV-ENERGY METABOLISM 12 HOURS

4.1 Types of energy, energy yielding food factors, RDA & factors affecting RDA, energy units.

4.2 Principle of direct& indirect calorimetry.

4.3 Determination of energy value of food using bomb calorimeter. PFV (Physiological Fuel Value) of foods, RQ, SDA of food.

4.4 Determination of BMR and factors affecting BMR

Reference Books

1. Nutrition science- B Srilakshmi, New age international publishers, 2nd edition.
2. A textbook of biochemistry, Dr. AVSS Rama Rao, 10th edition, UBS publishers Distribution pvt. Ltd.
3. Biochemistry- U satyanaraya, U chakrapani, Books and Allied(P.Ltd)
4. Helen A. Guthrie, Introductory Nutrition, Times MirrorMosby
5. SwaminathanM, Advance Textboo on Food and Nutrition, Volume 1, The Bangalore printing and publishingco.,Ltd.
6. Mudambi SR and Rajagopal M V, Fundamentals of food and Nutrition, Willey Eastern Ltd.
7. Swaminathan M, Handbook of Food and Nutrition, The Bangalore Printing and Publishing Co. Ltd.

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B.Sc. CBCS
DEPARTMENT OF APPLIED NUTRITION
B.Sc., APPLLIED NUTRITION & PUBLIC HEALTH
I YEAR I -SEMESTER
BS104 DISCIPLINE SPECIFIC COURSE IA- (DSC-IA)

BASICS OF BIOCHEMISTRY (Practical)

PERIODS: 15 **NO. OF CREDIT-1**

I.Introduction to Qualitative and Quantitative of Nutrients

II. Carbohydrates:

1. Qualitative analysis of Glucose
2. Qualitative analysis of Fructose
3. Qualitative analysis of Maltose
4. Qualitative analysis of Sucrose
5. Qualitative analysis of Lactose
6. Qualitative analysis of Starch

III. Proteins

1. Qualitative analysis of Proteins

IV. Minerals

1. Qualitative analysis of Minerals

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I YEAR I -SEMESTER
BS104 DISCIPLINE SPECIFIC COURSE IA- (DSC IA)

BASICS OF BIOCHEMISTRY (Practical)

Model Paper

Max Marks : 50 **Time: 3Hrs**

Major Experiment

I. Perform the Qualitative analysis of the given Carbohydrate. **25 Marks**
   a. Identify – Mono, di and poly saccharides (5 M)
   b. Aim and Principal (5 M)
   c. Detailed Procedure (5 M)
   d. Reporting (5 M)
   e. Osazone crystals (Slide preparation) (5 M)

Minor Experiment

II. Perform the Qualitative analysis of the given Proteins / Minerals. **15 Marks**

III. Viva **5 Marks**

IV. Record **5 Marks**

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I YEAR II SEMESTER
BS 204 DISCIPLINE SPECIFIC COURSE IB- (DSC IB)

NUTRITIONAL BIOCHEMISTRY

CREDITS 4 **60 HOURS**

Unit I- VITAMINS — 20 HOURS

1.1 **Fat soluble Vitamins** - A,D,E,K History, Chemistry, physiological functions, sources requirements, effects of deficiency.

1.2 **Water soluble vitamins** — B Complex — Thiamine, Riboflavin, Niacin, Pantothenic Acid, Folic Acid, Vitamin B 12, Biotin and Pyridoxine, Vitamin C- History, requirements, functions, sources, effect of deficiencies.

Unit II-MINERALS — 16 HOURS

2.1 Calcium, Phosphorous, Iron, Fluorine, Iodine. History, Chemistry, physiological functions, sources, requirements, deficiency.

2.2 Role of Zinc and Selenium as antioxidants.

Unit III-Water balance and Electrolyte balance — 12 HOURS

3.1 Functions of water, water compartments in the body, distribution of water &electrolyte in the body. Regulation of water balance (over hydration & dehydration), regulation of electrolyte balance (hypo & hypernatremia, hypo & hyperkalemia), RAAS (Renin Angiotensin Aldosterone system), water intoxication.

3.2 Acid base balance & imbalance, Japanese Water Therapy.

Unit IV-ENZYMES & HORMONES — 12 HOURS

4.1 **Enzymes** — Definition, classification, properties, mechanism of enzyme action, factors affecting enzyme action, enzyme inhibitions.

4.2 **Hormones** — Major endocrine glands and their secretions, classification, general mode of action, functions hypo & hyper secretion of — Insulin, Thyroxin, growth hormone, sex hormones.

Reference Books

- ✓ Nutrition science- B Srilakshmi, New age international publishers, 2nd edition.
- ✓ A textbook of biochemistry, Dr. AVSS Rama Rao, 10th edition, UBS publishers Distribution pvt. Ltd.
- ✓ Biochemistry- U Satyanaraya, U Chakrapani, Books and Allied(P.Ltd)
- ✓ Helen A. Guthrie, Introductory Nutrition, Times MirrorMosby
- ✓ Swaminathan M, Advance Textbook on Food and Nutrition, Volume 1, The Bangalore printing and publishing co.,Ltd.
- ✓ Mudambi SR and Rajagopal M V, Fundamentals of food and Nutrition, Willey Eastern Ltd.
- ✓ Swaminathan M, Handbook of Food and Nutrition, The Bangalore Printing and Publishing Co. Ltd.

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DEPARTMENT OF APPLIED NUTRITION
BSC APPLIED NUTRITION & PUBLIC HEALTH
I YEAR II SEMESTER
BS 204 DISCIPLINE SPECIFIC COURSE IB- (DSC IB)

NUTRITIONAL BIOCHEMISTRY (PRACTICAL)

NO. OF HOURS 15 **CREDITS-1**

I. **Quantitative analysis of carbohydrates**
- Estimation of reducing sugar by Benedict's method
- Estimation of Fructose by Roe's Resorcinol method

II. Estimation of protein by Biuret method

III. Fats
Determination of saponification number of oil.

IV. Vitamins
Estimation of ascorbic acid by 2,6, dichlorophenol, indophenols method in lemon / cabbage / green chillies.

V. Minerals
Estimation of Calcium in the Ash solution of Green leafy vegetable by titrimetric method.

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I YEAR II SEMESTER
BS204 DISCIPLINE SPECIFIC COURSE IB- (DSC IB)

NUTRITIONAL BIOCHEMISTRY
(FINAL PRACTICAL EXAM)

Model Paper

Max Marks : 50 **Time: 3Hrs**

1. Estimate the amount of any one of the following present in the given sample solution. **(25 Marks)**

   a. Reducing sugar by Benedict's method.
   b. Proteins by Biuret Method.
   c. Ascorbic acid by Dye Method.

   Give The
   a. Principle

   0

   6 Marks

   b. Procedure

   0

   7 Marks

   c. Observation and Calculation

   1

   2 Marks

2. Estimate the amount of Calcium in the given sample 1**5 Marks**
3. Viva **5 Marks**
4. Record **5 Marks**

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DEPARTMENT OF APPLIED NUTRITION
B.SC. II YEAR & III-SEMESTER
BS 305 DSC-1C

PAPER III-FOOD SCIENCE & TECHNOLOGY (THEORY)

NO.OF HOURS: 60 **CREDITS:- 4**

CREDIT I: BASICS OF FOOD SCIENCE, CEREALS & MILLETS 15 Hours

1.1 Definition of food science and food technology. Brief objectives of cooking and cooking methods.
1.2 Cereals & millets: Cereal - (Rice and Wheat)-Structure, Nutritive value, Composition, role in cookery
1.3 Millets-Types of millets – Jowar & Maize
1.4 Milling of wheat and corn.
1.5 Role of gluten in dough formation, factors affecting gluten.

CREDIT II: PULSES & LEGUMES, MILK & MILK PRODUCTS 15 Hours

2.1 Pulses & legumes: Nutritive value, germination, Anti-nutritional factors, elimination, the role of pulses in cookery
2.2 Processing- Milling of pulses, legume protein concentrate, quick-cooking legumes.
2.3 Milk & milk products: types, nutritive value, composition, processing if milk, role in cookery.
2.4 Different types of Fermented & non-fermented milk product.
2.5 Processing of Cheese & Curd.
2.6 Processing of Paneer & Khoa.

CREDIT III: FLESHY FOODS, SPICES, CONDIMENTS & BEVERAGES 15 Hours

3.1 Fleshy foods (a) Meat: sources & types, nutrient composition, post mortem changes & processing of Meat-Ageing, tenderization and curing.
(b) Fish: Classification & types of fish, selection of fish.
(C) Eggs: Structure, composition, nutritive value, the role of egg in cookery
3.2 Spices and condiments: List of various spices and condiments in Indian Cookery Cinnamon, Clove, Fenugreek Seed, Ginger, Garlic, Onion, Turmeric, Fennel Seeds active compounds and medicinal values
3.3 Beverages – Definition, Classification, Processing- black tea, green tea and wine.

CREDIT IV: VEGETABLES & FRUITS, SUGAR & JAGGERY, FATS & OILS 15 HOURS

4.1 Vegetable: Classification, composition- pigments, organic acids, enzymes, flavor, compounds, Nutrition value.
4.2 Fruits: Definition, classification, composition- pigments, water content , cellulose & peptic substance, flavor constituents, polyphones, nutritive value, changes during ripening, enzymatic browning
4.3 Sugar & jaggery: sources, types, roles in cookery
4.4 Fats & oils: Sources, types, spoilage - rancidity, refining of oils, role in cookery

Recommended Books:

1. Textbook of Sri Lakshmi B - food science 5th edition, New age international publishers, New Delhi – 110002, 2011

2. Norman Potter N - food science, CBS publishers & distributers, New Delhi – 110002, 2007

3. Food processing and preservation, G.Subbalakshmi and shobha A.Udipi, New age international publishers, 2010.

4. Food processing and preservation, G.Subbulakshmi and Shoba A. Udipi, New age international publishers, 2010

4. Food preservation and processing, Monoranjan Kalia, Sangita Sood, Kalyani publishers, New Delhi, 2018.

Suggested Reading:

1. Shankuntala Manays N - Foods Facts & Principles, New Age International Publishers,
New Delhi - 110002, 2005

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DEPARTMENT OF APPLIED NUTRITION

B.SC. II YEAR & III - SEMESTER

BS305, DSC-1C

PAPER III- FOOD SCIENCE & TECHNOLOGY (PRACTICALS)

Total No. of Practical's: 7

1. Demonstration of Standard Weights & Measures, Types of cut: Julienne, Chiffonade, Diagonal, Roll cut, Cubes and flower cut

2. Cookery Practical's in:

    i. Cereals & Pulses.

    ii. Milk & Its product, Fleshy Foods- Meat, Fish & Eggs

    iii. Vegetables & Fruits.

4. Estimation of Gluten

5. Evaluation of Egg quality – candle test & floating test

6. Stage of sugar cookery:

    i. Thread – Gulabjamun

    ii. Softball – Barfi

    iii. Hard crack - Chikki

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DEPARTMENT OF APPLIED NUTRITION

FINAL PRACTICAL EXAMINATION SEMESTER-III

B.Sc. (CBCS) APPLIED NUTRITION AND PUBLIC HEALTH

PAPER-III FOOD SCIENCE& TECHNOLOGY

BATCH: _____ **DATE: _____**

TIME: 2 HOURS **MARKS: 50**
MARKS

I. Write the detailed method of preparation for the recipe. Calculate the Nutritive Value for the serving. **(15M)**

II. Prepare and Display the recipe **(15M)**

III. Evaluate the quality of egg **(15M)**

(OR)

Demonstrate the different stage of sugar cookery

(OR)

Estimate the gluten content of the given sample

IV. Practical Record **(5M)**

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DEPARTMENT OF APPLIED NUTRITION
B.SC. II YEAR
III-SEMESTER
PAPER- BS301, SEC-1

FOOD SERVICE MANAGEMENT

NO. OF HOURS 30 **CREDITS 2**

CREDITS I : Management Of Food & Food Service Establishments 15 Hours

1.1 Principles of management, types of food services institution - commercial & Non-commercial

1.2 Food management: Construction of the menu, Importance of menu planning, types of menu - A 'la carte ' table d'hôte, combination & food service style

CREDIT II: Setting Up A Food Service Credit & Financial Management 15 Hours

2.1 Setting up food service; layout & design, planning team, architectural features, process flow, time managements.

2.2 Financial management: Component of Cost control, factors affecting losses

Recommended Books:

1. Catering Management – An integrated approach – Mohini Sethi, Surjeet Malhan, 3rd edition , New Age International Publisher.

2. Institutional Food Management – Mohini Sheti, New Age International Publisher

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B.SC. II YEAR & III-SEMESTER
PAPER- BS302, SEC-2

PATIENT COUNSELLING SKILLS

No. of Hours 30 **Credits 2**

Credit I : Diet and Nutrition History 15 Hours

1.1 The Medical Record and Patient profile, Dietary Intake, Assessment and Nutrition History; diet history. Food Frequency questionnaire and 24 flour recall.

1.2 Definition or Counseling. Nutrition counselling goals - the people involved, Communication process in counseling.

Credit II : Counselling skills, Weight Management I5 Hours

2.1 Counselling skills for behaviour change strategies. Problems in Communication, Resources and Aids in Counseling.

2.2 Counseling for Weight Management -· Assessment, Types of obesity, Causes. Counseling over weight and obese subjects.

Suggested Readings

a. Kathy King and Bridget Klawitter, Nutrition Therapy: Advanccd Counseling Skills. Third Edition. Lippincott Williams and Wilkins. 2007.
b. Sylvia Escott Stump, Nutrition and Diagnosis - Related Care. Sixth Edition. Lippincott Williams and Wilkins, 2008.
c. Krause M. Kathleen. L Mahan and Sylvia Escott Stump, Food Nutrition and Diet Therapy. 11th Edition. W.B. Saunders Co. Philadelphia. 2004.

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DEPARTMENT OF APPLIED NUTRITION

B.SC. II YEAR & IV-SEMESTER
BS 405, DSC-ID
PAPER – IV: FAMILY & COMMUNITY NUTRITION (THEORY)

NO. OF HOURS – 60 HOURS **CREDITS 4**

Credit I: Basics Of Meal Planning (14 Hours)

1.1 Definition of Balanced diets. RDA. Factors affecting RDA, ICMR recommendations.
1.2 Food pyramid, my food plate.
1.3 Food Exchange List (raw), food composition tables.
1.4 Principles & Objective of meal planning.
1.5 Nutrient requirement & meal planning for adults, changes in nutrient requirement according to sex, age & activity.

Credit II: Nutritional Requirement During Pregnancy, Lactation & Infancy (16 Hours)

Nutrient requirement & RDA for
2.1 Expectant mother- physiological changes, dietary modification & complications.
2.2 Lactation- general dietary guidelines & role of special foods.
2.3 Infancy- growth & development , breast feeding v/s artificial feeding. Factors to be considered while preparing & introducing supplementary foods.

Credit III : Nutrient Requirement For Pre Schoolers, School Going Child & Adolescent (15 Hours)

3.1 Preschoolers – problems in feeding. Factors affecting nutritional status.
3.2 School going child- the importance of breakfast, packed lunch & mid-day meal programs- ICDS, SNP.
3.3 Adolescence - eating disorder, anemia, anemia prophylaxis program.

Credit IV: Nutrition Requirement For Geriatric Group & Nutritional Assessment (15 Hours)

4.1 Geriatrics- RDA & Nutritional requirement during old age, physiological changes & dietary modification.
4.2 Nutritional Assessment – Method of Assessment of Nutritional status, Anthropometric, Biochemical, Clinical methods & Diet surveys.

Reference Books

1. Sri Lakshmi B -Dietetics New Age International Publisher, New Delhi - 110002, 2011.
2. Sri Lakshmi B -Nutrition science, 5th Edition, New Age International Publisher, New Delhi - 110002, 2011

Suggested Books:

1. Mahtab S. Bamji, Kamala Krishnaswamy, G.N.V Brahman - A text on human Nutrition, 3rd edition, Oxford & IBH publishing, Co. PVT. LTD. New Delhi.

GOVERNMENT DEGREE GOLLEGE FOR WOMEN (AUTONOMOUS)
BEGUMPET-HYDERABAD
CBCS
DEPARTMENT OF APPLIED NUTRITION
B.SC. II YEAR & IV-SEMESTER
BS 405, DSC-ID

PAPER – IV FAMILY & COMMUNITY NUTRITION (PRACTICAL)

CREDIT 2 **TOTAL NO. OF PRACTICAL: 10**

1. Planning of diets
    a. Adult-according to sex & activity
    b. Pregnant & lactating women
    c. School going child.
    d. Adolescents.
    e. Old age group
2. Preparation of diets – 4 practical sessions
3. Formulation & Preparation of weaning mix

GOVERNMENT DEGREE GOLLEGE FOR WOMEN (AUTONOMOUS)
BEGUMPET-HYDERABAD
CBCS
DEPARTMENT OF APPLIED NUTRITION

FINAL PRACTICAL EXAMINATION
SEMESTER – IV PAPER – IV

FAMILY & COMMUNITY NUTRITION

TIME: 3 HOURS **MAX MARKS: 50 MARKS**

DATE: _____ **BATCH: _____**

1. Write the RDA? (5 Marks)

2. Plan A Day's Diet for the Given Age Group and Calculate Value for any three Nutrients of Importance. (25 Marks)

   a. Adulthood
   b. Pregnant Women
   c. Lactating Mother
   d. School going Child
   e. Adolescent
   f. Old Age Group

   i. Planned Menu (10 Marks)

   ii. Calculate any three Nutrients of importance (15 Marks)

3. Preparation & Display of the Diet (15 Marks)

4. Record (5 Marks)

GOVERNMENT DEGREE GOLLEGE FOR WOMEN (AUTONOMOUS)
BEGUMPET-HYDERABAD
CBCS
DEPARTMENT OF APPLIED NUTRITION
B.SC. II YEAR & IV - SEMESTER
BS 401, SEC-3

QUANTITY FOOD PRODUCTION

No. of HOURS – 30 HOURS **CREDITS: 2**

CREDIT I: Quantity Food Production, Planning and Control 15 HOURS

1.1 Principles of food production-menu, ingredient control etc. production control - use of standardized recipes

1.2 Safeguarding Food Production - Quality control in food preparation, control of the microbial quality of food

CREDIT II: Food Management 15 HOURS

2.1 Purchasing – market and the buyer, mode of purchasing, methods of purchase, Storage, Cooking equipment. Records necessary for catering

2.2 Methods of delivery- centralized. Types of service-table / counter, self, tray

Books Recommended

I. Catering Management – An Integrated Approach – MOHINI SHETI, SURJEET MALHAN, 3rd edition, New Age International Publishers

2. Institutional Food Management – Mohini Sethi, New Age International Publishers.

3. Food Service Management, principal and practices, 13th edition - June Pyne Palacio, Monica thiece, person publishers

GOVERNMENT DEGREE GOLLEGE FOR WOMEN (AUTONOMOUS)
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CBCS
DEPARTMENT OF APPLIED NUTRITION

DEPARTMENT OF APPLIED NUTRITION
B.SC. II YEAR IV -SEMESTER
BS 401, SEC-4
NUTRITION AND FITNESS

No. of HOURS – 30 HOURS **CREDITS: 2**

CREDIT I: Introduction, Types of Exercise, Physical Activity **15 HOURS**

1.1 Definition of fitness, health and related terms. General guidelines for Exercise. Guidelines for Healthy eating.

1.2 Nutritional recommendations for better physical performance. Nutritional supplements. Types of Exercise programs

1.3 Physical activity - frequency, intensity, time and type with examples

CREDIT II: Management, Guidelines, Physical activity pyramid **15 HOURS**

2.1 Weight Management: Regulation of Body weight, Causes of overweight and obesity.

2.2 Assessment and dietary management of overweight and obesity. Physical activity guidelines and physical activity pyramid.

2.3 Popular diets and practices

Suggested Reading

1. Wardlaw GM and Smith AM. Contemporary Nutrition: A Functional Approach. 2nd ed: 2012.Mc Graw Hill.
2. Williams Melvin. Nutrition for health, fitness and sports. 2004.Mc Graw Hill
3. Joshi AS. Nutrition and Dietetics 2010. Tata Mc Graw Hill.

GOVERNMENT DEGREE GOLLEGE FOR WOMEN (AUTONOMOUS)
BEGUMPET-HYDERABAD
CBCS
DEPARTMENT OF APPLIED NUTRITION

B.SC. III YEAR & V-SEMESTER
BS 405, DSC-1E
PAPER – V: FOOD SAFETY AND QUALITY CONTROL (THEORY)

NO. OF HOURS – 60 HOURS **CREDITS 4**

CREDIT I: Introduction to Food Safety **15 Hours**

1.1 Food safety issues; physical, chemical and microbiological contaminants, bovine spongiform encephalopathy (BSE), genetically modified organisms and genetically modified foods. Food safety system, definitions and terminology in Quality Management Systems.

1.2 History of quality control and quality management. Quality management theories and their authors

CREDIT II: Physical and Chemical Contaminants **15 Hours**

2.1 Metals, mineral (soil, engine oil, stones), plant (leaves, twigs, pods and skins), Animal (hair, bone, excreta, blood, insects, larvae).

2.2 Safety evaluation of food ingredients. Major pathways by which chemical contaminants enter the food chain Residues and contaminants in food chain.

2.3 Agrochemicals and veterinary drugs, packaging materials, process equipment and Ingredient impurities.

CREDIT III: Natural Toxic Substances &Additives **15 Hours**

3.1 Mycotoxins, Marine and Freshwater toxins (formally known as Phycotoxins), Plant toxins and toxic plants, Toxic Mushrooms.

3.2 Nature, properties and function of various classes of food additives (colorants, flavours, Sweeteners, thickening and gelling agents, and antioxidant preservatives).

3.3 Radioactivity-residues as contaminants and residues from irradiation

CREDIT IV Microbial Food Safety & Control of Food Safety **15 Hours**

4.1 Microbial food safety: The significance of foodborne disease.

4.2 Protozoa; Cryptosporidium parvum. Toxigenic fungi; mycotoxins of Aspergillus.

4.3 Foodborne viruses; gastroenteritis viruses.

4.4 Control of Food Safety and Quality Management: Protecting public health and Eliminating risk. Farm to table strategy and animal traceability.

4.5 Good Manufacturing Practices (GMPs); Hazard Analysis and Critical Control Point (HACCP) concept; Quality Management Systems: ISO 9000.

Reference Books:

1. Jacob M., Safe Food Handling – A training guide for the Manager, WHO, Geneva
2. Mudambi S.R., Rao S.M. and Rajagopal M.V. Food Science, New Age International Publishers
3. Patil, P.V. Food Contamination and Safety, Aavishkar Publishers, Distributors Jaipur, India.
4. Nicholas Johns, Managing Food Hygiene, Mac Millan Publishing Co
5. Hobbs, B.C. and Gilbert R.J. Food Poisoning and Food Hygiene, The English Language Book Society and Edward Arnold Publishers Ltd

GOVERNMENT DEGREE GOLLEGE FOR WOMEN (AUTONOMOUS)
BEGUMPET-HYDERABAD
CBCS
DEPARTMENT OF APPLIED NUTRITION

B.SC. III YEAR & V-SEMESTER
BS 405, DSC-1E
PAPER – V: FOOD SAFETY AND QUALITY CONTROL (PRACTICALS)

NO. OF HOURS – 30 HOURS **CREDITS 1**

1. Examine and judge the appropriateness of packaging of food to ensure compliance with Indian laws for canned, bottled & tetra packs.
2. A market survey of 3 processed product food (any 3) with respect to standards (nutritionallabelling, certification etc.) to be able to judge the status of claims and misleading descriptions.
3. Prepare a record file adding the various type of packaging material, write a report on the type of packaging material, characteristics and stability, nutritional labelling of 15 packaging materials.
4. Examining food contamination by microorganism using direct examination and cultural technique.
5. Detection of artificial colour by TLC method.

GOVERNMENT DEGREE GOLLEGE FOR WOMEN (AUTONOMOUS)
BEGUMPET-HYDERABAD
CBCS
DEPARTMENT OF APPLIED NUTRITION

B.SC. III YEAR & V-SEMESTER

BS 405, DSC-1E

PAPER – V: FOOD SAFETY AND QUALITY CONTROL (PRACTICALS)

NO. OF HOURS – 3 HOURS **MARKS 50**

1. Identify the given packaging material, write a report on packaging material and food law/ guidelines with respect to packaging material.
   15M
   a) Tetra packs
   b) Cans
   c) Bottles
2. Read the label of the given food product and write the report on nutritional, labelling, logo and ingredients/ additives.
   10M
3. Examining food contamination by microorganism using direct examination and cultural technique.

   OR

   Detection of artificial color by TLC method.
   15M
4. Record
   10M

GOVERNMENT DEGREE GOLLEGE FOR WOMEN (AUTONOMOUS)
BEGUMPET-HYDERABAD
CBCS
DEPARTMENT OF APPLIED NUTRITION

B.SC. III YEAR & V-SEMESTER
BS 503, General Elective (GE)
FUNDAMENTALS OF FOOD AND NUTRITION

NO. OF HOURS – 60 HOURS **CREDITS 4**

CREDIT I: Fundamentals of Food **15 Hours**

1.1. Definition of food, Types of Foods – Nano foods, Convenience foods
1.2 Textured foods, space foods, Novel foods and organic foods

CREDIT I: Fundamentals of Nutrition **15 Hours**

2.1 Definition of Nutrition
2.2 Digestion, absorption and assimilation of foods in human gut.
2.3 Benefits of intestinal microflora – Pre & probiotics

CREDIT I: Food safety and Quality Control **15 Hours**

3.1 Selecting and purchasing food
3.2 Understanding food labels
3.3 Storing raw food and cooked foods
3.4 Definition of food adulteration and common adulterants present in food.

CREDIT I: Hygiene and Sanitation **15 Hours**

4.1 Definition of Hygiene and Sanitation
4.2 Personal hygiene of food handler
4.3 Techniques of washing hands
4.4 Pest control and garbage disposal

Reference Books

1. Sri Lakshmi.B – Nutrition Science, New age International Publishers.
2. Sri Lakshmi.B – Food science, New age International Publishers.
3. Biochemistry- U satyanaraya, U chakrapani, Books and Allied(P.Ltd)
4. The Pink Book – Food Smart by FSSAI
5. Catering Management – An Integrated Approach – Mohini Sethi, Surjeet Malhan, 3rd edition, New Age international Publishers

GOVERNMENT DEGREE GOLLEGE FOR WOMEN (AUTONOMOUS)
BEGUMPET-HYDERABAD
CBCS
DEPARTMENT OF APPLIED NUTRITION

B.SC. III YEAR & VI-SEMESTER
BS 405, DSC-1E

PAPER – VI: PUBLIC HEALTH, FOOD HYGIENE & SANITATION (THEORY)

NO. OF HOURS – 60 HOURS **CREDITS 4**

CREDIT I: Introduction to Public Health & Medical Entomology 15 Hours

1.1. Definition of Public Health, Hygiene, Social and preventive medicine.

1.2. Epidemiological triad, Mode of diseases transmission & disease cycle.

1.3. Epidemiological methods-steps, advantages & disadvantages. Descriptive, Analytical, Experimental epidemiology.

1.4 Medical Entomology, control of household pest with special reference to mosquito, housefly Environmental, chemical, biological and generic control.

CREDIT II: Foodborne Disease 15 Hours

2.1. Food Borne Disorders: Foodborne infections-Typhoid, Paratyphoid cholera, infective hepatitis, amoebiasis.

2.2. Foodborne intoxications- Disorders caused by; Natural toxins – Aflatoxin, Saponin, chemical toxins and Microbiological toxins in food- Staphylococcal intoxication, botulism, Clostridium perfringens, Mycotoxins, control of foodborne illness.

CREDIT III: HEALTH EDUCATION 15 Hours

3.1. Health and Nutrition- education- definition, components, principles of health education, methodology- individual, group and mass methods use of audiovisual aids.

3.2. Primary health care system with special reference to Maternal and Child HealthCare.

3.3. Primary health system functioning in rural areas, health indicators morality(Infant & maternal), morbidity, disability and various health organizations,

3.4. Malaria and AIDs Control-NHP, WHO, UNICEF, ICDS.

3.5 Immunizing agents, hazards of immunization, National Immunisation schedule.

CREDIT IV: Food Adulteration & Standards 15 Hours

4.1. Food adulteration Types of adulterants: Incidental adulteration – Microorganisms, Metallic and Packaging. Intentional adulteration – common, adulterants.

4.2. Food standards and food laws – PFA, Essential Commodities Act – FPO, MPO, MMPO, Deoiled meal flour control, vegetable product control order, standards of weights and measures rules.

4.3. National and International standards – FSSAI, FFRC, Agmark, Codex Alimentarius, HACCP, ISO Certification, BIS.

4.4. Consumer guidance society, comsumer rights, consumer courts, central facility for assessinf food adulteration, Role of food inspectors.

Suggested Books

6. Food hygiene & sanitation- Roday.S, Tata Mc Graw Hill publishing company ltd.
7. Mohini Sethi, catering management, New age international publishers.
8. Sri Lakshmi.B – Food science, New age International Publishers.
9. Park K (2011). Park's Textbook of preventive and Social Medicine, 21st Edition M/S Banarasi Publishers, Jabalpur, India.

GOVERNMENT DEGREE GOLLEGE FOR WOMEN (AUTONOMOUS)
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DEPARTMENT OF APPLIED NUTRITION

B.SC. III YEAR & VI-SEMESTER

BS 405, DSC-1E

PAPER – VI: PUBLIC HEALTH, FOOD HYGIENE & SANITATION (PRACTICALS)

NO. OF HOURS – 30 HOURS **CREDITS 2**

I. Identification of adulterants in various classes of food samples
a) Cereals and pulses
b) Milk and milk products – milk, curd, khoa
c) Ghee, oil, butter.
d) Spices and condiments- chilli powder, turmeric, pepper, asafetida, dhania, Salt, whole and powdered spices
e) Sugar, honey and jaggery, tea coffee and miscellaneous foods

II. Preparation of 3 audiovisual aids like Flashcard/PowerPoint, poster and models related tohealth and nutrition.

III. Formulation and preparation of a low-cost nutritious recipe
IV. Field visit. Report writing on a field visit

GOVERNMENT DEGREE GOLLEGE FOR WOMEN (AUTONOMOUS)
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CBCS
DEPARTMENT OF APPLIED NUTRITION

B.SC. III YEAR & VI-SEMESTER
BS 405, DSC-1E

PAPER – VI: PUBLIC HEALTH, FOOD HYGIENE & SANITATION (PRACTICALS)

NO. OF HOURS – 3 HOURS **MARKS 50**

1. Identify the adulterants present in the given milk sample 15 Marks
2. Identify the adulterants present in the given sample (any 2 samples) 10 Marks
   a. Cereals and Pulses
   b. Spices and condiments
   c. Fats and oils
   d. Sweeteners
   e. Beverages
3. Audio Visual Aids 20 Marks
4. Record 05 Marks

GOVERNMENT DEGREE GOLLEGE FOR WOMEN (AUTONOMOUS)
BEGUMPET-HYDERABAD
CBCS
DEPARTMENT OF APPLIED NUTRITION
BSC. APPLIED NUTRITION & PUBLIC HEALTH
I, II, III, IV, V & VI SEMESTERS
Common Model Question Paper for DSC, DSE & GE

Theory Model Question Paper

Time: 2.30 hrs **Max. Marks: 60**

Min Marks: 24

Draw well-labeled diagrams wherever necessary

SECTION – A

I. Write short answer for any 5 of the following **5 X 4 = 20M**

1. Unit - I
2. Unit - I
3. Unit - II
4. Unit - II
5. Unit – III
6. Unit – III
7. Unit - IV
8. Unit - IV

SECTION - B

II.Answer the following Essay Questions: **4X 10 = 40M**

9. a. Unit – I (OR) b. Unit - I
10. a. Unit – II (OR) b. Unit - II
11. a. Unit – III (OR) b. Unit – III
12. a. Unit – IV (OR) b. Unit – IV

***Internal Exam carries 40 Marks.**

GOVERNMENT DEGREE GOLLEGE FOR WOMEN (AUTONOMOUS)
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BSC. APPLIED NUTRITION & PUBLIC HEALTH

SEM VI - Project Work

Max. Marks: 100 **Min Marks: 40**

1. **Thesis** **60 Marks**
2. **Presentation** **40 Marks**

GOVERNMENT DEGREE GOLLEGE FOR WOMEN (AUTONOMOUS)
BEGUMPET-HYDERABAD
CBCS
DEPARTMENT OF APPLIED NUTRITION
LIST OF PANEL OF EXMINERS
B.SC.I, II & III YEAR

SEMESTER	PAPER	NAME OF EXAMINER	DESIGNATION	COLLEGE
I, II, III, IV, V & VI	I, II, III, IV, V & VI	Ms.A. Usha Sree	Lecturer	RBVRRW COLLEGE P.No:9100364495, Mail id: ushasri617@gmail.com
		Mrs. Phani Kumari	Lecturer	St. Ann's College for Women Contact No: 9676926060 Mail id: phanisudheer9@gmail.com
		Mrs. Urooja Birjis	Lecturer	St. Ann's College for Women Contact No:9542815524 Mail id: uroojabirjis@yahoo.com
		Mrs. Chitkala Rajan	Lecturer	Smt. Sarojini Naidu Vanitha Maha Vidyalaya Contact No. 9703022789 Mail id: rajanchitkala@gmail.com
		Mrs. Santoshi Lakshmi	Lecturer	OU College for Women, Koti Contact No. 9949009800 Mail id: santoshikulkarni1@gmail.com
		Mrs. Rumila Sita Ram Kumar	Lecturer	RBVRRW COLLEGE Ph.No: 9866867577 Mail id: rumilasitaram@gmail.com
		Mrs. Syeda Nasreen	Assistant Professor	Madina Degree College, Himayat Nagar Ph. No: 9700524831 imsyedanasreen@gmail.com

GOVERNMENT DEGREE COLLEGE FOR WOMEN (AUTONOMOUS), BEGUMPET, HYDERABAD

Affiliated to Osmania University

Re-Accredited with 'A^{+}' Grade by NAAC

DEPARTMENT OF BOTANY

B.Sc. COURSE STRUCTURE, SYLLABUS, POs, PSOs & COs

CHOICE BASED CREDIT SYSTEM (2021-22)

GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET-HYDERABAD

(AUTONOMOUS) CBCS

ACCREDITED WITH 'B' GRADE BY NAAC

WELCOME

TO

DEPARTMENT OF BOTANY

BOS 2021- 22(CBCS)

AGENDA FOR THE BOARD OF STUDIES MEETING

1. Approval of the syllabus for V & VI semesters of B.Sc. III year according to CBCS (Choice based credit system).

2. Re-Approval of the syllabus for I, III, II, IV semesters of B.Sc. I & II year according to CBCS (Choice based credit system).

3. Re-approval of Scheme of evaluation-Examination pattern to be followed for I, II, III and IV semesters.

4. Approval of Scheme of evaluation for V and VI Semesters (60 External; 40 Internal)

5. Approval of list of panel of examiners.

6. Any other matter with the permission of chair.

Sign of B.O.S.

GOVERNMENT DEGREE COLLEGE FOR WOMEN(A) BEGUMPET

DEPARTMENT OF BOTANY

Composition of the Board of Studies

1.	Head of the Department Concerned (Chairman)	Dr. K.Usha Rani
2.	The entire faculty of each specialization	1.Dr T Annie Sheron- Assistant Professor 2.Dr R. Sreelatha-Assistant Professor 3.Mrs. B. Rukmini Devi-Assistant Professor 4.Dr. R. Sneha- Assistant Professor
3.	Two subject experts from outside Parent University to be nominated by Academic Council	1.P. Srinivasulu I/c Head, Department of Botany DRBRR GDC, Jadcherla, Mahaboobnagar, Palamuru University 2.Dr.D. Parvathi Assistant Professor of Botany Pingle GDCW, Warangal, Kakatiya University.
4.	One expert to be nominated by the Vice-Chancellor from a panel of six recommended by the principal	Prof. Rama Chairperson BOS. Dept. of Botany, University College of Science, Osmania University
5.	One representative from industry/corporate sector /allied area relating to placement.	Kathula Lingaiah/Narendar/Bharath Biotech Agriculturist. Ramannapet
6.	One Postgraduate meritorious alumnus to be nominated by the principal. The chairman, Board of Studies, may with approval of the principal of the college,co-opt: (a)Experts from outside the college whenever special courses of studies are formulated. (b)Other members of staff of the same faculty.	T.Keerthi Sri Hall ticket Number: 108517445051 Studying M.Sc. Botany in Osmania University, Hyderabad

Term: The term of the Nominated Members shall be three years.

Meetings: The Board of studies shall meet at least twice a year.

Functions:

The Board of Studies of a Department in the college shall.

(a) Prepare syllabi for various courses keeping in view the objectives of the college, interest of the stakeholders and national requirement for consideration and approval of the Academic Council.

(b) Suggest methodologies for innovative teaching and evaluation techniques.

(c) Suggest panel of names to the Academic Council for appointment of examiners.

(d) Coordinate research, teaching, extension and other academic activities in the department /college.

Sign of B.O.S.

Annexure – I (Credits)
Proposed CBCS Scheme for B.Sc.
w.e.f 2019-20

Courses		Papers	Total Credits	Credits for each paper / Semester B.Sc.					
				I	II	III	IV	V	VI
Core Courses DSC	Optional-1	4	20	5	5	5	5	-	-
	Optional-2	4	20	5	5	5	5	-	-
	Optional-3	4	20	5	5	5	5	-	-
Elective Courses DSE	Optional-1	2	10	-	-	-	-	5	5
	Optional-2	2	10	-	-	-	-	5	5
	Optional-3	2	10	-	-	-	-	5	5
Language	English (First Language)	5	20	4	4	3	3	3	3
	Second Language	5	20	4	4	3	3	3	3
Ability Enhancement Compulsory Course AECC	Environmental Science / Basic Computer Skills	1	2	2	-	-	-	-	-
	Basic Computer Skills / Environmental Science	1	2	-	2	-	-	-	-
Skill Enhancement Course SEC	SEC1	1	2	-	-	2	-	-	-
	SEC2	1	2	-	-	2	-	-	-
	SEC3	1	2	-	-	-	2	-	-
	SEC4	1	2	-	-	-	2	-	-
Generic Elective GE	Open Stream	1	4	-	-	-	-	4	-
Project Work/Optionals		1	4	-	-	-	-	-	4
Total Credits in each semester				25	25	25	25	25	25
Total Credits in UG				150					
Credits under Non-CGPA		NSS /NCC /sports / Extra curricular	6	Upto 6 (2 in each year)					
		Summer Internship	4	Upto 4 (2 in each, after I & II years)					

Annexure II
Proposed New Grading System

SGPA (SEMESTER GRADE POINT AVERAGE)			
S. No.	Grade Point	Range of marks	Grade Letter
1	10	Equal to and above 90 Marks	A+
2	9	More than or equal to 80 and less than 90 Marks	A
3	8	More than or equal to 70 and less than 80 Marks	B+
4	7	More than or equal to 60 and less than 70 Marks	B
5	6	More than or equal to 55 and less than 60 Marks	C+
6	5	More than or equal to 50 and less than 55 Marks	C
7	4	More than or equal to 40 and less than 50 Marks	D
8	0	Below 40 Marks	F

GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET
HYDERABAD.
(AUTONOMOUS) CBCS
DEPARTMENT OF BOTANY

Code	Paper/ Title	Course Type	HPW	Credits
FIRST YEAR		SEMSTER - I		
BS 104	PAPER-I : Microbial Diversity and Lower Plants	DSC-1A	4T+2P=6	4+1=5
FIRST YEAR		SEMSTER - II		
BS 204	PAPER-II: Gymnosperms, Taxonomy of Angiosperms and Ecology	DSC-1B	4T+2P=6	4+1=5
SECOND YEAR		SEMSTER - III		
BS 301	SEC-1: Nursery and Gardening	SEC I	2	2
BS 302	SEC-2 Biofertilizers and Organic Farming	SEC II	2	2
BS 304	PAPER-III: Plant Anatomy and Embryology	DSC-1C	4T+2P=6	4+1=5
SECOND YEAR		SEMSTER - IV		
BS 401	SEC-3: Greenhouse Technology	SEC-3	2	2
BS 402	SEC-4: Mushroom Culture Technology	SEC-4	2	2
BS 404	PAPER-IV : Cell Biology, Genetics & Plant Physiology	DSC-1D	4T+2P=6	4+1=5
THIRD YEAR		SEMESTER - V		
BS 501	GE-1: Industrial Microbiology	GE-1	4T	4
BS 502	DSE -5A: Biodiversity & Conservation DSE -5B: Economic Botany DSE -5C: Seed Technology	DSE-5A / DSE-5B / DSE-5C	4T+2P	4+1=5
THIRD YEAR		SEMESTER – VI		
BS 601	DSE-3: Project (Group projects)/ **Optional Paper**	PROJECT	4	4
BS 602	DSE -6A: Plant Molecular Biology DSE -6B: Tissue Culture and Biotechnology DSE -6C: Analytical Techniques in Plant Sciences	DSE-6A / DSE-6B / DSE-6C	4T+2P=6	4+1=5

GE: Generic Elective, DSE: Discipline Specific Elective.

Sign of BoS:

Programme Outcomes

PO1. Domain Expertise:

- Gain thorough knowledge in the chosen domain and be able to apply it wherever necessary in an innovative manner.

PO2. Modern equipment Usage:

- Equip the students with modern technological skills, so that they are able to use software applications in their careers.

PO3. Computing Skills and Ethics:

- Students learn critical thinking and are able to analyse and solve problems rationally and ethically for communication, entertainment and for the benefit of mankind throughout ones endeavours for the wellbeing of human race.

PO4. Complex Problem Investigation & Solving

- Learn to analyse the problem, frame hypotheses, interpret empirical data and execute action

PO5. Perform effectively as Individuals and in Teams

- Be able to contribute at individual level and as team member and prioritize institutional interest over individual

PO6. Efficient Communication & Life skills

- Learn efficient communication to express, listen, understand and project views in a convincing manner clearly and concisely

PO7. Environmental Sustainability

- Understand current environmental challenges faced by the country & propagate and follow environment friendly practices.

PO8. Societal contribution

- Develop the pride in volunteering to address societal issues *viz:* calamities, disasters, poverty, epidemics and involve voluntarily in social development activities at Regional , National, global levels.

PO9. Effective Project Management

- Identify the goals, objectives and components of a project and then implementation so that deadlines are achieved, even when there are setbacks.

Programme Specific Outcomes:

PSO1. Find jobs at, food products, life oriented material industries, etc.

PSO2. Explicate ecological interconnectedness of life

PSO3: Analyse the avenues and remedies for burning environmental issues

PSO4. Recognize the relationships between different structures and functions at different levels

PSO5: Demonstrate applications of biochemical and biological sciences

PSO6: Inculcating proficiency in all experimental techniques and methods of analysis

PSO7: Acquire, articulate, retain and demonstrate laboratory safety skills

PSO8: Inculcate strong fundamentals on modern and classical aspects of Botany.

PSO9. Build life skills in Edible mushroom cultivation, Biofertilizer production and Greenhouse maintenance through skill enhancement courses.

PSO10. Create platform for higher studies in Botany.

PSO11. Facilitate students to take-up successful career in Botany

GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.

(AUTONOMOUS) CBCS

DEPARTMENT OF BOTANY

First Year, I -Semester

Paper-I

Microbial Diversity and Lower Plants

DSC - 1A (4 hrs./week) Credits- 4

Theory Syllabus (60 hours)

UNIT – I (15 hours)

1) Bacteria: Structure, nutrition, reproduction and economic importance. Brief account of Archaebacteria, Actinomycetes and Mycoplasma with reference to little leaf of Brinjal and Papaya leaf curl
2) Viruses: Structure, replication and transmission; plant diseases caused by viruses and their control with reference to Tobacco Mosaic and Rice Tungro.
3) An outline of plant diseases of important crop plants caused by bacteria and their control with reference to Angular leaf spot of cotton and Bacterial blight of Rice.

UNIT-II (15 hours)

1) General characters, structure, reproduction and classification of algae (Fritsch)
2) Cyanobacteria: General characters, cell structure their significance as biofertilizers with special reference to *Oscillatoria*, *Nostoc* and *Anabaena*.
3) Structure and reproduction of the following: Chlorophyceae- *Volvox*, *Oedogonium* and *Chara;* Phaeophyceae- *Ectocarpus*; Rhodophyceae- *Polysiphonia*.

UNIT-III (15 hours)

1) General characters and classification of fungi (Ainsworth).
2) Structure and reproduction of the following: (a) Mastigimycotina- *Albugo*
(b) Zygomycotina- *Mucor* (c) Ascomycotina- *Saccharomyces* and *Penicillium*.
(d) Basidiomycotina- *Puccinia* (e) Deuteromycotina- *Cercospora*.
3) Economic importance of lichens

UNIT-IV (15 hours)

1) Bryophytes: **General characters of Bryophytes**, Structure, reproduction, life cycle and systematic position of *Marchantia, Anthoceros* and *Polytrichum,* Evolution of Sporophyte in Bryophytes.
2) Pteridophytes: **General chararcters of Pteridophytes**, Structure, reproduction, life cycle and systematic position of *Rhynia*, *Lycopodium*, *Equisetum* and *Marsilea*.
3) Stelar evolution, heterospory and seed habit in Pteridophytes.

Sign. of BoS:

References:

1) Alexopolous, J. and W. M. Charles. 1988. Introduction to Mycology. Wiley Eastern, New Delhi.

2) Mckane, L. and K. Judy. 1996. Microbiology – Essentials and Applications. McGraw Hill, New York.

3) Pandey, B. P. 2001. College Botany, Vol. I: Algae, Fungi, Lichens, Bacteria, Viruses, Plant Pathology, Industrial Microbiology and Bryophyta. S. Chand & Company Ltd, New Delhi.

4) Pandey, B. P. 2007. Botany for Degree Students: Diversity of Microbes, Cryptogams, Cell Biology and Genetics. S. Chand & Company Ltd, New Delhi.

5) Sambamurthy, A. V. S. S. 2006. A Textbook of Plant Pathology. I. K. International Pvt. Ltd., New Delhi.

6) Sambamurthy, A. V. S. S. 2006. A Textbook of Algae. I. K. International Pvt. Ltd., New Delhi.

7) Sharma, O. P. 1992. Textbook of Thallophyta. McGraw Hill Publishing Co., New Delhi.

8) Thakur, A. K. and S. K. Bassi. 2008. A Textbook of Botany: Diversity of Microbes and Cryptogams. S. Chand & Company Ltd, New Delhi.

9) Vashishta, B. R., A. K. Sinha and V. P. Singh. 2008. Botany for Degree Students: Algae. S. Chand& Company Ltd, New Delhi.

10) Vashishta, B. R. 1990. Botany for Degree Students: Fungi, S. Chand & Company Ltd, New Delhi.

11) Dutta A.C. 2016. Botany for Degree Students. Oxford University Press.

12) Watson, E. V. 1974. The structure and life of Bryophytes, B. I. Publications, New Delhi.

13) Pandey, B. P. 2006. College Botany, Vol. II: Pteridophyta, Gymnosperms and Paleobotany.

S. Chand & Company Ltd, New Delhi.

14) Vashishta, P. C., A. K. Sinha and Anil Kumar. 2006. Botany - Pteridophyta (Vascular

Cryptogams). . Chand & Company Ltd, New Delhi.

15) Pandey, B. P. 2001. College Botany, Vol. I: Algae, Fungi, Lichens, Bacteria, Viruses, Plant

Pathology, Industrial Microbiology and Bryophyta. S. Chand & Company Ltd, New Delhi.

16) Pandey, B. P. 2007. Botany for Degree Students: Diversity of Microbes, Cryptogams, Cell

Biology and Genetics. S. Chand & Company Ltd, New Delhi.

17) Thakur, A. K. and S. K. Bassi. 2008. A Textbook of Botany: Diversity of Microbes and

Cryptogams. S. Chand & Company Ltd, New Delhi.

18) Vashishta, B. R., A. K. Sinha and Adarsha Kumar. 2008. Botany for Degree Students:

Bryophyta. S. Chand & Company Ltd, New Delhi.

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GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.

(AUTONOMOUS) CBCS

DEPARTMENT OF BOTANY

First Year, I -Semester

Paper-I

Microbial Diversity and Lower Plants

Practical Syllabus (45 hours)

1. Study of viruses and bacteria using electron micrographs (photographs).

2. Gram staining of Bacteria.

3. Study of symptoms of plant diseases caused by viruses, bacteria, Mycoplasma and fungi:

Viruses: Tobacco mosaic

Bacteria: Angular leaf spot of cotton and Rice tungro.

Mycoplasma: Little leaf of Brinjal and Leaf curl of papaya

Fungi: White rust on Crucifers, Rust on wheat & Tikka disease of Groundnut.

4. Vegetative and reproductive structures of the following taxa:

Algae: *Oscillatoria, Nostoc*, *Volvox, Oedogonium, Chara, Ectocarpus* and *Polysiphonia*.

Fungi: *Albugo*, *Mucor*, *Saccharomyces*, *Penicillium*, *Puccinia* and *Cercospora*

5. Section cutting of diseased material infected by Fungi and identification of pathogens as per theory syllabus. White rust of Crucifers, Rust on wheat & Tikka disease of Groundnut.

6. Lichens: Different types of thalli and their external morphology

7. Examination of important microbial, fungal and algal products: Biofertilizers, protein capsules, antibiotics, mushrooms, Agar-agar etc.

8. Field visits to places of algal / microbial / fungal interest (e.g. Mushroom cultivation, water bodies).

9. Study of Morphology (vegetative and reproductive structures) and anatomy of the following Bryophytes: *Marchantia*, *Anthoceros* and *Polytrichum*.

10. Study of Morphology (vegetative and reproductive structures) and anatomy of the following Pteridophytes: *Lycopodium*, *Equisetum* and *Marsilea*.

11. Study of Anatomical features of Lycopodium stem, *Equisetum* stem and *Marsilea* petiole & rhizome by preparing double stained permanent mounts.

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GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.

(AUTONOMOUS) CBCS

DEPARTMENT OF BOTANY

First Year, I –Semester Paper-I

Practical Model Paper Max. Marks: 50

Time : 3 hrs

1. Identify the given components 'A'&'B' in the algal mixture .

Describe with neat labeled diagrams & give reasons for the classifications. 2 X 4 = 8M

2. Classify the given bacterial culture 'C' using Gram – staining technique. 6M

3. Take a thin transverse section of given diseased material 'D'.

Identify & describe the symptoms caused by the pathogen. 8M

4. Identify the given specimens 'E', 'F' & 'G' by giving reasons .

(Fungal-1, Bacteria-1 & Viral-1) 3 X 2 = 6M

5. Comment on the given slides 'H' & 'I' (Algae-1, Fungi-1) 2 X 4 = 8M

6. Identify the given specimen 'J' & slide 'K' (Bryophytes & Pteridophytes) 2 X 4 = 8M

7. Record & Viva 6M

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GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.
(AUTONOMOUS) CBCS
DEPARTMENT OF BOTANY
First Year, II -Semester
Paper-II
Gymnosperms, Taxonomy of Angiosperms and Ecology
DSC-1B Credits-4
Theory Syllabus (60 hours)

UNIT-I (15 hours)

1) Gymnosperms: **General characters of Gymnosperms,** structure, reproduction and classification (Sporne's). Distribution and economic importance of Gymnosperms.
2) Morphology of vegetative and reproductive parts, systematic position and life cycle of *Pinus* and *Gnetum*.
3) Geological time scale Introduction to Palaeobotany, Types of fossils and fossilization, Importance of fossils.

UNIT-II (15 hours)

1) Introduction: Principles of plant systematics, Types of classification: Artificial, Natural and Phylogenetic; Systems of classification: Salient features and comparative account of Bentham & Hooker and Engler & Prantl classification systems. An introduction to Angiosperm Phylogeny Group (APG).
2) Current concepts in Angiosperm Taxonomy: Embryology in relation to taxonomy Cytotaxonomy, Chemotaxonomy and Numerical Taxonomy.
3) Nomenclature and Taxonomic resources: An introduction to ICN, Shenzhen code – a brief account. Herbarium: Concept, techniques and applications.

UNIT-III (15 hours)

1) Systematic study and economic importance of plants belonging to the following families: Polypetalae Annonaceae, Capparidaceae, Rutaceae, Fabaceae (Faboideae/Papilionoideae, Caesalpinioideae, Mimosoideae), Cucurbitaceae
2) Gamopetalae: Apiaceae, Asteraceae, Asclepiadaceae, Lamiaceae, Monochalmydeae: Amaranthaceae, Euphorbiaceae
3) Monocotyledons: Orchidaceae, Poaceae and Zingeberaceae.

UNIT-IV (15 hours)

1. Component of eco system, energy flow, food chain and food webs.
2. Plants and environment, ecological adaptations of plants, Hydrophytes, Xerophytes and Mesophytes
3. Plant Succession serial stages, modification of environment, climax formation with reference to Hydrosere and Xerosere.

Sign. of BoS:

References:

1. Watson, E. V. 1974. The structure and life of Bryophytes, B. I. Publications, New Delhi.
2. Pandey, B. P. 2006. College Botany, Vol. II: Pteridophyta, Gymnosperms and Paleobotany. S. Chand & Company Ltd, New Delhi.
3. Sporne, K. R. 1965. Morphology of Gymnosperms. Hutchinson Co., Ltd., London.
4. Vashishta, P. C., A. K. Sinha and Anil Kumar. 2006. Botany - Pteridophyta (Vascular Cryptogams). . Chand & Company Ltd, New Delhi.
5. Pandey, B. P. 2001. College Botany, Vol. I: Algae, Fungi, Lichens, Bacteria, Viruses, Plant Pathology, Industrial Microbiology and Bryophyta. S. Chand & Company Ltd, New Delhi.
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7. Thakur, A. K. and S. K. Bassi. 2008. A Textbook of Botany: Diversity of Microbes and Cryptogams. S. Chand & Company Ltd, New Delhi.
8. Vashishta, B. R., A. K. Sinha and Adarsha Kumar. 2008. Botany for Degree Students: Bryophyta. S. Chand & Company Ltd, New Delhi.
9. Vashishta, P. C., A. K. Sinha and Anil Kumar. 2006. Botany for Degree Students: Gymnosperms. Chand & Company Ltd, New Delhi.
10. Dutta A.C. 2016. Botany for Degree Students. Oxford University Press.
11. Pandey, B. P. 2007. Botany for Degree Students: Diversity of Seed Plants and their Systematics, Structure, Development and Reproduction in Flowering Plants. S. Chand & Company Ltd, New Delhi
12. Stace, C. A. 1989. Plant Taxonomy and Biostatistics (2nd Ed.). Edward Arnold, London.
13. Singh, G. 1999. Plant Systematics: Theory and Practice. Oxford and IBH, New Delhi.
14. Dutta A.C. 2016. Botany for Degree Students. Oxford University Press.
15. Davis, P. H. and V. H. Heywood. 1963. Principles of Angiosperm Taxonomy. Oliver and Boyd, London.
16. Heywood, V. H. 1965 . Plant Taxonomy. ELBS , London.
17. Heywood, V. H. and D. M. Moore (Eds). 1984. Current Concepts in Plant Taxonomy. Academic Press, London.
18. Jeffrey, C. 1982. An Introduction to Plant Taxonomy. Cambridge University Press, Cambridge. London.
19. Michael, S. 1996, Ecology, Oxford University Press, London
20. Odum, E.P. 1983. Basics of Ecology, Saunder's International Students Edition, Philadelphia.
21. Sharma P.D. 1989. Elements of Ecology, Rastogi Publications, Meerut

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GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.

(AUTONOMOUS) CBCS

DEPARTMENT OF BOTANY

First Year, II -Semester

Paper-II

Gymnosperms, Taxonomy of Angiosperms and Ecology

Practical Syllabus (45 hours)

1. Study of Morphology (vegetative and reproductive structures) of the following taxa: Gymnosperms - *Pinus* and *Gnetum*.

2. Study of Anatomical features of *Pinus* needle and *Gnetum* stem by preparing double stained permanent mounts.

3. Fossil forms using permanent slides / photographs: Cycadeoidea.

Systematic study of locally available plants belonging to the families prescribed in theory

Syllabus (Minimum of one plant representative for each family)

4. Study of morphological and anatomical characteristics of locally available plant species (*Eichhornia, Hydrilla*,

Pistia, Nymphaea, Asparagus, Opuntia, Euphorbia melii)

5. Demonstration of herbarium techniques.

6. Candidate has to submit at least 30 herbarium sheets.

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GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET HYDERABAD.

(AUTONOMOUS) CBCS

DEPARTMENT OF BOTANY

First Year, II -Semester

Paper-II Practical Model Paper

Time: 3 hrs Max. Marks:50

1. Prepare a mount of the given material 'A' (Hydrophytes /Xerophytes)

   Draw diagram & give reasons for identification. 8M

2. Prepare a double stained permanent mount of the given material 'B' (Gymnosperms)

   Draw diagram & give reasons for identification. 10M

3. Identify the given specimens C & D (Gymnosperms /Xerophytes) 2 X 4 =8M

4. Identify the given slides E & F (Gymnosperms /Xerophytes) 2 X 4 =8M

5. Technical description of the given plant twig 'A' 10M

6. Herbarium 3M

7. Record 3M

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GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.
(AUTONOMOUS) CBCS
DEPARTMENT OF BOTANY B.Sc. BOTANY
II Year: Semester-III

Paper – III: Plant Anatomy and Embryology

DSC- 1C **Credits: 4**

Theory Syllabus **(60 hours)**

UNIT – I **(18h)**

1. Meristems: Types, histological organization of shoot and root apices and theories.
2. Tissues and Tissue Systems: Simple, complex and special tissues.
3. Leaf: Ontogeny, diversity of internal structure; stomata and epidermal outgrowths.
4. General account of adaptations in xerophytes and hydrophytes.

UNIT-II **(16h)**

5. Stem and root anatomy: Vascular cambium - Formation and function.
6. Anomalous secondary growth of Stem - *Achyranthes*, *Boerhaavia*, *Bignonia*, *Dracaena*; Root– *Beta vulgaris*
7. Wood structure: General account. Study of local timbers – Teak (*Tectona grandis*), Rosewood (*Dalbergia latifolia*), Red sanders (*Pterocarpus santalinus*), Nallamaddi (*Terminalia tomentosa*) and Neem (*Azadirachta indica*).

UNIT – III **(10h)**

8. History and importance of Embryology.
9. Anther structure, Microsporogenesis and development of male gametophyte.
10. Ovule structure and types; Megasporogenesis; types and development of female gametophyte.

UNIT-IV **(16h)**

11. Pollen morphology, pollination and fertilization, Pollination Types, Pollen – pistil interaction, Double fertilization.
12. Seed – structure appendages and dispersal mechanisms
13. Endosperm – Development and types. Embryo development and types; Polyembryony and Apomixis - an outline.

14. Palynology: Pollen morphology, NPC system, Applications of Palynology

Sign of BoS:

References:

1. Bhattacharya et. al. 2007. A textbook of Palynology, Central, New Delhi.
2. Bhojwani, S. S. and S. P. Bhatnagar. 2000. The Embryology of Angiosperms (4th Ed.), Vikas Publishing House, Delhi.
3. M.R.Saxena- A textbook of Palynology.
4. Vashista- A textbook of Anatomy.
5. P.K.K.Nair- A textbook of Palynology.
6. Esau, K. 1971. Anatomy of Seed Plants. John Wiley and Son, USA.
7. Johri, B. M. 1984. Embryology of Angiosperms. Springer-Verleg, Berlin.
8. Kapil, R. P. 1986. Pollination Biology. Inter India Publishers, New Delhi.
9. Maheswari, P. 1971. An Introduction to Embryology of Angiosperms. McGraw Hill Book Co., London.
10. Dutta A.C. 2016. Botany for Degree Students. Oxford University Press.

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GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.
(AUTONOMOUS) CBCS
DEPARTMENT OF BOTANY B.Sc. BOTANY

B.Sc. BOTANY
II Year: Semester-III

Paper – III: Plant Anatomy and Embryology

DSC - 1C **Credits- 1**

Practical syllabus(45 hours)

1. Demonstration of double staining technique.
2. Tissue organization in root and shoot apices using permanent slides
3. Preparation of double stained Permanent slides
   Primary structure: Root - *Cicer, Canna; Stem – Tridax, Sorghu*m Secondary structure: Root – *Tridax* sp.; Stem *Pongamia*
   Anomalous secondary structure: Examples as given in theory syllabus.
4. Anatomy of Xerophyte (*Nerium* leaf); Hydrophyte (*Hydrilla* stem).
5. Stomatal types using epidermal peels.
6. Structure of anther and microsporogenesis using permanent slides.
7. Structure of pollen grains using whole mounts - *Hibiscus, Acacia* and Grass).
8. Pollen viability test using Evans Blue – *Hibiscus*
9. Study of ovule types and developmental stages of embryo sac.
10. Structure of endosperm (nuclear and cellular); Developmental stages of dicot and monocot embryos using permanent slides.

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GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.
(AUTONOMOUS) CBCS
DEPARTMENT OF BOTANY B.Sc. BOTANY

Practical Model Paper

Time: 3 hrs **Max. marks: 50**

1. Identify the given material '**A'**, Prepare a double stained permanent mount of transverse section of given the given material. 15M
2. Prepare a temporary mount of epidermal peel of the given leaf material '**B'** and identify the stomatal type. 7M
3. Conduct the pollen viability test '**C'** (OR) Isolate the embryo from the given material. 6M
4. Identify and describe the specimens / slides with well labeled diagrams
   (a) Embryology – **D** (b) Palynology – **E** (c) Anatomy – **F** 3 X 4 = 12M
5. Record 5M
6. Viva 5M

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GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.
(AUTONOMOUS) CBCS
DEPARTMENT OF BOTANY B.Sc. BOTANY

B.Sc. Botany
II Year: Semester-III
Skill Enhancement Course SEC-1 (Credits - 2)
Nursery and Gardening
Lectures: 30

Unit-I (15h)

1. Nursery: definition, objectives and scope and building up of infrastructure for nursery, planning and seasonal activities - Planting - direct seeding and transplants.
2. Seed: Structure and types - Seed dormancy; causes and methods of breaking dormancy - Seed storage: Seed banks, factors affecting seed viability, genetic erosion - Seed production technology - seed testing and certification.
3. Vegetative propagation: air-layering, cutting, selection of cutting, collecting season, treatment of cutting, rooting medium and planting of cuttings - Hardening of plants – green house - mist chamber, shed root, shade house and glass house.

Unit-II (15h)

4. Gardening: definition, objectives and scope - different types of gardening -landscape and home gardening - parks and its components - plant materials and design - computer applications in landscaping - Gardening operations: soil laying, manuring, watering, management of pests and diseases and harvesting.
5. Sowing/raising of seeds and seedlings - Transplanting of seedlings - Study of cultivation of different vegetables: cabbage, brinjal, lady's finger, onion, garlic, tomatoes and carrots - Storage and marketing procedures.
6. Features of a garden: Garden wall, Fencing, biofencing, Steps, Hedge, Edging, Lawn, Flower beds, Shrubbery, Borders, Water garden. Some Famous gardens of India Cultivation of Important cut flowers: Carnation, Aster, Chrysanthemum, Dahlia, Gerbera, Gladiolous, Marigold, Rose, Lilium, Orchids.

* Field trip is essential.

Suggested Readings

1. Bose T.K. & Mukherjee, D., 1972, Gardening in India, Oxford & IBH Publishing Co., New Delhi.
2. Sandhu, M.K., 1989, Plant Propagation, Wile Eastern Ltd., Bangalore, Madras.
3. Kumar, N., 1997, Introduction to Horticulture, Rajalakshmi Publications, Nagercoil.
4. Edmond Musser & Andres, Fundamentals of Horticulture, McGraw Hill Book Co., New Delhi.
5. Agrawal, P.K. 1993, Hand Book of Seed Technology, Dept. of Agriculture and Cooperation, National Seed Corporation Ltd., New Delhi.
6. Janick Jules. 1979. Horticultural Science. (3rd Ed.), W.H. Freeman and Co., San Francisco, USA.

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GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.
(AUTONOMOUS) CBCS
DEPARTMENT OF BOTANY B.Sc. BOTANY

B.Sc. Botany
II Year: Semester-III
Skill Enhancement Course

SEC-2 (Credits - 2)

Biofertilizers and Organic Farming (30h)

UNIT - I: (15h)

1. Manures and Biofertilizers: Types of fertilizers, manures. Manure composition. Manures for crop productivity.
2. Differences between fertilizers and biofertilizers: pH changes and water contamination.
3. Bacterial Biofertilizers: General account on the microbes used as biofertilizer.
4. Algal Biofertilizers: Associative effect of different microorganisms. *Azolla* and *Anabaena-azollae* association, nitrogen fixation, factors affecting growth, *Azolla* in rice cultivation.

UNIT - II: (15h)

5. Fungal Biofertilizers: Mycorrhizal association, types of mycorrhizal association, occurrence and distribution, phosphorus nutrition, growth and yield, colonization of VAM – isolation and inoculum production of VAM, and its influence on growth and yield of crop plants.
6. Organic Farming: Green manuring and organic fertilizers, Recycling of bio-degradable municipal, agricultural and industrial wastes, Biocompost making-types, method of vermicomposting, Panchakavya. Biological pest control (neem).

Suggested Readings

1. Dubey R.C. 2005. A Text book of Biotechnology. S.Chand & Co. New Delhi.
2. Kumaresan V. 2005. Biotechnology. Saras Publications. New Delhi.
3. John Jothi Prakash E. 2004. Outlines of Plant Biotechnology. Emkay Publication. New Delhi.
4. Sathe T.V. 2004. Vermiculture and Organic Farming. Daya Publishers. New Delhi.
5. Subha Rao N.S. 2000. Soil Microbiology, Oxford & IBH Publishers. New Delhi.
6. Vayas S.C, Vayas S. and Modi H.A. 1998.Bio-fertilizers and organic Farming Akta Prakashan. Nadiad.

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GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.

(AUTONOMOUS) CBCS

DEPARTMENT OF BOTANY

B.Sc. BOTANY

II YEAR: Semester-IV

Paper IV: Cell Biology, Genetics and Plant Physiology

DSC-1D Credits-4

Theory Syllabus (60 hours)

UNIT I: (15h)

1. Plant cell envelops: Ultra structure of cell wall, Models of membrane structure, structure and functions of Semi permeable Plasma membrane.
2. Cell Organelles: Structure and semiautonomous nature of Mitochondria and Chloroplast.
3. Nucleus: Ultra structure, types and functions of DNA &RNA. Mitochondrial DNA & Plastid DNA and Plasmids.
4. Chromosomes: Morphology, organization of DNA in a chromosome, Euchromatin and Heterochromatin, Karyotype. Special types of chromosomes: Lamp-brush and Polytene chromosomes.
5. Cell division: Cell and its regulation; mitosis, meiosis and their significance

UNIT – II: (15 hours)

6. Mendalism: History, Principles of inheritance, Chromosome theory of inheritance, Autosomes and sex chromosomes, Incomplete dominance and Co-dominance. Multiple alleles, Lethal alleles, Epistasis, Recessive and Dominant traits, Polygenic inheritance.
7. Linkage and crossing over, Recombination frequency, two factor and three factor crosses; Interference and coincidence. Numericals based on gene mapping; Sex Linkage.
8. Variation in chromosome number and structure: Deletion, Duplication, Inversion, Translocation, Position effect, Euploidy and Aneuploidy
9. Gene mutations: Types of mutations; Molecular basis of Mutations; Mutagens-physical and chemical (Base analogs, deaminating, alkylating and intercalating agents);

Unit-III (15h)

10. Plant -water Relations: Water potential, osmosis, osmotic and pressure potential, absorption and transport of water.
11. Mineral Nutrition: Essential micro & macro nutrients and symptoms of mineral deficiency.
12. Transpiration: Stomatal structure and movement.
13. Mechanism of phloem transport.
14. Enzymes: Nomenclature, properties, Classification, **Mechanism of enzyme action** and factors regulating enzyme activity.

UNIT- IV (15h)

15. Photosynthesis: Photosynthetic pigments, Cyclic and Non-cyclic Photophosphorylation. Carbon assimilation pathways: C3, C4 and CAM.
16. Respiration: Aerobic and Anaerobic; Glycolysis, Krebs cycle and oxidative phosphorylation.
17. Nitrogen Metabolism: Biological nitrogen fixation. **Protein synthesis, Mechanism of Protein synthesis**
18. Physiological role of Phytohormones: Auxins, gibberellins, cytokinins, ABA, ethylene and Brassinosteroids, **Photoperiodism**

Reference:

1. Sharma, A. K. and A. Sharma. 1999. Plant Chromosomes: Analysis, Manipulation and Engineering. Harward Academic Publishers, Australia.
2. Shukla, R. S. and P. S. Chandel. 2007. Cytogenetics, Evolution, Biostatistics and Plant Breeding. S.Chand & Company Ltd., New Delhi.
3. Verma, P. S. and V. K. Agrawal. 2004. Cell Biology, Genetics, Molecular Biology, Evolution and Ecology. S. Chand & Company Ltd., New Delhi.1. Hopkins, W. G. 1995.
4. Introduction to Plant Physiology. John Wiley & Sons Inc., New York, USA
5. Gardner, E.J., Simmons, M.J., Snustad, D.P. (1991). Principles of Genetics, John Wiley & sons, India. 8th edition.
6. Snustad, D.P. and Simmons, M.J. (2010). Principles of Genetics, John Wiley & Sons Inc., India. 5th edition.
7. Klug, W.S., Cummings, M.R., Spencer, C.A. (2012). Concepts of Genetics. Benjamin Cummings, U.S.A. 10th edition.
8. Griffiths, A.J.F., Wessler, S.R., Carroll, S.B., Doebley, J. (2010). Introduction to Genetic Analysis. W. H. Freeman and Co., U.S.A. 10th edition.
9. Watson J.D., Baker, T.A., Bell, S.P., Gann, A., Levine, M., Losick, R. (2007). Molecular Biology of the Gene, Pearson Benjamin Cummings, CSHL Press, New York, U.S.A. 6th edition.
10. Snustad, D.P. and Simmons, M.J. (2010). Principles of Genetics. John Wiley and Sons Inc., U.S.A. 5th edition.
11. Klug, W.S., Cummings, M.R., Spencer, C.A. (2009). Concepts of Genetics. Benjamin Cummings. U.S.A. 9th edition.
12. Russell, P. J. (2010). iGenetics- A Molecular Approach. Benjamin Cummings, U.S.A. 3rd edition.
13. Griffiths, A.J.F., Wessler, S.R., Carroll, S.B., Doebley, J. (2010). Introduction to Genetic Analysis. W. H. Freeman and Co., U.S.A. 10th edition.
14. Jain, J.L., S. Jain and Nitin Jain. 2008. Fundamentals of Biochemistry. S. Chand & Company Ltd., New Delhi.
15. Pandey, B. P. 2007. Botany for Degree Students: Plant Physiology, Biochemistry, Biotechnology, Ecology and Utilization of Plants. S. Chand & Company Ltd., New Delhi.
16. Salisbury, F. B. and C. W. Ross. 1992. Plant Physiology. 4th edn. (India Edition), Wordsworth, Thomson Learning Inc.,USA.
17. Taiz, L. and E. Zeiger. 1998. Plant Physiology (2nd Ed.). Sinauer Associates, Inc., Publishers, Massachusetts, USA.
18. Dutta A.C. 2016. Botany for Degree Students. Oxford University Press.

GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.
(AUTONOMOUS) CBCS
DEPARTMENT OF BOTANY
B.Sc. BOTANY
II YEAR: Semester-IV

Paper IV: Cell Biology, Genetics and Plant Physiology

DSC-1D **Credits-1**

Practical Syllabus (30 hours)

1. Demonstration of cytochemical methods: Fixation of plant material and nuclear staining for mitotic and meiotic studies.
2. Study of various stages of mitosis using cytological preparation of Onion root tips.
3. Study of ultra structure of cell organelles using photographs. Chloroplast, Mitochondria, Nucleus,
4. Study of Special types of Chromosomes (Polytene chromosome and Lampbrush chromosomes- Permanent slide)
5. Mendel's laws through seed ratios. Laboratory exercises in probability and chi-square analysis.
6. Chromosome mapping using test cross data.
7. Incomplete dominance and gene interaction through seed ratios (9:7, 9:6:1, 13:3, 15:1, 12:3:1, 9:3:4)
8. Determination of osmotic potential of vascular sap by Plasmolytic method using leaves of *Rheodiscolor* / *Tradescantia*.
9. Determination of rate of transpiration using Cobalt chloride method
10. Determination of stomatal frequency using leaf epidermal peelings / impressions
11. Determination of amylase activity using potato tubers by titration method
12. Separation of chloroplast pigments using paper chromatography technique
13. Estimation of protein by Biurette method
14. Mineral deficiency symptoms of Micro and Macro nutrients

Practical Model Question Paper

Time: 3 hrs **Max. marks: 50**

1. Prepare a cytological slide of given material "A" and identify & describe any two stages with well labeled diagrams. (12M)
2. Genetics problem (10M)
3. Physiology Experiment (12M)
4. Identify and Comment on A & B (2x3 =6M)
   A. Micronutrient / Macronutrients Deficiency symptoms
   B. Cell organelles / Special type of Chromosomes
5. Record (5M)
6. Viva (5M)

Sign of BoS:

GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.
(AUTONOMOUS) CBCS
DEPARTMENT OF BOTANY

B.Sc. BOTANY

II Year: Semester-IV

Skill Enhancement Course

SEC-3 **CREDITS-2**

Greenhouse Technology(30h)

UNIT – I: **15M**

1. Introduction; scope – classification of greenhouses – construction of greenhouse- heating unit – cooling unit – environmental control (light and temperature).
2. Net- poly houses- low cost green houses. Root media for greenhouses
3. Fertilizers: Organic and inorganic, liquid fertilizers, application of fertilizers.
4. Water in the Greenhouses: Irrigation system in green houses–misting, Drip irrigation-micro irrigation, water quality, water sanitation.

UNIT – II **15M**

5. Plant Protection in Greenhouses: Diseases of greenhouse plants (bacterial, fungal, nematodes and viral diseases)
6. Management of pest and diseases – integrated pest management.
7. Applications of Greenhouse Technology: Importance of greenhouse technology. Micropropagation and greenhouse planting of tissue culture transplants
8. Advantages and disadvantages of greenhouse technology. Seed production, cut flower gardening.

Suggested Readings

1. Dubey R.C. 2006. A text book of Biotechnology. S.Chand and Company. New Delhi.
2. Sheela V.L. 2011. Horticulture. MJP Publishers. Chennai,
3. Prasad S., Kumar U. 2012. Green House Management for Horticultural Crops. Agrobios India.
4. Pant V. and Nelson. 1991. Green House Operation and Management. Bali Publication. New Delhi.
5. Introduction to soil science: http://www.agrimoon.com/wpcontent/uploads/Introduction-tosoil-science.pdf
6. Greenhouse applications: http://www.lindegas.com/en/products_and_supply/fumigants/ carbondioxide in agriculture/greenhouse applications/index.html
7. Role of greenhouse technology in agricultural engineering:

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GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.
(AUTONOMOUS) CBCS
DEPARTMENT OF BOTANY

B.Sc. BOTANY

II Year: Semester-IV

Skill Enhancement Course

SEC-4 **(Credits 2)**

Mushroom Culture Technology **Lectures: 30**

UNIT-I **(15h)**

1. Introduction & history. Medicinal value of edible mushrooms; Poisonous mushrooms. Types of edible mushrooms available in India - *Volvariella volvacea, Pleurotus citrinopileatus, Agaricus bisporus.*
2. Cultivation Technology: Infrastructure; substrates (locally available) Polythene bag, vessels, Inoculation hook, inoculation loop, low cost stove, sieves, culture rack, mushroom unit (Thatched house) water sprayer, tray, small polythene bag.
3. Pure culture: Medium, sterilization, preparation of spawn, multiplication. Mushroom bed preparation - paddy straw, sugarcane trash, maize straw, banana leaves.
4. Factors affecting the mushroom bed preparation - Low cost technology, Composting technology in mushroom production.

UNIT-II **(15h)**

5. Storage: Short-term storage (Refrigeration - upto 24 hours) Long termStorage (canning, pickles, papads), drying, storage in saltsolutions.
6. Nutritional value of Mushrooms: Proteins - amino acids, mineral elements nutrition - Carbohydrates, Crude fibre content - Vitamins.
7. Food Preparation: Types of foods prepared from mushroom. Research Centres -National level and Regional level. Cost benefit ratio - Marketing in India and abroad,Export Value.

Suggested Readings

1. Marimuthu, T. Krishnamoorthy, A.S. Sivaprakasam, K. and Jayarajan. R (1991) Oyster Mushrooms, Department of Plant Pathology, Tamil Nadu Agricultural University, Coimbatore.
2. Swaminathan, M. (1990) Food and Nutrition. Bappco, The Bangalore Printing and Publishing Co. Ltd., No. 88, Mysore Road, Bangalore - 560018.
3. Tewari, Pankaj Kapoor, S.C., (1988). Mushroom cultivation, Mittal Publications, Delhi.
4. Nita Bahl (1984-1988) Hand book of Mushrooms, II Edition, Vol. I & Vol. II.

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GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.
(AUTONOMOUS) CBCS
DEPARTMENT OF BOTANY

B.Sc. BOTANY

Skill Enhancement Course (SEC)

Time : 2 hrs **Max. Marks: 40**

Theory - Model Question Paper

Draw well-labeled diagrams wherever necessary

I. Write short answer of the following 6 X 4 = 24M

1. Unit-I
2. Unit-I
3. Unit-I
4. Unit-II
5. Unit-II
6. Unit-II

II. Essay Questions: 2 X 8 = 16M

7. a. Unit-I

(OR)

b. Unit-I

8. a. Unit-II

(OR)

b. Unit-II

*** Internal Exam carries 10 Marks**

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GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.

(AUTONOMOUS) CBCS

DEPARTMENT OF BOTANY B.Sc. BOTANY

Syllabus-Total Hrs of Teaching 60 @ 4HRS/WEEK

III YEAR -SEMESTER-V

(**Industrial Microbiology)**

GE-1 (Credits: 4)

UNIT-I (15HRS)

1. Scope of Microbes in Industry and environment.
2. Bioreactors/Fermenters and fermentation processes.
3. Solid state and liquid state (Stationary and Submerged) fermentation. Batch and continuous fermentation.
4. Components of typical bioreactor, Types of bioreactors laboratory, pilot scale and production fermenters

UNIT-II (15HRS)

5. Constantly stirred tank, fermenter, fixed and fluidized bed bioreactors and air-lift fermenter. A visit to any educational institute/industry to see an industrial fermenter, and other downstream processing operations.
6. Microbial production of industrial products, microorganisms involved, media, fermentation conditions, downstream processing and uses.
7. Filtration, Centrifugation, cell disruption, solvent extraction, precipitation and ultrafiltration, lyophilization, spray drying.
8. Hands on microbial fermentation for the production and estimation (Qualitative and quantitative) of enzyme amylase or lipase activity, organic acid (Citric acid or glutamic acid, alcohol(Ethanol) and antibiotic (Penicillin)

UNIT-III (15HRS)

9. Microbial enzymes of Industrial interest and enzyme immobilization.
10. Microorganisms for industrial applications and hands on screening microorganisms for casein hydrolysis, starch hydrolysis, cellulose hydrolysis.
11. Methods of immobilization, advantages and applications of immobilization, large scale applications of immobilized enzymes (glucose isomerase and penicillin acetylase)
12. Microbes and quality of environment. Distribution of microbes in air, Isolation of microorganisms from soil, air and water.

UNIT-IV (15HRS)

13. Microbial flora of water. Water Pollution, role of microbes in sewage and domestic waste water treatment systems.
14. Determination of BOD, COD, TDS and TOC of water samples. Microorganisms are indicators of water quality check coliform and fecal coliform in water samples.
15. Microbes in agriculture and remediation of contaminated soils
16. Biological fixation: Mycorrhizae, Bioremediation of contaminated soils, isolation of root nodulating bacteria, arbuscular mycorrhizal colonization in plant roots.

Sign. Of B.O.S.

Suggested Readings:

1. Pelzar, M.J.Jr.,Chen E C .S, Krieg, N.R.(2010). Microbiology: An application based approach. Tata McGrew Hill Education Pvt. Ltd., Delhi.
2. Tortora.GJ.,Funke, B.R., Case, C.L.(2007). Microbiology. Pearson Benjamin Cummings, San Francisco, U.S.A. 9th edition.

Sign. of BoS:

GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.
(AUTONOMOUS) CBCS
Syllabus-Total Hrs of Teaching 60
B.Sc. III YEAR -SEMESTER-V -PAPER-VI DSE-1A

BIODIVERSITY AND CONSERVATION

UNIT-I (15h)

1. Plant diversity and its scope: Genetic diversity, Species diversity, Plant diversity at the ecosystem level. Agrobiodiversity and cultivated plant taxa, wild taxa.
2. Values and uses of Biodiversity, Ethical and aesthetic values, Precautionary principle, Methodologies for valuation, uses of plants, uses of microbes.

UNIT-II (15h)

3. Loss of Biodiversity: Loss of genetic biodiversity. Loss of Species diversity, Loss of ecosystem diversity, Loss of Agrobiodiversity, Projected scenario for biodiversity loss.
4. Management of Plant Biodiversity: Organizations associated with biodiversity, management-Methodology for execution-IUCN, UNEP, UNESCO, WWF, NBPGR.
5. Biodiversity legislation and conservation. Biodiversity information management and communication.

UNIT-III (15h)

6. Conservation of Biodiversity: Conservation of Genetic diversity, species biodiversity and ecosystem Diversity.
7. Principles of Conservation: *Insitu* and *Exsitu* Conservation. Sacred groove, Botanical garden, Biosphere reserves, Sanctuaries, National parks (*Insitu*) and Tissue culture, Gene/Seed/Pollen banks and Cryopreservation (*Exsitu*)

UNIT-IV (15h)

8. Role of Plants in relation to Human Welfare: Importance of forestry their utilization and commercial aspects, Avenue trees, Ornamental plants of India.
9. Alcoholic beverages through ages. Fruits and nuts, Important fruit crops and their commercial importance, Wood and its uses.

References:

a. Krishnamurthy, K.V. (2004). An Advanced Text Book of Biodiversity-Principles and Practices. Oxford and IBH Publications Co. Pvt. Ltd. New Delhi.
b. Bharucha, E, 2005. Textbook of Environmental Studies for Undergraduate Courses. Universities Press (India) Private Limited, Hyderabad.
c. Odum.E.P.1983. Basics of Ecology. Saunder's International Students Edition, Philadelphia.
d. Sharma, P.D. 1989. Elements of Ecology. Rastogi Publications, Meerut.

Sign of B.O.S.

GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.

(AUTONOMOUS) CBCS

GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.

(AUTONOMOUS) CBCS

B.Sc. III - BOTANY=SEMESTER-V -PAPER-VI DSE-1A

Biodiversity and Conservation

DSC-1A **Credits-1**

Practical syllabus

1. Study of local biodiversity: Herbs, shrubs and trees. Seasonal, Annual, biennial and perennial plants.
2. Study of morphological characteristics of plant communities: Hydrophytes (*Eichhornia, Hydrilla, Pistia, Nymphaea, Vallisnaria*), Xerophytes: (*Asparagus, Opuntia, Euphorbia milii, Casuarina, Calotropis.*
3. Assessment of Biodiversity:
   i) Avenue trees: *Pongamia pinnata, Butea monosperma, Spathodea* sp. *Delonix regia, Jacaranda mimosifolia, Cassia fistula, Mimusops elangi, Acacia leucophloea* and *Albizia lebbeck*
   ii) Ornamental Plants: Any five locally available ornamental plants
   iii) Timber value: *Acacia nilotica, Tectona grandis, Azadirachta indica*
   iv) Fruits: *Mangifera indica* (Mango), *Ziziphus mauritiana, Psidium guajava* (Guava), *Annona squamosa*
   v) Nuts: *Anacardium occidentalis* (Cashew), *Terminalia catappa*(Badam)
   vi) beverages: *Madhuca indica, Camellia sinensis* (Tea), *Coffea arabica* (Coffee), *Borassus flagellifer* (Toddy palm) and *Caryota urens*
   vii) Medicinal value: *Catheranthus roseus, Tinospora cordifolia* and *Phyllanthus emblica, Ocimum* sp. and *Azadirachta indica*
4. Field trip: Collection of plants from the field, identification and preparation of Herbarium.

Practical Model Question Paper (3 Hours)

50 Marks

1.	Identify and describe Biodiversity value of a) Medicinal b) Timber c) Fruit	3x4=12M
2.	Any two available ornamental plants and their uses	2x3=06M
3.	Comment on the specimens A, B & C	3x3=09
4.	Identify and describe Biodiversity value of the given slides D & E (Hydrophytes & Xerophytes)	2x4=08
5.	Field trip Herbarium	05
6.	Record	05
7.	Viva	05

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GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET-HYDERABAD.
(AUTONOMOUS)CBCS
DEPARTMENT OF BOTANY
Semester-V: DSE -1B: **Economic Botany**

DSE-1B **Credits-4**

Theory Syllabus 60 hours

UNIT-1

1. Origin of Cultivated Plants: Major plant introduction. Crop domestication and examples of crops/varieties
2. Vegetables: Nutritional and Commercial values of Root crops, leafy and fruit vegetables.
3. Millets: Nutrient significance of Sorghum, Finger millet, Pearl millet, Foxtail millet.
4. Cereals: Rice, Wheat and maize -Origin, morphology and uses

Unit-II

5. Legumes: General account, importance to man and ecosystem.
6. Fruits and nuts: Commercial and nutritional value of South Indian fruits. Cashew nut, Almond and Walnut.
7. Sugars &Starches: Morphology and processing of sugarcane, products and by-products of sugarcane industry ,Potato-morphology, propagation &uses
8. Spices : Listing of important spices, part used, economic importance with special reference to fennel, saffron, clove and black pepper.

Unit-III

9. Beverages: Tea & Coffee (morphology, processing, uses).
10. Edible oils & Fats: General description, extraction, uses and health implications of groundnut, sunflower, coconut, linseed and mustard.
11. Essential oils: General account, extraction methods, comparison with fatty oils& their uses.
12. Natural Rubber: Para-Rubber-tapping, processing and uses

Unit-IV

13. Drug-yielding plants: Therapeutic and habit –forming drugs with special reference to Cinchona, Digitalis, Papaver and Cannabis
14. Tobacco processing, uses and health hazards
15. Timber plants: General account with special reference to teak and pine
16. Fibres: Classification based on the origin of fibres, extraction methods and uses of Cotton and Jute.

Sign of B.O.S.:

Suggested Readings

1. Kochhar, S.L. (2011). Economic Botany in the Tropics, Mac Millan &Co. New Delhi, India

2. Wickens,G.E. (2001). Economic Botany: Principles &Practices. Kluwer Academic Publishers, The Netherlands

3. Chrispeels, M.J. and Sadava, D.E.(2003). Plants, Genes and Agriculture, Jones & Barlett Publishers.

4. B.P. Pandey (2007). Economic Botany, S. Chand & Company Ltd. New Delhi. 17/e.

Sign of B.O.S.

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET-HYDERABAD.
(AUTONOMOUS)CBCS
DEPARTMENT OF BOTANY
Semester-V: DSC 1B

Economic Botany

DSE-1B **Credits-1**

Practical Syllabus 30 hours

1.Study of economically important plants: Wheat, Gram, Soyabean, Black pepper, Clove, Tea and Cotton through specimens, sections and microchemical tests.
2. Identification and study on nutrient values of locally available vegetables, millets and cereals.
3. Study on nutrient values and commercial status of Cashew nut, Almond and Walnut.
4. Uses and health implications of groundnut, sunflower, coconut, linseed and Brassica
5. Identification of starch granules.
6. Quantitative estimation and comparative study of proteins in millets and cereals
7. Collection of economically important plants/vegetable plants and preparation of Herbarium.

Practical Exam- Model Paper

Time: 3 Hours **Max. Marks: 50**

1. Experiments
   A) Protein test (Major Experiment) 12 M
   B) Starch granules (Minor Experiment) 6 M
II. Spotters 4×3=12 M
C) Leafy/ Fruit Vegetables
D) Fruits/ Spices
E) Medicinal Plants/ Beverages
F) Wood/Timber/ Fiber
III. Herbarium 10 M

IV. Viva 5M
V. Record 5M

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GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET-HYDERABAD.
(AUTONOMOUS)CBCS
DEPARTMENT OF BOTANY
III Year Semester-V

Seed Technology

DSC 1C Credits-4

Theory Syllabus (60 Hours)

Unit-I (15M)

1. Seed: Structure and types.
2. Seed development in cultivated plants, seed quality concept, importance of genetic purity of seed. Hybrid seed production and Heterocyst.
3. Cross pollination, Emasculation, role of pollinators and their management.
4. Collection and storage of pollen for artificial pollination.

Unit-2 (15M)

5. Seed germination: Internal and external factors affecting germination.
6. Physiological processes during seed germination: seed respiration, breakdown and mobilization of stored seed reserves.
7. Seed dormancy: Types causes and methods of breaking dormancy. Role of Phytochrome.

Unit-III (15M)

8. Cultural practices and harvesting of seed: Isolation, sowing and cultural practices, harvesting and thrashing of following crops: a) Rice b) Cotton c) Sun flower
9. Seed treatment to control seed borne disease-General account.
10. Seed testing: Procedures of seed testing, seed testing laboratories and importance of seed testing.

Unit-IV (15M)

11. Seed viability, factors affecting seed viability and genetic erosion.
12. Seed storage: Long term and short term storage, Orthodox and recalcitrant seeds. Packing of seeds- Principles, Practices, bagging and labelling.
13. Seed banks-National, international and millennium seed banks.
14. Seed certification-History, Seed certification agency, Indian millennium, general and specific seed certification standard.

Sign of B.O.S.

Suggested Readings

1. Agrawal, P. K. 1993. Hand Book of Seed Technology. Dept. of Agriculture and Cooperation. National Seed Corporation Ltd., New Delhi
2. Balasubramanian, D., C. F. A. Bryce, K. Dharmalingam, J. Green and K. Jayaraman. 2004. Biotechnology. Universities Press (India) Private Limited, Hyderabad.
3. Bedell, Y. E. Seed Science and Technology. Indian Forest Species. Allied Publishers Limited, New Delhi.
4. Channarayappa. 2007. Molecular Biotechnology – Principles and Practices. Universities Press (India) Private Limited, Hyderabad.
5. Chawala, H. S. 2002. Introduction to Plant Biotechnology. Oxford & IBH Publishing Company, New Delhi.
6. Dubey, R. C. 2001. A Textbook of Biotechnology. S. Chand & Company Ltd., New Delhi
7. Edmond, J. B., T. L. Senn, F. S. Adrews and R. J. Halfacre. 1977..
8. Hartman, H. T. and D. E. Kestler. 1976. Plant Propagation: Principles and Practices. Prentice & Hall of India, New Delhi.
9. Jha, T.B. and B. Ghosh. 2005. Plant Tissue Culture – Basic and Applied. Universities Press (India) Private Limited, Hyderabad..
10. Ramawat, K. G. 2008. Plant Biotechnology. S. Chand & Company Ltd., New Delhi.
11. Salisbury, F. B. and C. W. Ross. 1992. Plant Physiology. 4th edn. (India Edition), Wordsworth, Thomson Learning Inc., USA..
12. Tiwari, G. N. and R. K. Goal. Green House Technology – Fundamentals, Design, Modelling and Application. Narosa Publishing House, New Delhi.
13. Tunwar, N. S. and S. V. Singh. 1988. Indian Minimum Seed Certification Standards. The Central Seed Certification Board, Govt. of India, New Delhi.
14. Agrawal, PK & Dadlani M. (Eds.). 1992. Techniques in seed science and technology. South Asian Publ.
15. Baskin CC & Baskin JM. 1998. Seeds: Ecology Biogeography and Evolution of Dormancy and Germination. Academic Press. Basra AS. 2006. Hand Book of Seed Science and Technology. Food Product Press.
16. Bench ALR & Sanchez RA. 2004. Hand Book of Seed Physiology. Food Products Press. Bewley JD & Black M. 1982. Physiology and Biochemistry of Seeds in relation to germination. Vols. I, II. Springer Verlag.
17. Bewley JD & Black M.1985. Seed: Physiology of seed development and Germination. Plenum Press.
18. Copeland LO & Mc Donald MB. 1995. Principles od seed Science and Technology. 3rd Ed. Chapman & Hall.
19. Khan AA. 1977. Physiology and Biochemistry of Seed Dormancy and Germination. North Holland Co.
20. Kigel J & Galili G. (Eds.). Seed Development and Germination. Marcel Dekker.
21. Murray DR. 1984. Seed Physiology. Vols. I, II Academic Press. Sadasivam S & Manickam A.1996. Biochemical Methods. 2nd Ed. New Age.

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GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET-HYDERABAD.
(AUTONOMOUS)CBCS
DEPARTMENT OF BOTANY
B.Sc. III Year Semester-V

Seed Technology

DSC 1C **Credits-1**

Practical syllabus (30 hours)

Major Experiments

1. Testing of seed viability using 2,3,5-triphenyl tetrazolium chloride (TTC).
2. Estimation of amylase activity of germinating seeds (Qualitatively).
3. Demonstration of seed dressing using fungicides to control seed borne diseases.
4. Demonstration of seed dressing using Biofertilizers (BGA) to enrich nutrient supply.

Minor Experiments

5. Emasculation, bagging of flower for hybrid seed production.
6. Dissection of Dicot embryo (Bean) and Monocot embryo (Maize).
7. Pollen viability test using Evan's blue staining (Hibiscus).
8. Harvesting and Importance of following seeds:
   a) Rice
   b) Maize
   c) Cotton
   d) Groundnut and
   e) Sunflower
9. Methods to break Seed dormancy.
10. Study visits to research institutes, seed tests and certification laboratories and places, Seed banks.

Practical Model Question paper

3 Hours **Max. Marks: 50**

1. **Major Experiment** **(16 marks)**
   a) Estimation of amylase activity in germinating seeds
   (OR)
   b) Seed viability test by triphenyl tetrazolium chloride (TTC)
2. **Minor Experiment** **(12 Marks)**
   a) Dissection of Dicot/Monocot embryo
   (OR)
   b) Methods to break Seed Dormancy/Seed dressing
3. **Spotters** **(3x4=12 Marks)**
   A) Emasculation/Bagging
   B) Germination of seeds
   C) Importance of following seeds: rice, cotton and Sunflower
4. **Record** **(5 Marks)**
5. **Viva** **(5 Marks)**

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GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.
(AUTONOMOUS) CBCS
DEPARTMENT OF BOTANY
B.sc. III YEAR -SEMESTER-VI

Project/Dissertation Work - Credits 4

Project work/ Dissertation is considered as a special course involving application of knowledge in solving/analyzing/exploring a real life situation/difficult problem. Project / Dissertation work will be of 4 credits. Studied subject specific project work can be handled, with a view to develop creative thinking, team spirit and skill. The project work at preliminary level should be assigned to students, in groups.

Project report in the form of dissertation is prepared and submitted by the students. It will be evaluated by the External and Internal Examiners. Head of the Department will chair the evaluation panel and proceedings of viva voce. It carries a maximum of 100 marks.

Project guidelines:

1. Understand the subject broadly.
2. Choose a topic of interest.
3. Refer to the books & interact with subject specific experts.
4. Try to understand the basic principles of Living organisms followed by plants, with the help of physics, chemistry and Statistics**.**
5. Select the topic applicable locally to know the importance of the subject in daily life, preferably choose, vegetation around the institution, around home, agricultural crops, vegetable markets and nearby relevant industries.
6. Put together, latest technology and methods, basic knowledge on selected theme, Importance/need, locally applicable.
7. Summarize three years knowledge on the subject, go through skill enhancement course, correlate to real life and choose the project work.
8. Laboratory facilities, books to refer and faculty with research experience are essential to handle project.
9. Analyze your data and draw a conclusion.
10. Communicate the results.
11. Work division among the group members should be followed.
12. Maximum number of students in group should not exceed 5.

Project Examination

Maximum Marks:100

1.	Project Report	75 Marks
2.	Seminar Presentation	25 Marks

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GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD

DEPARTMENT OF BOTANY

Syllabus-Total Hrs of Teaching 60@4 hrs/week

B.sc. III YEAR -SEMESTER-VI -PAPER-2A

(Plant Molecular Biology)

DSC-2A **Credits-4**

Theory Syllabus

UNIT-I (15h)

1. Nucleic acids: Carriers of genetic information, types of genetic material, DNA as the carrier of genetic information.
2. Structure of DNA: Salient features and types of DNA, Organization of DNA in prokaryotes. Mitochondrial and chloroplast DNA.
3. Structure of RNA: Structure and types of RNA's (m RNA, r RNA and tRNA.

UNIT-II (15h)

4. Nucleosome, chromatin structure - Euchromatin and Heterochromatin, Constitutive and Facultative heterochromatin.
5. Replication of DNA: Chemistry of DNA synthesis, general principals, Semi-conservative replication of DNA, replication of linear ds- DNA, replication of the 5'end linear chromosome.
6. Central dogma and genetic code: Central dogma (Adaptor hypothesis and discovery of mRNA template), salient features of Genetic code.

UNIT-III (15h)

7. Mechanism of Transcription: Transcription in Prokaryotes and eukaryotes. Split genes concept f introns and exons. removal of introns, eukaryotic mRNA processing (5'end, 3'polyA tail).
8. RNA editing and mRNA transport.

UNIT-IV (15h)

9. Translation in prokaryotes: Ribosome structure and assembly, mRNA, Charging of tRNA, aminoacyl tRNA synthetases; various steps in Protein synthesis, proteins involved in initiation, elongation and termination of polypeptides; Fidelity of translation.
10. Transcriptional regulation in prokaryotes, Regulation of lactose metabolism (Lac operon) and tryptophan (Trp operon) synthesis inE.coli.

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GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.

(AUTONOMOUS) CBCS

B.Sc. III - BOTANY

Practical syllabus Paper-2A

Plant Molecular Biology

DSC-2A Credits-1

Practical Syllabus(30 Hours)

1. Isolation of genomic DNA from E.Coli
2. DNA Isolation from cauliflower head/tomato fruit
3. DNA estimation in diphenylamine reagent/UV Spectrophotometry
4. Study of DNA replication mechanisms through photographs (Rolling circle, Theta replication and semi-discontinuous replication)
5. Study of structure of prokaryotic RNA polymerase and eukaryotic RNA polymerase II Through photographs.
6. Photographs establishing nucleic acid as genetic material (Messelson and Stahl's Avery et al. Griffith's, Hershey & Chase's and Frankel & Conrat's experiments)
7. Study of the following through photographs; Assembly of Spliceosome machinery, splicing mechanism in group I & II introns; Ribozyme and alternative splicing.
8. Estimation of size of a DNA fragment after electrophorists using DNA markers (through photographs).

Practical exam- Model Paper

Time: 3 Hours Max. Marks: 50

I.	Experiments	
1.	Major Experiment	15M
2.	Minor Experiment	10M
II.	Spotters	4x3=12M
	A) B) C) D)	
III.	Identify and describe the photographs	3M
IV.	Viva	5M
V.	Record	5M

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GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD

DEPARTMENT OF BOTANY

B.sc. III YEAR -SEMESTER-VI -PAPER-2B

TISSUE CULTURE AND BIOTECHNOLOGY

DSC-2B **Credits-4**

Theory Syllabus (60 hours)

TISSUE CULTURE:

UNIT 1 (15 hours)

1. Tissue culture: Introduction, sterilization procedures, explains, culture media-composition and preparation; Nutrient and hormone requirements, Micropropagation.
2. Organ culture: Totipotency, Vegetative Organs-Root, Shoot, Leaf culture Reproductive organs-another, Ovule, Embryo culture.
3. Call us culture and isolation and fusion of protoplast culture.
4. Organogenesis, Embryogenesis (somatic and zygotic)

UNIT II (15 hours)

5. Applications of tissue culture: production of pathogen free plants and stress resistant plants, somaclonal variants and synthetic seeds.
6. Induction of hairy roots send its applications in production of secondary metabolites.
7. Haploidy and triploids, Cryopreservation and Germplasm Conservation.
8. Somatic hybrids and Cybrids

UNIT III (15 hours)

9. Biotechnology: Introduction, history's, scope and applications.
10. rDNA technology: Basic aspect of gene cloning, enzymes used in gene cloning-Restriction enzymes, lygases, Polymerases.
11. Gene cloning: Recombinant DNA, Bacterial Transformation and selection of recombinant clones, vectors-cloning vehicles(plasmids, Cosmids, Bacteriophages and Phasmids; Eukaryotic vectors(YAC) Gene Construct; Applications of RDNA technology.

UNIT IV (15 hours)

12. Gene Libraries: construction of genomic and cDNA libraries, colony hybridization; Probes-oligonucleotide, Polymerase Chain Reaction (PCR) and its applications.
13. Methods of gene transfer - Agrobacterium-mediated, Direct gene transfer by Electroporation, Microinjection, Microprojectile bombardment; Selection of transgenics-selectable marker and reporter genes.
14. Application of transgenics in improvement of crop productivity and quality traits .Pest resistant transgenic crops (Bt-cotton & Bt-brinjal); herbicide resistant plants (Roundup Ready soybean); crops with quality traits (Flavr Savr tomato, Golden rice).

Sign of B.oS.

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4. Chawla H.S. 2002. Introduction to Plant Biotechnology. Oxford & IBH Publishing Company, New Delhi.
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7. Jha, T. B. and B. Ghost. 2005. Plant Tissue Culture - Basic and Applied. Universities Press (India). Private Limited, Hyderabad.
8. Ramawat, K. G. 2008. Plant Biotechnology. S. Chand & Company Ltd., New Delhi.
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GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET-HYDERABAD.
(AUTONOMOUS)CBCS
DEPARTMENT OF BOTANY
B.Sc. III year - Semester VI Paper-2B
(Tissue Culture & Biotechnology)

DSE-2B **Credits-1**

Practical Syllabus (30 Hours)

Major Experiments

1. Isolation of Plant DNA. (Tomato)
2. Production of synthetic seeds/encapsulation of embryo
3. Preparation of plant tissue culture medium-MS medium
4. Isolation of Protoplast

Minor Experiments

1. Callus induction
2. Demonstration of micropropagation/multiple shoots
3. Anther culture
4. PCR-Demonstration
5. Study of biotechnology products: Samples of antibiotics and vaccins
6. Photographs of Gene transfer methods
7. Instruments used in Biotechnology lab-Autoclave, Laminar air flow, Hot air oven and Incubator
8. Demonstration of in-vitro sterilization and inoculation methods using leaf and nodal explants of tobacco, Datura, Brassica etc.

Spotting

1. Study of anther, embryo and endosperm culture, Micropropagation, somatic embryogenesis & artificial seeds through photographs.
2. Study of methods of gene transfer through photographs. Agrobacterium-mediated, direct gene transfer by electroporation, microinjection, microprojectile bombardment.
3. Study of steps of genetic engineering for production of Bt cotton, Golden rice Flavr Savr tomato through photographs.
4. Restriction digestion and gel electrophoresis of plasmid DNA

Sign of B.O.S.

MODEL QUESTION PAPER AND SCHEME FOR VALUATION

SEMESTER - VI

B.Sc. III year - Semester VI –DSE-2B Credits-1

(Tissue Culture & Biotechnology)

Practical Model question Paper

Time: 3 hrs **Max.Marks- 50**

1. Major experiment (18 Marks)

   Isolation of DNA

   (OR)

   Production of synthetic seeds/Encapsulation of Embryo

2. Minor Experiment (10 Marks)

   Callus/Micropropagation/Multiple shoots

3. Spotters (3x4=12 Marks)
   A. Vaccines
   B. Antibiotics
   C. Gene transfer methods/Instruments
4. Record (5 Marks)
5. Viva (5 Marks)

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GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET-HYDERABAD.
(AUTONOMOUS)CBCS
DEPARTMENT OF BOTANY B.Sc (CBCS)
BOTANY: III YEAR-Semester-VI

Analytical Techniques in Plant Sciences

DSE- 2C **Credits-4**

Theory Syllabus (Lectures: 60)

UNIT I

1. Imaging and related techniques: Principles of microscopy; Light microscopy; Fluorescence microscopy; Confocal microscopy.
2. Use of fluorochromes: Fluorescence - activated cell sorting (FACS); Applications of fluorescence microscopy; Chromosome banding, FISH, chromosome painting.
3. Transmission and Scanning electron microscopy - sample preparation for electron microscopy, cryofixation, negative staining, shadow casting, freeze fracture, freeze etching.

UNIT II

4. Cell fractionation: Centrifugation: Differential and density gradient centrifugation sucrose density gradient, CsCl2, analytical centrifugation, ultra-centrifugation, marker enzymes.
5. Radioisotopes: Use in biological research, auto - radiography, pulse chase experiment.
6. Spectrophotometry: Principle and its application in biological research.

UNIT III

7. Chromatography: Principle; Paper chromatography; Column chromatography, TLC, GLC, HPLC, Ion-exchange chromatography, Molecular sieve chromatography; Affinity chromatography.
8. Characterization of proteins and nucleic acids: Mass spectrometry; X - ray diffraction; X - ray crystallography; Characterization of proteins and nucleic acids.
9. Electrophoresis: PAGE, SDS - PAGE.

UNIT IV

10. Biostatistics: Statistics, data, population, samples, parameters.
11. Representation of Data: Tabular, Graphical; Measures of central tendency.
12. Arithmetic mean, mode, median; measures of dispersion: Range, mean deviation, variation, standard deviation, Chi - square test for goodness of fit.

Sign of B.O.S

Suggested readings

1. Plummer, D. T. (1996). An Introduction to Practical Biochemistry. Tata Mc Grawhill Publishing Co.Ltd. New Delhi. 3rd Edition.
2. Ruzin, S.E.(1999). Plant micro-technique and microscopy, Oxford University Press, New York, U.S.A.
3. Ausubel, F., Brent, R., Kington, R.E.. Moore, D.D., Seidman, J.G. Smith, J.A., Struhl. K. (1995). Short Protocols in Molecular Biology. John Wiley & Sons. 3rd Edition.
4. Zar, J.H. (2012). Biostatistical Analysis. Pearson Publication. U.S.A. 4th edition.

Sign of B.O.S

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET-HYDERABAD.
(AUTONOMOUS)CBCS
DEPARTMENT OF BOTANY
B.Sc. (CBCS) BOTANY
III YEAR-Semester-VI

Analytical Techniques in Plant Sciences

DSC 2C **Credits-1**

Practical syllabus (lectures-30)

1. Study of Blotting techniques: Southern, Northern and Western, DNA fingerprinting. DNA sequencing, PCR through photographs.
2. Demonstration of ELISA.
3. To separate nitrogenous bases by Paper Chromatography.
4. To separate sugars by thin layer Chromatography.
5. Isolation of Chloroplasts by differential Centrifugation.
6. To separate Chloroplast pigments by column Chromatography.
7. To estimate protein concentration through Lowry's methods.
8. To separate proteins using PAGE.
9. To separate DNA (marker) using PAGE.
10. Study of different microscopic techniques using photographs/micrographs (freeze fracture, freeze etching, negative staining, positive staining, fluorescence and FISH).
11. Preparation of permanent slides (double staining).

Practical Model Paper

TIME:3 Hours **Max. Marks: 50**

1. Experiments	
A. Major Experiment	12 M
B. Minor Experiment	8 M
II. Permanent slide Preparation	8 M
III. Spotters (C, D, E, F)	4x3=12 M
IV. Viva	5 M
V. Record	5 M

Sign of B.O.S

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET-HYDERABAD.

(AUTONOMOUS) CBCS

DEPARTMENT OF BOTANY

Discipline Specific Elective (DSC)

&

Generic Elective (GE)

B.Sc. II& III year

Pattern of Theory Question Paper for semester end examination (for all semesters)

TIME; HRS MAX.MARKS:60

Sign of B.O.S.

GOVERNMENT DEGREE COLLEGE FOR WOMEN, AUTONOMOUS,
BEGUMPET, HYDERABAD
RESOLUTIONS OF B.O.S. MEETING

A meeting of Board of Studies of Department of Botany, GDC(W) Begumpet, Hyderabad, was held on: The members discussed elaborately B.Sc. Syllabus (CBCS) to be implemented in the academic year 2021-22.

The following resolutions were taken in the meeting:

1. Reapproved the adopted CBCS syllabus prescribed by Osmania University with flexibility for Autonomous colleges, for I, II, III and IV Semesters along with SEC I, II, III and IV.

2. Approved final year syllabus with examination pattern of 60+ 40

Code	Paper/Title	Course Type	HPW	Credits
THIRD YEAR		SEMESTER - V		
BS 501	GE-1: Industrial Microbiology	GE-1	4T	4
BS 502	DSE -5A: Biodiversity & Conservation DSE -5B: Economic Botany DSE -5C: Seed Technology	DSE-5A / DSE-5B / DSE-5C	4T+2P	4+1=5
THIRD YEAR		SEMESTER – VI		
BS 601	DSE-3: Project (Group projects)	PROJECT	4	4
BS 602	DSE -6A: Plant Molecular Biology DSE -6B: Tissue Culture and Biotechnology DSE -6C: Analytical Techniques in Plant Sciences	DSE-6A / DSE-6B / DSE-6C	4T+2P=6	4+1=5

* Any one elective can be chosen out of Electives I, II & III for each semester (V & VI)

*Generic Elective is Interdisciplinary hence students other than life sciences courses.

Sign Of BoS:

Examination Pattern for III year: Maximum Marks: 100.

External Exam: 60, Internal Exam: 40.

5. It is resolved to conduct TWO internal assessments for 40 Marks (Written test 20 M, seminar/ Quiz/ Group Discussion-5 M, Assignment 5 M MCQ Test 10 M(Unit Test 20 objective type questions after completion of each unit, average of 4 tests to be given -10 M)) during each semester and have average of two internals to be considered as Internal marks for semester results.

6. Maximum marks for end semesters examination is 60 Marks and the pattern is:

Section-A: 8 questions Short answer type with internal choice 5 x 4 = 20 M

Section-B: Four Long Answer type questions. One compulsory from each Unit. 4x10 =40M

7. Examination Pattern for I and II year: Maximum Marks: 100

External Exam: 60, Internal Exam: 40

It is resolved to conduct TWO internal assessments for 20 Marks (Written test 20 M, seminar/ Quiz/ Group Discussion- 5 M; Assignment -5 M; Unit Test 20 objective type questions after completion of each unit, average of 4 tests to be given -10 M) during each semester and have average of two internals to be considered as Internal marks for semester results.

Maximum marks for end semesters examination is 60 Marks and the pattern is:

Section-A: Four questions. Long Answer type. One compulsory from each Unit. 4x10= 40M.

Section-B: Five questions Short answer type out of Eight 5 x 4 = 20 M

8. It is resolved to conduct practical examination at the end of each semester for a maximum of 50 Marks each.

The Board approved the panel of examiners which was provided by the college.

Sign of BoS:

GOVERNMENT DEGREE GOLLEGE FOR WOMEN-BEGUMPET-HYDERABAD
(AUTONOMOUS) CBCS
DEPARTMENT OF BOTANY
LIST OF PANEL OF EXMINERS FOR BOTANY –B.SC.I, II AND III YEAR

SEMESTER	PAPER	NAME OF EXAMINER	DESIGNATION	COLLEGE
I & II	I & II	Dr. P. Vijaya	Assistant Professor	GDC Khairatabad Contact No: 7382116309 Mail id: ponnavijaya1@gmail.com
		Dr. D. Narmada	Assistant Professor	GCC, Nayapul Contact No. 9490016930
III & IV	III & IV	Dr D. Naga Raju	Assistant Professor	GCC, Nayapul Contact No.9494317649
		Dr. Suresh Babu	Assistant Professor	GDC Kukatpally Contact No.9440394036 Mail id: sureshbtm@gmail.com
V	V & VI	Dr. Shailaja	Professor	University college of Women-Koti Contact No:9885136976
		Dr. T. Uttara phalguni	Assistant Professor	GDC, Shadnagar
VII & VIII	VII & VIII	Dr. N. C. Sowjanya	Assistant Professor	SVS Govt. Degree College. Vidyanagar. Contact No; 949011997 Mail id: jaisahithi3@gmail.com
		Varaprasad	Assistant Professor	GCC, Nayapul Contact No.9866082461

Sign of BoS

GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET.(AUTONOMOUS)
DEPARTMENT OF BOTANY
BOARD OF STUDIES MEETRING FOR THE YEAR 2021-22

The board of studies meeting for the department of Botany is held on:

The following members were present in the meeting:

1. Prof.Rama, BoS
   University Nominee.
   Osmania University-Hyd.
2. Dr. K.Usha Rani
   I/c Head Dept. of Botany
   GDC(W) Begumpet.
3. Dr. P. Srinivasulu -I/c Head, Dept. of Botany
   DRBRR GDC Jadcherla.Mahaboobnagar
   Palamuru University.
4. Dr. D.Parvathi-Asst.Prof.Botany.
   GDCW Warangal
   Kakatiya University.
5. Dr T Annie Sheron
   Asst. Prof.in Botany
   GDC(W) Begumpet.
6. Dr.R.Sreelatha
   Asst. Prof.in Botany
   GDC(W) Begumpet.
7. Mrs. B.Rukmini Devi.
   Asst. Prof.in Botany
   GDC(W) Begumpet.
8. Dr.R.Sneha
   Asst. Prof.in Botany
   GDC(W) Begumpet.

GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET –HYDERABAD.

(AUTONOMOUS) CBCS

DEPARTMENT OF BOTANY

First Year, II -Semester

Paper-II Theory Model Question Paper

For DSC & DSE

Time:3 hrs Max. Marks: 60

Draw well-labeled diagrams wherever necessary

I. Write short answer for any 5 of the following 5 X 4 = 20M

a. e.

b. f.

c. g.

d. h.

II. Essay Questions: 4X 10 = 40M

1. a. (OR) b.

2. a. (OR) b.

3. a. (OR) b.

4. a. (OR) b.

Sign. of BoS:

GOVT. DEGREE COLLEGE FOR WOMEN
BEGUMPET, HYDERABAD-16
AUTONOMOUS

DEPARTMENT OF BIOTECHNOLOGY

CBCS SYLLABUS FOR THE YEAR 2021-22

GOVERNMENT COLLEGE FOR WOMEN
BEGUMPET, HYDERABAD – 500016
(AUTONOMOUS)

Constitution of Board of Studies - 2018-2021

S.No	Name		Signature
01.	**V.Rohini,** Assistant professor of Biotechnology**.**	Chairman BOS, GDC(w) Begumpet	
02.	**Dr. Smita C. Pawar** Head, Department of Genetics, Osmania university	Chairperson BOS, University Nominee, Osmania University	
03.	**Dr. A.Uma** Associate Professor, BOS chair-Centre for Biotechnology, Officer Incharge Examination, Institute of Science and Technology, JNTUH	Subject Expert Nominated by Academic Council	
04.	**Dr.Anil Pasupulati** Assistant Professor, Department of **B**iochemistry, School of Life Sciences, University of Hyderabad	Subject Expert Nominated by Academic Council	
05	**Mr.Mahesh Kyasani**, Sr Manager, Manufacturing Sciences, Biological E Limited, Shameerpet	Representative from Industry	
06	**Dr.M.Vasudha,** Assistant Professor of Genetics, Government Degree College for Women, Begumpet**,**Hyderabad.	Member	
07	**D.Soumya**, M.Sc. Biotechnology, University college Science, Saifabad Hyderabad	Alumnus	

Government Degree College for Women, Begumpet.
Hyderabad. Autonomous (CBCS)

Agenda for the Board of Studies Meeting (2021-22)

1. **Approval of the Syllabus for V and VI Semesters of the B.Sc., III year according to CBCS.**
2. **Review of the Syllabus and Model papers.**
3. **Preparation of Panel of Examiners and their approval**
4. **Review and suggestions on Methodologies for innovative teaching and evaluation techniques and extension activities.**
5. **Reapproval of the syllabus for I and II semesters of B.Sc., I Year according to CBCS.**
6. **Approval of scheme of evaluation (60 marks for the External examination and 40 marks for the Internal examination)**

Division of 40 marks is as follows.
1. 20marks internal assessment in the form of descriptive exam, where two internals will be conducted and average of two is considered.

2. Unit wise test in the form of 20 objective questions, half mark each and a total value of 10 marks.

3. 5marks for Seminar/Quiz / group discussion and 5 marks for assignments.

Government Degree College for Women, Begumpet.
Hyderabad. Autonomous (CBCS)

Board of Studies Meeting (2021-22)

Keeping in view of the CBCS Pattern, rearrangement of B.Sc. III yr syllabus was discussed at length for the approval with the members of BOS Committee.

The ratification of the existing pattern of marks distribution of B.Sc. III yr Semester-V&VI Biotechnology syllabus has been approved by the members in the BOS Committee.

Marks distribution for Semester-V & VI is

Theory-Internal Assessment- 40 Marks

- (2 Internals-20+20, Average of the two internals will be taken)+5M Assignment (write up of 4-5 pages)+ 5M Seminar+10 M MCQS(Average of4 MCQS Tests)
- External Examination -60 Marks

Total: 100 Marks

- Practical External Examination: 50 Marks
- SEMESTER –V, Title of the Paper-V (DSE-I) is" PLANT BIOTECHNOLOGY" (Theory& Practical)
- Paper V (GE-I) BASICS OF BIOTECHNOLOGY- (Theory)
- SEMESTER –VI, Title of the Paper-VI (DSE-II) is "ANIMAL BIOTECHNOLOGY" (Theory& Practical)
- PROJECT- 100 Marks (-4 credits)

GOVERNMENT DEGREE COLLEGE FOR WOMEN (UG & PG)
AUTONOMOUS (CBCS)
BEGUMPET, HYDERABAD-500016
DEPARTMENT OFBIOTECHNOLOGY.

The Panel of Examiners nominated and approved by the Board of Studies members for the Semesters Examination of Biotechnology has been enlisted below.

S.No	Name	Designation	Address
1	Dr. H.Surekha Rani, Mobile : 9866620067	Assistant Professor of Biotechnology	Department of Genetics and Biotechnology Osmania University
2	Dr. A.Uma Mobile:	Associate Professor of Biotechnology BOS chair-	Centre for Biotechnology, IST - JNTUH
3.	Dr.Anil Pasupulati	Assistant Professor, Department of **B**iochemistry	School of Life Sciences, University of Hyderabad
4	Dr. Y. Venkateswarlu Mobile: 8801150220	Asst. Professor of Biotechnology	Govt. Degree college, Khairatabad ,Hyderabad
5	Dr. P. Suresh Kumar Mobile: 9701407475	Head ,Asst. Professor of Biotechnology	Loyola Academy Degree and P.G College, Hyderabad
6	Ms. D.Annapurna Mobile 9959220195	Asst. Professor of Biotechnology	Tara GDC,Sanga Reddy
7.	Mrs. P. Pushpalatha Mobile: 8099872878	Head ,Asst. Professor of Biotechnology	Govt. City college, Hyderabad.
8	Ms.D.Kethora	Asst. Professor of Biotechnology	St.Ann's Degree College for Women, Mehdipatnam, Hyd
9	Dr.D.Sambhasiva	Assistant Professor of Biotechnology	Nizam College,Hyderabad

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD.
AUTONOMOUS(CBCS)
B. Sc. I Year (2020-21)
MODEL QUESTION PAPER

Subject: Biotechnology

Time: 2 hrs **Max Marks:60**

Min marks: 24

SECTION-A

I Write any 5 Short Answer Type Question
5×4=20M
(2 from each unit)

1.
2.
3.
4.
5.
6.
7.
8.

SECTION-B

II Essay Type Questions (Internal Choice)
4×10=40M

1. UNIT I : A (or) B

2. UNIT II : A (or) B

3. UNIT III : A (or) B

4. UNIT IV : A (or) B

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD.
AUTONOMOUS (CBCS)
B. Sc. (2021-22)
INTERNAL ASSESSMENT MODEL QUESTION PAPER

Subject: Biotechnology **Max.MARKS:20**

I. Answer any two questions (short answer type) 2x5=10M

1.
2.
3.
4.

II. Answer any one question (essay answer type) 1x10=10M

1.
2.

Annexure-1
Credits- for B.Sc. Life Sciences

Courses		Papers	Total Credits	Credits for each paper / Semester					
				B.Sc.					
				I	II	III	IV	V	VI
Core CoursesDSC	Optional-1	4	20	5	5	5	5	-	-
	Optional-2	4	20	5	5	5	5	-	-
	Optional-3	4	20	5	5	5	5	-	-
Elective Courses DSE	Optional-1	2	10	-	-	-	-	5	5
	Optional-2	2	10	-	-	-	-	5	5
	Optional-3	2	10	-	-	-	-	5	5
Language	English (First Language)	5	20	4	4	3	3	3	3
	Second Language	5	20	4	4	3	3	3	3
Ability Enhancement Compulsory Course AECC	Environmental Science / Basic Computer Skills	1	2	2	-	-	-	-	-
	Basic Computer Skills / Environmental Science	1	2	-	2	-	-	-	-
Skill EnhancementCourse SEC	SEC1	1	2	-	-	2	-	-	-
	SEC2	1	2	-	-	2	-	-	-
	SEC3	1	2	-	-	-	2	-	-
	SEC4	1	2	-	-	-	2	-	-
GenericElective GE	Open Stream	1	4	-	-	-	-	4	-
Project Work/Optionals		1	4	-	-	-	-	-	4
Total Credits in each semester				25	25	25	25	25	25
Total Credits in UG				150					
Credits under Non-CGPA		NSS /NCC /sports / Extra curricular	6	Upto 6 (2 in each year)					
		Summer Internship	4	Upto 4 (2 in each, after I & II years)					

Annexure II
Proposed New Grading System

SGPA (SEMESTER GRADE POINT AVERAGE)			
S. No.	Grade Point	Range of marks	Grade Letter
1	10	Equal to and above 90 Marks	A+
2	9	More than or equal to 80 and less than 90 Marks	A
3	8	More than or equal to 70 and less than 80 Marks	B+
4	7	More than or equal to 60 and less than 70 Marks	B
5	6	More than or equal to 55 and less than 60 Marks	C+
6	5	More than or equal to 50 and less than 55 Marks	C
7	4	More than or equal to 40 and less than 50 Marks	D
8	0	Below 40 Marks	F

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD.
AUTONOMOUS (CBCS)

PROPOSED SCHEME FOR CHOICE BASED CREDIT SYSTEM FOR B.SC.

BIOTECHNOLOGY COURSE

FIRST YEAR- SEMESTER I				
CODE	**COURSE TITLE**	**COURSE TYPE**	**H PW**	**CREDITS**
BS 101	Environmental Science/	AECC-1	2	
BS 102	English	CC-1A	4	4
BS 103	Second language	CC-2A	4	4
BS 104	**Optional I- Cell biology and Genetics**	**DSC-1A**	**4T+3P=7**	**4+1=5**
BS 105	Optional II	DSC-2A		4+1=5
BS 106	Optional III	DSC-3A		4+1=5
	TOTAL			**25**
FIRST YEAR- SEMESTER II				
BS 201	Basic Computer Skills	AECC-2	2	2
BS 202	English	CC-1B	4	4
BS 203	Second language	CC-2B	4	4
BS 204	**Optional I- Biological Chemistry and Microbiology**	**DSC-1B**	**4T+3P=7**	**4+1=5**
BS 205	Optional II	DSC-2B		**4+1=5**
BS 206	Optional III	DSC-3B		4+1=5
	TOTAL			**25**
SECOND YEAR- SEMESTER III				
BS 301	**SEC 1: UGC specified SEC**	**SEC-1**		
BS 302	SEC **2: Immunological techniques**	**SEC-2**	2	**2**
BS 303	English	CC-1C	3	3
BS 304	Second language	CC-2C	3	3
BS **305**	**Optional I- Molecular Biology and Recombinant DNA Technology**	**DSC-1C**	**4T+3P=7**	**4+1=5**
BS 306	Optional II	DSC-2C		**4+1=5**
BS 307	Optional III	DSC-3C		**4+1=5**
	TOTAL			**25**
SECOND YEAR- SEMESTER IV				
BS 401	**SEC 3: UGC specified SEC**	**SEC-3**		
BS 402	**SEC 4: Molecular markers in plant breeding**	**SEC-4**	**2**	**2**
BS 403	English	CC- I D	3	3
BS 404	Second language	CC-2D	3	3
BS 405	**Optional I- Bioinformatics and Biostatistics**	**DSC-1D**	**4T+3P=7**	**4+1=5**
BS 406	Optional II	DSC-2D		4+1=5
BS 407	Optional III	DSC-3D		4+1=5
	TOTAL			**25**

THIRD YEAR- SEMESTER V				
CODE	**COURSE TITLE**	**COURSE TYPE**	**HPW**	**CREDITS**
BS 501	English	CC-1E	ὸ	3
BS 502	Second language	CC-2E	3	3
BS 503	**Basics in Biotechnology**	**GE**	**4**	**4**
BS 504	**Optional I- A/B** **(A) Plant Biotechnology** **or** **(B) Medical Biotechnology**	**DSE -1E**	**4T+3P=7**	**4+1=5**
BS 505	Optional- II **A/B**	**DSE** -2E		4+1=5
BS 506	Optional- **III A/B**	DSE -3E		4+1=5
	TOTAL			**25**
THIRD YEAR- SEMESTER VI				
BS 601	**Project in Biotechnology/** **Optional I: (IPR, Biosafety and Entrepreneurship)**	**Project work/Opt.P**	**4**	4
BS 602	English	CC-1F	3	3
BS 603	Second language	CC-2F	3	3
BS 604	**Optional II- A/B .** **(A) Animal Biotechnology** **or** **(B) Environmental Biotechnology ..**	**DSE-1F**	**4T+3P=7**	**4+1=5**
BS 605	Optional- **II** A/B .	DSE -2F		4+1=5
BS 606	Optional- III A/B	DSE -3F		4+1=5
	TOTAL			**25**
	TOTAL Credits			**150**

Total credits= 164-12 (AECC 4 + SEC 8) =15

AECC: Ability Enhancement Compulsory Course
SEC: Skill Enhancement Course
SEC*:SEC (UGC Recommended Courses)
DSC: Discipline Specific Course
DSE: Discipline Specific Elective
GE: Generic Elective

Previously recommended SEC **I :** Enzyme Technology* and SEC 4: Intellectual Property Rights* have been changed to two UGC recommended SEC courses. SEC 1: **Industrial Fermentation*** and **SEC 4: Drug designing***

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD.

AUTONOMOUS (CBCS)

PROGRAM OUTCOMES

PO 1 Domain Expertise:

- Acquire comprehensive knowledge and skills.
- Make use of the knowledge in an innovative manner.
- Effectively apply the knowledge and skills to address various issues.

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PO 2 Modern equipment Usage

- Use ICT effectively.
- Access, retrieve and use authenticated information.
- Access, retrieve and use authenticated information. Have knowledge of software applications to analyze data.

PO 3 Computing Skills and Ethics

- Develop rationale and scientific thinking process.
- Use technology intelligently for communication, entertainment and for the benefit of mankind.
- Ensure ethical practices throughout ones endeavors for the wellbeing of human race.

PO 4 Complex problem Investigation & Solving

- Predict and analyze problems.
- Frame hypotheses.
- Investigate and interpret empirical data.
- Plan and execute action.

PO 5 Perform effectively as Individuals and in Teams

- Work efficiently as an individual
- Cooperate, coordinate and perform effectively in diverse teams/groups.
- Prioritize common interest to individual interest.

PO 6 Efficient Communication & Life Skills

- Express thoughts in an effective manner
- Listen, understand and project views in a convincing manner.
- Decide appropriate media to share information
- Develop skills to present significant information clearly and concisely to interested groups.

PO 7 Environmental Sustainability

- Understand sensibly the Environmental challenges.
- Think critically on environment sustainability measures.
- Propagate and follow environment friendly practices.

PO 8 Societal contribution

- Render service for the general good of the society.
- Involve voluntarily in social development activities at Regional, National, global levels.
- Have own pride in volunteering to address societal issues viz: calamities, disasters, poverty, epidemics.
- Be a patriotic citizen to uphold the values of the nation

PO 9 Effective Project Management

- Identify the goals, objectives and components of a project and decide the appropriate time of completion.
- Plan, organize and direct the endeavors of teams to achieve the set targets in time.
- Be competent in identifying opportunities and develop strategies for contingencies.

Programme Specific Outcomes of B. Sc. in Biotechnology

1. Apply the knowledge of various branches of biotechnology to the solution of complex problems.

2. Identify, formulate, research literature, and analyze problems to arrive at substantiated conclusions using first principles of mathematics, natural, and engineering sciences.

3. Design solutions for complex engineering problems and design system components, processes to meet the specifications with consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4. Use research-based knowledge including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD.
AUTONOMOUS (CBCS)
B.Sc. Biotechnology I YEAR (2021-22)
SEMESTER- I DSC-Paper- I: CELL BIOLOGY AND GENETICS

COURSE OUTCOMES **CREDITS-4 TEACHING HOUR/WEEK-4**

After completion of the course student will be able to:

- Recall the history of cytology and distinguish between Prokaryotic and Eukaryotic cell
- Explain the organization of Genes and chromosomes, chromosome morphology and its aberrations
- Compare and contrast the events of cell cycle and its regulation.
- The student will demonstrate proficiency in understanding the basic structure of atom and interpret the inheritance of characters by using linkage and crossing over.

Unit 1: Cell structure and Functions

1.1. Cell as basic unit of living organisms-bacterial, fungal, plant and animal cells
1.2. Ultrastructure of prokaryotic cell (cell membrane and plasmids, Nucleoid)
1.3. Ultrastructure of eukaryotic cell (cell wall, cell membrane, nucleus, mitochondria, chloroplast, endoplasmic reticulum, Golgi apparatus, vacuoles)
1.4. Fluid mosaic model, Sandwich model, Cell membrane permeability
1.5. Structure of chromosome-morphology, components of chromosomes (histones and nonhistones),
1.6. Specialized chromosomes (Polytene, Lampbrush) Structural and Numerical Aberrations

Unit 2: Cell cycle

2.1 Bacterial cell division
2.2 Eukaryotic cell cycle –phases
2.3 Mitosis - Stages -significance
2.4 Meiosis- Stages -significance
2.5 Senescence and necrosis
2.6 Apoptosis

Unit 3: Principles and mechanism of inheritance

3.1. Mendel's experiments - factors contributing to success of Mendel's experiments
3.2. Law of segregation - Monohybrid Ratio; Law of independent assortment- Dihybrid ratio, Trihybrid ratio
3.3. Deviation from Mendel's laws- partial or incomplete dominance **(eg: Flower** Color in Mirabilis jalapa), Co-dominance (eg: MN Blood groups), Non allelic interactions - types of epistasis, modification of dihybrid ratios (12:3:1; 9:7; 15:1; 9:3:4,9:7; 13:3)
3.4. Penetrance and Expressivity (eg: Polvdactyly. Waardenburg syndrome). pleiotropism, phenocopy-microcephaly, cleft lip.
3.5. Multiple alleles (eg: Coat color in Rabbits, eye color in Drosophila and ABO Blood groups)
3.6. X-Y chromosomes - Sex determination in Drosophila, Man, X-linked inheritance -Hemophilia and Color blindness; X-inactivation.

Unit 4: Linkage, Recombination and Extension to Mendel's Laws

4.1. Linkage and recombination - Cytological proof of crossing over, phases of linkage, recombination frequency, gene mapping and map distance
4.2. Non-Mendelian Inheritance - Maternal effect (Shell coiling in snail), variegation in leaves of Mirabilis jalapa
4.3. Cytoplasmic male sterility in Maize.
4.4. Mitochondrial inheritance in human and poky in Neurospora crassa
4.5. Chloroplast inheritance in Chlamydomonas
4.6. Hardy-Weinberg Equilibrium.

OPTIONAL- I: PRACTICALS
CELL BIOLOGY AND GENETICS

1. Microscopic observation of cells: bacteria, fungi, plant and animal
2. Preparation of different stages of Mitosis (onion root tips)
3. Preparation of different stages of Meiosis (grasshopper testis)
4. Preparation of Polytene chromosome from Drosophila salivary gland
5. Monohybrid and dihybrid ratio in Drosophila
6. Monohybrid and dihybrid ratio in Maize
7. Problems on co-dominance, epistasis, two point and three point test cross, gene mapping.
8. Statistical applications of Hardy-Weinberg Equilibrium

Spotters:

1. Prokaryotic Cell (Bacteria)
2. Mitochondria
3. Chlorolplast
4. Polytene Chromosomes
5. Test Cross
6. Blood Grouping
7. Hemophilia Pedigree
8. Crossing Over
9. Synaptonemal Complex
10. Nucleosome Model

REFERENCE BOOKS

1. Cell & Molecular Biology. E.D.D De Robertis & E.M.F De Robertis, Waverly publication
2. An introduction to Genetic Analysis by Anthony, J.F. J.A. Miller, D.T. Suzuki, R.C. Richard Lewontin, W.M-Gilbert, W.H. Freeman publication
3. Principles of Genetics by E.J.Gardner and D.P. Snusted. John Wiley & Sons, New York
4. The science of Genetics, by A.G. Atherly J.R. Girton, J.F. Mcdonald, Saundern College publication
5. Principles of Genetics by R.H. Tamarin McGrawhill
6. Theory & problems in Genetics by Stansfield, Schaum out line series McGrawhill

7. Molecular Cell Biology Lodish, H., Baltimore, D; fesk, A., Zipursky S.L., Matsudaride, P. and Darnel. American Scientific Books. W.H. Freeman, New York
8. The cell: A molecular approach. Geoffrey M Cooper, Robert E Hausman, ASM press
9. Cell and Molecular Biology, Concepts and Experiments — Gerald Karp, John Wiley & Sons, Inc.
10. Cell Biology And Genetics by P.K. GUPTA

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD.
AUTONOMOUS (CBCS)
BSC BIOTECHNOLOGY-I YEAR (2021-22)
SEMESTER- II DSC-Paper- II: BIOLOGICAL CHEMISTRY AND MICROBIOLOGY

COURSE OUTCOMES **CREDITS-4 TEACHING HOUR/WEEK-4**

After completion of the course student will be get exposed

- To strong theoretical and practical background in fundamental concepts.
- To get insights of multiple important technical areas of Biochemistry.
- To apply contextual knowledge and modern tools of biochemical research for solving problems.
- To give students a generalized idea about microbiology its basic aspects

Unit 1: Biomolecules

1.1 Carbohydrates- importance, classification; structure and functions of monosaccharaides (glucose & fructose), disaccharides (sucrose, lactose & maltose) and polysaccharides (starch, glycogen & inulin)
1.2 Amino acids- importance, classification, structure, physical and chemical properties of amino acids; peptide bond formation
1.3 Proteins- importance, structure of proteins- primary, secondary, tertiary and quaternary
1.4 Lipids- importance, classification- simple lipids (triacylglycerides & waxes), complex lipids (phospholipids & glycolipids), derived lipids (steroids, terpenes & carotenoids)
1.5 Nucleic acids :structure and chemistry of DNA (Watson and crick) and RNA(TMV) Structure and forms of DNA (A, B and Z)
1.6 Enzymes- importance, classification and nomenclature; Michaelis-Menton Equation, factors influencing the enzyme reactions; enzyme inhibition (competitive, uncompetitive & mixed), co-enzymes

Unit 2: Bioenergetics

2.1 Glycolysis, Tricarboxylic Acid (TCA) Cycle,
2.2 Electron Transport, Oxidative Phosphorylation
2.3 Gluconeogenesis and its significance
2.4 Transamination and Oxidative deamination reactions of amino acids
2.5 B-Oxidation of Fatty acids
2.6 Glyoxalate cycle

3. Unit: Fundamentals of Microbiology

3.1 Historical development of microbiology and contributors of microbiology
3.2 Microscopy: Bright field microscopy, Dark field microscopy, Phase contrast microscopy, Fluorescent microscopy, Scanning and Transmission electron microscopy
3.3 Outlines of classification of microorganisms
3.4 Structure and general characteristics of bacteria and virus

3.5 Disease causing pathogens and symptoms (Eg: Mycobacterium, Hepatitis)
3.6 Structure and general characteristics of micro-algae and fungi

4. Unit: Culture and identification of microorganisms

4.1 Methods of sterilization- physical and chemical methods
4.2 Bacterial nutrition nutritional types of bacteria, essential macro& micro nutrients and growth
4.3 Bacterial growth curve-batch and continuous cultures, synchronous cultures measurement of bacterial growth-measurement of cell number and cell mass.
4.4 Factors affecting bacterial growth
4.5 Culturing of anaerobic bacteria and viruses
4.6 Pure cultures and its characteristics

OPTIONAL I: PRACTICALS

BIOLOGICAL CHEMISTRY AND MICROBIOLOGY

1. Preparation of normal, molar& molal solutions.
2. Preparation of buffers (acidic, basic& neutral)
3. Qualitative tests of sugars, amino acids& lipids
4. Estimation of total sugars by anthrone method
5. Separation of amino acids by paper chromatography
6. Estimation of proteins by biuret method
7. Sterilization methods
8. Preparation of microbiological media (bacterial, algal & fungal)
9. Isolation of bacteria by streak, spread and pour plate methods
10. Isolation of bacteria from soil

11 Simple staining and differential staining (gram's staining)
12 Bacterial growth curve
13 Technique of micrometry (ocular and stage)

Spotters:

1. Osazone
2. Globular protein
3. Lock and key, model
4. Complete inhibition
5. RUBISCO
6. ATP synthase
7. Autoclave
8. Laminar air flow
9. Tyndalization
10. Bacterial growth curve
11. Hot air oven
12. Serial dilution technique

REFERENCE BOOKS

1. Lehninger Principles of Biochemistry By: David L. Nelson and Cox
2. Biochemistry By: Rex Montgomery
3. Harper's Biochemistry By: Robert K. Murray
4. Enzymes By: Trevor Palmer
5. Enzyme structure and mechanism By: AlanFersht
6. Principles of Biochemistry By: Donald J. Voet, Judith G.Voet, Charlotte W.Pratt
7. Analytical Biochemistry By: Cooper
8. Principles and techniques of Biochemistry and Molecular Biology Edited By: Keith Wilson
9. Practical Biochemistry By: Plummer
10. Biology of Microorganisms by: Brock, T.D. and Madigan, M.T.
11. Microbiology by: Prescott, L.M., Harley, J.P. Klein,D.A.
12. Microbiology by: Pelczar, M.J, Chan, E.C.S., Ereig,N.R.
13. Microbiological applications by: Benson

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD.
AUTONOMOUS (CBCS)
BSC BIOTECHNOLOGY-II YEAR (2021-22)
Semester III- Molecular Biology and Recombinant DNA Technology

COURSE OUTCOMES **CREDITS-4 TEACHING HOUR/WEEK-4**

After completion of the course student will understand:

- Structural levels of nucleic acids- DNA and RNA and genome organization in prokaryotes and eukaryotes.
- The concept of Gene and the gene architecture.
- Molecular Events of Transcription and processing of transcripts
- The knowledge of recombinant DNA technology

Unit 1: Nucleic Acids and Genome organization

1.1 DNA as the genetic material- Griffith's experiments on transformation, Avery McCleod and McCarty experiment, Hershey-Chase experiment, RNA as Genetic Material

1.2 Genome organization in prokaryotes and Eukaryotes

1.3 Genome organization in Mitochondria and Chloroplast genome

1.4 DNA replication- Semi conservative DNA replication-Messelson and Stahl experiment

1.5 Replication in Prokaryotic Genome and Nuclear Genome of Eukaryotes

1.6 Mutation-Spontaneous and Induced , Physical and chemical Mutagens

2.Gene expression in prokaryotes and Eukaryotes

2.1 Structure of prokaryotic and Eukaryotic gene ,Structure and functions of prokaryotic RNA polymerase

2.2 Transcriptional machinery of eukaryotes - Structure and functions of eukaryotic RNA polymerase

2.3 Genetic Code-Properties ,deciphering genetic code, wobble hypothesis

2.4 Prokaryotic Transcription- initiation, elongation , proof reading and termination (rho dependent and independent),

2.5 Eukaryotic Transcription- initiation, elongation and termination

2.6 Prokaryotic and eukaryotic- Translation- initiation, elongation and termination.

3. Unit: Gene regulation in Prokaryotes and Eukaryotes

3.1 Prokaryotic transcriptional regulation (inducible System)-Operon concept, Lac operon, glucose effect.

3.2 Prokaryotic transcriptional regulation (repressible system)- Tryptophan operon

3.3 Post transcriptional modifications – Capping and Poly adenylation

3.4 Splicing and alternate splicing

3.5 Post translational modification- glycosylation and adenylation and ubiquitination

3.6 Gal regulation in yeast-mating type gene switching

Unit 4: Recombinant DNA Technology

4.1 Enzymes useful in molecular cloning: Restriction endonuclease, DNA ligases, Polynucleotide kinase, DNA Polymerase, klenow enzyme, reverse transcriptase, Alkaline phosphatase, terminal nucleotidyltransferase

4.2 Cloning Vectors: pBR322, Bacteriophage, Cosmid, Phagemid, Shuttle vectors

4.3 Vectors for library preparation (lambda phage vector, Cosmid, BAC and YAC)

4.4 Gene transfer techniques: Physical, Chemical and Biological methods

4.5 Se;lection of recombinant clones-colony hybridization and library screening

4.6 Polymerase Chain Reaction and Applications of recombinant DNA technologies-Agriculture, Medicine

PRACTICALS
MOLECULAR BIOLOGY AND RECOMBINANT DNA TECHNOLOGY

1. Isolation of DNA from bacterial cell
2. Isolation of DNA from Plasmid
3 Agarose gel electrophoresis of DNA
4 Quantification of DNA by Spectrophotometer
. 5 Separation of proteins by SDS-PAGE
6 Polymerase Chain Reaction
7 Restriction digestion of DNA
8 Bacterial Transformation (Selection of transformants with blue white selection)

REFERENCE BOOKS

1. Molecular Biology of the cell. Alberts, B; Bray, D, Lews, J., Raff, M., Roberts, K and Watson, J.D. Garland publishers, Oxford
2. Molecular Biology of the Gene - By Watson, Hopkins, Goberts, Steitz and Weiner (Pearson Education)
3. Text Book of Biotechnology - By H.K. Das (Wiley Publications)
4. Gene Structure & Expression - By J.D. Howkins, Publ: Cambridge
5. Test Book of Molecular Biology - By K.S. Sastry, G. Padmanabhan& C. Subramanyan, Publ: Macmillan India
6. Principles of Gene Manipulation - By R.W. Old & S.B. Primrose, Publ: Blackwell
7. Genes - By B. Lewin - Oxford Univ. Press
8. Molecular Biology &Biotechnol. - By H.D. Kumar, Publ: Vikas
9. Methods for General & Molecular Bacteriology - By P. Gerhardf et al., Publ: ASM
10. Molecular Biotechnology - By G.R. Click and J.J. Pasternak, Publ: Panima
11. Genes and Genomes – By Maxine Singer and Paul Berg
12. Molecular Biology - By D. Freifelder, Publ: Narosa
13. Molecular biology. By;F.Weaver. WCB/McGraw Hill.

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD.
AUTONOMOUS (CBCS)
BSC BIOTECHNOLOGY-II YEAR (2021-22)
SEMESTER- III
SKILL ENHANCEMENT COURSE -2 (SEC- 2)
BS 302: IMMUNOLOGICAL TECHNIQUES

1. Unit: Antibody assays - Principle, Methodology and Applications

1.1. Antigen - Antibody reactions: opsonisation, neutralization, precipitation & *aggl*utination
1.2. Immuno diffusion & radial diffusion
1.3. Immuno electrophoresis - rocket and counter current
1.4. ELISA & western blotting
1.5. Radioimmunology assay & immune fluorescent assay
1.6. Immunohisto chemistry

2. Unit: Cellular Assays - Principle, Methodology and Applications

2.1. Total and differential count in human peripheral blood
2.2. Separation of mononuclear cells from human peripheral blood
2.3. Cell viability assay using tryphan blue
2.4. Lymphocyte transformation assay
2.5. Enumeration of T & B cells from human peripheral blood
2.6. Micro cytotoxicity assay for HLA typing

REFERENCE BOOKS

1. Essential Immunology by I. Roitt, Publ: Blackwell
2. Immunology by G. Reever& I. Todd, Publ: Blackwell
3. Cellular and Molecular Immunology by Abbas AK, Lichtman AH, Pillai S. Saunders publication, Philadelphia
4. Kuby's Immunology by Golds RA, Kindt TJ, Osborne BA. W.H. Freeman and company, New York

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD.
AUTONOMOUS (CBCS)
BSC BIOTECHNOLOGY-II YEAR (2021-22)
Semester IV (DSC – 1D)
B S 405: Bioinformatics and Biostatistics

COURSE OUTCOMES **CREDITS-4 TEACHING HOUR/WEEK-4**

After completion of the course student will understand how to:

- Store and Retrieve drug related information using online tools
- Comprehend the utility of tools & databases available in genomic & proteomics
- Understand simple calculations, to plan and execute research designs
- Analyse data, interpret, information and compare observed data

Unit 1: Introduction to Bioinformatics and Biological Databases

1.1 Bioinformatics – a history, Scope and applications
1.2 Bioinformatics tools and resources, internet basics, role of internet, free online tools, downloadable tools
1.3 Bioinformatics web portals-NCBI, EBI,ExPASy
1.4 Biological databases: classification of Databases primary (Genbank), Secondary (PIR), Tertiary and composite (KEGG) databases
1.5 Sequence Databases – DNA sequence databases
1.6 Protein data sequence databases-(swissprot and PROSITE)

Unit 2: Sequence Alignment

2.1 Basics of sequence alignment – match, mismatch, gaps, gap penalties, scoring alignment
2.2 Types of sequence alignment- pairwise and multiple alignment, local and Global alignment
2.3 Dot matrix comparison of sequences
2.4 Scoring matrices – PAM and BLOSUM
2.5 Pair wise sequence similarity search by BLAST and FASTA
2.6 Concepts of phylogeny- distance based (NJ Method) and Character based (ML method) ,Tree construction methods

Unit 3: Descriptive Biostatistics and Probability

3.1 Introduction to Biostatistics, kinds of data and variables, based on nature (numerical, discrete and continuous, categorical –ordinal and nominal), based on source (primary and secondary data) sample size, sampling methods and sampling errors
3.2 Data tabulation and representation methods, graphical methods (stem and leaf plot, line diagram, bar graphs, histogram, frequency polygon & frequency curve) diagrammatic method (pie diagram)
3.3 Measures of central tendency- arithmetic mean, median, mode (merits and demerits)
3.4 Measures of dispersion- range, mean deviation, variance and standard deviation, Standard error and Co efficient of Variation -merits and demerits

3.5 Concepts of probability-random experiment, events and Probability of an event, probability rules (addition and multiplication), uses of permutation and combinations, random variables (discrete and continuous)
3.6 Probability distributions-Binomial, Poisson for discrete variables and Normal distribution for continuous variables

Unit 4: Applications of Biostatistics
4.1 Hypothesis testing- steps in testing for statistical hypothesis, null and alternative hypothesis level of significance- type 1 and type 2 errors
4.2 Test of significance- for small samples- student's t- test (one sample and two samples)
4.3 Test of significance- for large samples – Z test for means and proportions
4.4 Chi-square test- and their applications –goodness of fit, test of independence
4.5 Analysis of Variance (ANOVA)- one way analysis
4.6 Correlation definition, simple linear analysis, Karl Pearson's correlation coefficient

OPTIONAL I: PRACTICALS
BIOINFORMATICS AND BIOSTATISTICS

1. Exploring web portals - NCBI, EBI & ExPASy
2. Literature search through Pubmed and Pubmed Central
3. Sequence retrieval from Genbank, ENA, Swissprot
4. Pairwise homology search by BLAST and FASTA
5. Calculation of mean, median, mode, standard deviation, variance, standard error and coefficient of variation
6. Construction of bar diagram, pie diagram, line diagram, histogram
7. Problems on hypothesis testing using Z- test. t-test and Chi-square test
8. Problems on probability and probability distributions

Spotters

1. Line diagram, bar diagram & pie diagrams
2. Histogram, frequency polygon & frequency curve
3. Normal Probable curve
4. GenBank
5. DDBJ
6. SWISS-PROT
7. PROSITE
8. PIR
9. BLAST
10. Pairwise alignment
11. Multiple sequence alignment
12. PAM and BLOSUM
13. Phylogenetic tree

RECOMMENDED BOOKS

1. Khan &Khanum (2004), Fundamentals of Biostatistics, 11 Revised Edition, Ukaaz Publication
2. Bailey, N.T.J , Statistical methods in Biology, Cambridge Univ. Press
3. Fundamentals of Biostatistics, P HanmanthRao and K.Janardhan
4. Danial, W. W, Biostatistics, Wiley
5. Introduction to Bioinformatics by Aurther M lesk
6. Developing Bioinformatics Computer Skills by: Cynthia Gibas, Per Jambeck
7. Bioinformatics second edition by David M mount
8. Essential Bioinformatics by Jin Xiong
9. Bioinformatics Computing by Bryan Bergeron
10. Bioinformatics: Concepts, Skills & Applications by R.S. Rastogi
11. Queen, J. P., Quinn, G. P., &Keough, M. J. (2002). *Experimental design and data analysis for biologists.Cambridge* University Press
12. Mahajan, B.K. (2002). Methods in biostatistics. Jaypee Brothers Publishers

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD.
AUTONOMOUS (CBCS)
B.Sc BIOTECHNOLOGY II YEAR (2021-22)
SEMESTER- IV
SKILL ENHANCEMENT COURSE-3 (SEC-3)
BS 401: MOLECULAR MARKERS IN PLANT BREEDING

Unit 1: Molecular markers in Plant Breeding

1.1. Types of markers - morphological, cytological, biochemical and genetic markers
1.2. Development of molecular markers - scope in plant breeding; criteria for ideal molecular markers
1.3. Types of molecular markers
1.4. Hybridization based molecular markers - RFLP
1.5. PCR based molecular markers - RAPD, SSRs, AFLP
1.6. Sequence based molecular markers - SNPs and DArTs

Unit 2: Applications of Molecular markers in Plant Breeding

2.1. Segregating populations - backcross, double haploid, F2&F3 families, RLLs
2.2. Linkage mapping and QTI, mapping
2.3. Marker Assisted Selection (MAS) - procedure and applications
2.4. Map based cloning of genes
2.5. Fingerprinting - fingerprinting genotypes; assessment of genetic similarity among genotypes; conservation, evaluation and use genetic resources
2.6. Hybrid testing

REFERENCE BOOKS

1. Gupta PK. 2010. Plant Biotechnology. Rastogi Publications.
2. Chawla FIS. 2011. Introduction to Plant Biotechnology. Oxford and IBH Publishing Co. Pvt Ltd.
3. Chittaranjan K. 2006-07. Genome Mapping and Molecular Breeding in Plants. Vols. I-VU. Springer.16
4. Newbury HJ. 2003. Plant Molecular Breeding. Blackwell Publ.Weising K, Nybom H, Wolff K & Kahl G. 2005. DNA Fingerprinting in Plants: Principles, Methods and Applications. Taylor & Francis.

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD.
AUTONOMOUS (CBCS)
B.Sc BIOTECHNOLOGY III YEAR (2021-22)
SEMESTER- V
GENERIC ELECTIVE (GE)
BS 503: BASICS IN BIOTECHNOLOGY

COURSE OUTCOMES

CREDITS-4 TEACHING HOUR/WEEK-2

After completion of the course student will understand:

- About various tissue culture techniques to culture by invitro techniquesnand molecular farming
- Various fermentation techniques and process of production of the fermented foods and chemicals
- Applications of animal cell culture and use the assisted reproductive technology in livestock and its applications.
- Store and Retrieve drug related information using online tools and Comprehend the utility of tools & databases available in genomic & proteomics

1. Unit: Agricultural Biotechnology

1.1. Plant tissue culture - media, sterilization, culture types
1.2. Micro-propagation, Synthetic seeds, Somatic hybrids and haploid plants
1.3. Transgenic plants - direct & indirect methods of gene transfer
1.4. Applications of transgenic plants - improving productivity & nutritional quality
1.5. Applications of transgenic plants - stress tolerant plants & molecular farming
1.6. Biofertilizers and biopesticides

2. Unit: Microbial and Industrial Biotechnology

2.1. Exploitation of micro-organisms and their products
2.2. Isolation, screening and selection of microorganisms for industrial products
2.3. Preservation of microorganisms
2.4. Strain development and improvement, strategies of strain improvement selection and recombination
2.5. Production of recombinant DNA vaccine, amino acids, vitamins
2.6. Single cell protein, dairy products, penicillin and streptomycin production

3. Unit: Animal and Medical Biotechnology

3.1. Cell culture technique and its applications
3.2. Animal breeding (selective breeding and cross breeding) and its limitations
3.3. *In vitro* techniques in animal improvement: *in vitro* fertilization & microinjection
3.4. Genetically modified animals: transgenic & knock-outs

3.5. Mouse models of disease: cancer and diabetes
3.6. Biotechniques: gel electrophoresis and PCR

4. Unit: Computer applications in Biotechnology

4.1. Scope of computer applications in Biotechnology
4.2. Biotechnology tools and resources - role of the internet, free online tools, downloadable free software
4.3. Biotechnology web portals — NCBI, EBI, ExPASy
4.4. Biological databases: classification of databases - the primary (Genbank), secondary (PIR) databases
4.5. Sequence databases - DNA sequence databases (ENA &DDBJ)
4.6. Protein sequence databases (Swissprot & PROSITE)

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD.
AUTONOMOUS (CBCS)
B.Sc BIOTECHNOLOGY III YEAR (2021-22)
SEMESTER- V
OPTIONAL- I (A) (DSE- 1E)
BS 504(A): PLANT BIOTECHNOLOGY

COURSE OUTCOMES **CREDITS-4 TEACHING HOUR/WEEK-4**

After completion of the course student will understand:

- About various tissue culture techniques to culture by invitro techniques.
- Applications in plant tissue culture for Secondary metabolite production.
- The applications of genetic engineering like transgenic plants.
- Molecular farming for commercially synthesizing products such as vaccines, proteins, enzymes, etc.

1 Unit: Fundamentals of Plant Tissue Culture

1.1. Introduction to Plant tissue culture, totipotency of plant cells (dedifferentiation, re differentiation and regeneration)
1.2. Nutritional requirements for plant tissue culture: nutrient media - macronutrients and micronutrients, media additives (carbon source, vitamins, amino acids); types of media
1.3. Plant growth regulators - auxins, cytokinins and gibberilins
1.4. Preparation of media, sterilization, selection & surface sterilization of explant, inoculation, incubation and culture of plant tissue *in vitro*
1.5. Induction of callus cultures and cell suspension cultures
1.6. Organogenesis and somatic embryogenesis

2 Unit: Applications of Plant Tissue Culture

2.1. Meristem culture, micropropagation and their applications
2.2. Encapsulation and production of synthetics seeds and their applications
2.3. Cell suspension cultures (batch and continuous cultures) and applications
2.4. Protoplast isolation, culture and fusion - development of somatic hybrids & cybrids and their applications
2.5. Somaclonal variation and its applications
2.6. Anther and pollen culture for production of haploids & their applications
2.7. Cryopreservation - conservation of plant germplasm

3 Unit: Production of Transgenic Plants

3.1. Direct gene transfer techniques - physical methods: microinjection, particle bombardment (gene gun) and electroporation & chemical methods
3.2. Molecular mechanism of *Agrobucterium* infection and features of Ti Plasmid

3.3. *Agrobacter rum* mediated gene transfer using binary and co-integrate vectors

3.4. Viral vectors for gene transfer into plants

3.5. Selection of transgenic plants using reporter and selection marker genes

3.6. Genome editing - CRISPR CAS 9 Technology

4 Unit: Applications of Transgenic Plants

4.1. Herbicide resistance in transgenic plants - glyphosate tolerance

4.2. Insect resistant transgenic plants: Bt cotton, proteinase inhibitors, lectins

4.3. Virus, bacterial and fungal resistant transgenic plants

4.4. Abiotic Stress tolerance: drought, heat and salinity stress tolerant plants

4.5. Transgenic plants with enhanced nutritional value: vitamin A, oil, amino acids

4.6. Transgenic plants as bioreactors: edible vaccines, antibody production, biodegradable Plastics

OPTIONAL-I (A): PRACTICALS
PLANT BIOTECHNOLOGY

1. Preparation of media for plant tissue culture
2. Sterilization methods of explants (seed, leaf, inter node & root) and inoculation
3. Establishment of callus cultures - from carrot/rice
4. Preparation of synthetic seeds
5. Meristem culture
6. Cell suspension cultures
7. Protoplast isolation and culture
8. *Agrobacterium* mediated transformation

Spotters

1. Callus cultures
2. Sterilization techniques: autoclave and hot air Oven
3. Somatic embryos
4. Synthetic seeds
5. Meristem culture
6. Plant regeneration
7. Cell suspension cultures
8. Isolation of protoplasts
9. Particle bombardment (Gene gun)
10. Binary or co-integrate vectors
11. Gus gene expression in transgenic plant tissue
12. Golden Rice

REFERENCE BOOKS

1. Plant Tissue Culture and its Biotechnological Applications by W. Barz, E. Reinhard, M.H. Zenk
2. Plant Tissue Culture by Akio Fujiwara
3. Frontiers of Plant Tissue Culture by Trevor A. Thorpe
4. In vitro Haploid Production in Higher Plants by S. Mohan Jain, S.K. Sopory, R.E. Veilleux
5. Plant Tissue Culture : Theory and Practice by S.S. Bhojwani and A. Razdan
6. Plant Cell, Tissue and Organ Culture, Applied and Fundamental Aspects by Y.P.S. Bajaj and A. Reinhard

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD.
AUTONOMOUS (CBCS)
B.Sc BIOTECHNOLOGY III YEAR (2021-22)
SEMESTER- VI
OPTIONAL PAPER I
BS 601: IPR, BIOSAFETY AND ENTREPRENEURSHIP

COURSE OUTCOMES **CREDITS-4 TEACHING HOUR/WEEK-4**

After completion of the course student will understand:

- Understanding, defining and differentiating different types of intellectual properties (IPs) and their roles in contributing to organizational competitiveness
- Exposing to the Legal management of IP and understanding of real life practice of IPM.
- Containment of potentially harmful biological agents and to reduce or eliminate exposure of laboratory workers, environment to potentially hazardous agents.
- The routes of exposure for a pathogen to a human being and demonstrate and assess the proper use of PPE, best practices.

1. Unit: Intellectual Property rights

1.1. Intellectual Property - meaning, nature
1.2. Significance and need of protection of intellectual property
1.3. Types of intellectual property rights: patent, trademarks, copyright, design registration, trade secret, geographical indicators, plant variety protection
1.4. Copyright: meaning, nature, historical evolution and significance
1.5. Ownership of copyright - rights of authors and owners, trademarks
1.6. Plant varieties protection and plant breeding rights

2. Unit: Patent laws

2.1. Patents - concept of patent- historical overview of the patent law in India
2.2. Kinds of patents - procedure for obtaining patent in India and in other countries
2.3. Patenting microbes and organisms- novelty, International Depository Authorities (IDAs), submitting details of the deposit
2.4. Patenting genes - pros and cons, ethics, examples
2.5. Patenting markers and variants - examples
2.6. Product vs process patent - product life cycle and process design.

3. Unit: Laboratory Management and Safety

3.1. Administration of laboratories, laboratory design, laboratory information management system
3.2. Laboratory safety - good laboratory practice (GLP), biosafety levels
3.3. Basic principles of quality control (QC) and quality assurance (QA)
3.4. Handling of hazardous compounds - chemicals, solvents, poisons, isotopes, explosives and biological strains

3.5. Storage of hazardous material
3.6. Disposal of biological and radioisotope wastes

4. Unit: Entrepreneurship

4.1. Concept, definition, structure and theories of entrepreneurship
4.2. Types of start-ups with examples
4.3. Types of entrepreneurship, environment, process of entrepreneurial development 4.4. Entrepreneurial culture, entrepreneurial leadership
4.5. Product planning and development - project management, search for business idea, concept of projects, project identification
4.6. Promoting bio-entrepreneurship.

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD.
AUTONOMOUS (CBCS)
B.Sc BIOTECHNOLOGY III YEAR (2021-22)
SEMESTER- VI
OPTIONAL- II (A) (DSE- 1F)
BS 604(A): ANIMAL BIOTECHNOLOGY

COURSE OUTCOMES **CREDITS-4 TEACHING HOUR/WEEK-4**

After completion of the course student will understand:

- To describe in vitro applications of animal cell culture
- To use the assisted reproductive technology practiced in livestock and its applications
- To construct the techniques in production of cloned animal and its applications.
- To predict the ethical, social and moral issues related to cloning

1. **Unit: Animal cell culture: principles and applications**
   1.1. Cell culture technique: cell culture media, sterilization techniques
   1.2. Characteristic features of cell lines and cell line maintenance
   1.3. Methods of isolation and separation of various cell types and establishment of cell lines
   1.4. Properties and types of stem cells, culturing of embryonic stem cells and adult stem cells
   1.5. Manipulation of cells: electroporation, transfection, transduction and microinjection
   1.6. Applications of cell culture: manufacturing, toxicity testing and tissue engineering

2. **Unit: In vitro techniques in animal improvement**
   2.1. Principles of animal breeding: selective breeding, cross breeding and their limitations
   2.2. Superovulation, collection of semen and ova
   2.3. *In vitro* maturation of oocytes, artificial insemination
   2.4. *In vitro* fertilization, embryo collection and embryo sexing
   2.5. Somatic cell nuclear transfer, cloning of animals (example: Dolly)
   2.6. Applications of in vitro techniques in animal improvement

3. **Unit: Molecular markers in animal genetics**
   3.1. Developments in livestock genomics (Estimated Breeding Value -EBV)
   3.2. Molecular markers: types and characteristics
   3.3. RFLP and RAPD
   3.4. SNPs and their application in genotyping
   3.5. Identification and isolation of desired genes of interest
   3.6. Marker-assisted selection

4. **Unit: Genetically modified organisms**
   4.1. Animal models and their significance in scientific research
   4.2. Mouse models for cancer
   4.3. Generation of transgenic mouse
   4.4. Generation of gene knock-out mouse
   4.5. Genetically modified mice as disease models

4.6. Applications of genetically modified animals in understanding disease biology and drug development.

OPTIONAL-I (A): PRACTICALS
ANIMAL BIOTECHNOLOGY

1. Preparation of animal cell culture media
2. Sterilization of cell culture media
3. Cell counting by microscopy
4. isolation of cells from chicken Liver
5. Establishment of primary cell culture: Liver/Spleen
6. Preparation of metaphase chromosomes
7. Culturing suspension cells
8. Culturing adherent cells

Spotters

1. Microscope
2. CO_2 incubator
3. Biosafety cabinet/ Laminar air flow
4. Trypan blue stained cells
5. Cell culture flasks and dishes
6. Metaphase slide
7. Autoclave
8. Centrifuge
9. Example of an RFLP
10. Microinjection into egg cells

REFERENCE BOOKS

1. Text book of Animal Biotechnology by B Singh. The Energy and Resources Institute (teri)
2. Genetics for Animal Sciences by WH Freeman. Van Vleck LD, Pollak EJ & Bltenacu EAB. 1987.
3. Cancer Cell Culture: Methods and Protocols: 731 (Methods in Molecular Biology) Humana; 2nd ed. 2011 edition (28 April 2011)
4. Genetic Engineering by V.K.Agarwal and P.S. Varma, S. Chand & Company Ltd, 2009

GOVERNMENT DEGREE COLLEGE FOR WOMEN (AUTONOMOUS)

BEGUMPET, HYDERABAD-16

Affiliated To Osmania University, Re-Accredited With 'A^{+}' Grade by NAAC

DEPARTMENT OF MICROBIOLOGY

SYLLABUS (2021-2022)

MICROBIOLOGY

PROPOSED SCHEME FOR CHOICE BASED CREDIT SYSTEM IN B.Sc.

MICROBIOLOGY (2021-22)

Code	Course Title	Course Type	HPW	Credits
FIRST YEAR - SEMESTER-1				
BS	AEC-1			2
BS	English			4
BS	Second Language			4
BS	**General Microbiology**	DSC-1A	4+2	5
BS	Optional-II			5
BS	Optional-III			5
SEMESTER-2				
BS	AEC-2			2
BS	English			4
BS	Second Language			4
BS	**Microbial Diversity**	DSC-1B	4+2	5
BS	Optional-II			5
BS	Optional-I II			5
SECOND YEAR-SEMESTER-3				
BS	Haematology	SEC-1	2	2
BS	Food Fermentation Techniques	SEC-2	2	2
BS	English			3
BS	Second Language			3
BS	**Food & Environmental Microbiology**	DSC-1C	4+2	5
BS	Optional-II			5

BS	Optional-III			5
SEMESTER-4				
BS	Mushroom Cultivation	SEC-3	2	2
	Biofertilizers and Biopesticides	SEC-4	2	2
	English			3
BS	Second Language			3
BS	Medical Microbiology & Immunology	DSC-1 D	4+2	5
BS	Optional-II			5
BS	Optional-III			5
THIRD YEAR-SEMESTER-5				
BS501	Mushroom cultivation	SEC-3	2	2
BS502	Microbiology and Human health	GE-1	2	2
BS503	APPLIED MICROBIOLOGY	DSC-1E	3+2	4
BS506	A-IMMUNOLOGY B- PHARMACEUTICAL MICROBIOLOGY	DSE-1E	3+2	4
THIRD YEAR-SEMESTER-6				
BS601	G/H HOSPITAL WASTE MANAGEMENT	SEC-4	2	2
BS602	CONTAGIOUS DISEASES AND IMMUNISATION	GE-2	2	2
BS603	MEDICAL MICROBIOLOGY	DSC-1F	3+2	4

BS606	A-FOOD MICROBIOLOGY B- INDUSTRIAL MICROBIOLOGY	DSE-1F	3+2	4

Programme Outcomes

PO1. Domain Expertise:

- Gain thorough knowledge in the chosen domain and be able to apply it wherever necessary in an innovative manner.

PO2. Modern equipment Usage:

- Equip the students with modern technological skills, so that they are able to use software applications in their careers.

PO3. Computing Skills and Ethics:

- Students learn critical thinking and are able to analyse and solve problems rationally and ethically for communication, entertainment and for the benefit of mankind throughout ones endeavours for the wellbeing of human race.

PO4. Complex Problem Investigation & Solving

- Learn to analyze the problem, frame hypotheses, interpret empirical data and execute action

PO5. Perform effectively as Individuals and in Teams

- Be able to contribute at individual level and as team member and prioritize institutional interest over individual.

PO6. Efficient Communication & Life skills

- Learn efficient communication to express, listen, understand and project views in a convincing manner clearly and concisely

PO7. Environmental Sustainability

- Understand current environmental challenges faced by the country & propagate and follow environment friendly practices.

PO8. Societal contribution

- Develop the pride in volunteering to address societal issues *viz:* calamities, disasters, poverty, epidemics and involve voluntarily in social development activities at Regional, National, global levels.

PO9. Effective Project Management

- Identify the goals, objectives and components of a project and then implementation so that deadlines are achieved, even when there are setbacks.

Program Specific Outcomes (PSO)

1. **PSO-1** Can understand distribution, morphology and physiology of microorganisms
2. **PSO-2** Acquire skills in aseptic procedures, isolation and identification.
3. **PSO-3** Can understand concepts of immunology, virology, Microbial diversity and DNA technology
4. **PSO-4** Apply Specialized Microbiology Knowledge from Multiple Fields to Critically Analyze and Evaluate Microbiological, Environmental, and Health-Related Problems.
5. **PSO-5** Have sound knowledge about the fundamentals and applications of chemical and scientific theories
6. **PSO-6** Every branch of Science and Technology is related to Chemistry
7. **PSO-7** Easily assess the properties of all elements discovered.
8. **PSO-8** Apply appropriate techniques for the qualitative and quantitative analysis of chemicals in laboratories and in industries.

9. **PSO-9** Demonstrate applications of biochemical and biological sciences

10. PSO-10 Apply appropriate tools and techniques in biotechnological manipulation

11.PSO-11 Understand the responsibilities of biotechnological practices

DSC-1A Semester – I Course Title :- General Microbiology

Credits: 4+1=5

CO1: Can learn about history of microbiology, contributions of different scientists in the field of Microbiology and also applications related to this field.

CO2: Can learn about different types of microscopic techniques, measurement/calibration of microbes

CO3: Can learn about how to stain micro organisms using different staining techniques (dyes). By staining students can observe the shape and arrangement of cells. Students can also see the motility of bacteria by hanging drop method.

CO4: Can learn about classification of micro organisms. They can also learn about general characters of prokaryotic microorganisms.

CO5: Can learn about ultra structure of bacteria and viruses in detail. In addition students are also exposed to general characters and classification of eukaryotic micro organisms.

CO6: Can learn about different nutritional types in microrganisms and biochemical pathways underlying their mechanism.

CO7: Can learn about different sterilization techniques and mechanism of growth and facto

CO6: In practicals students will learn microscope handling, calibration, staining and morphology of some microorganisms.

DSC-1 Title: GENERAL MICROBIOLOGY 4HPW -Credits-4

Theory: 60 Lectures

UNIT-1: INTRODUCTION TO MICROBIOLOGY No. of hours: 15

Meaning, definition and scope. History of microbiology: Contribution of Louis Pasteur and Robert Koch, Edward Jenner, Antonie Van Leeuwenhoek, Alexander Flemming. Importance and application of Microbiology.

Principles of Microscopy-Bright field, Dark field, Phase-contrast, Fluorescent and Electron microscopy (SEM and TEM). Principles and types of stains-simple stain, differential stain, negative stain, structural stain-spore, capsule, flagella, Acid fast staining. Bacterial motility - Hanging drop method.

UNIT-2: STRUCTURE OF BACTERIA, VIRUSES & PURE CULTURE CONCEPT

No. of hours: 15

Prokaryotes – Ultra structure of eubacteria. - General characteristics of viruses, differences between bacteria and viruses. Classification of viruses

Morphology and structure of TMV and HIV. Structure and multiplication of lambda

bacteriophage.

Isolation of pure culture techniques- Enrichment culturing, Dilution plating, streak plate, spread plate, pour plate method, Micromanipulator. Preservation of Microbial cultures — Sub culturing, overlaying cultures with minerals oils, lyophilization, glycerol stocks, sand cultures, storage at low temperature,

UNIT-3: MICROBIAL NUTRITION AND METABOLISM No. of hours: 15

Microbial Nutrition — Nutritional requirement, Uptake of nutrients by cell. Nutritional groups of microorganisms — Autotrophs, Heterotrophs, Mixotrophs. Components and types of bacterial growth media — simple and complex media, algal Medium, mineral salts medium, nutrient agar medium, MacConkey agar and blood agar.

Respiration — Glycolysis, HMP Pathway, ED Pathway , TCA Cycle and Anaplerotic reaction, Electron Transport, Oxidative and substrate level phosphorylation.

UNIT-4: STERILIZATION TECHNIQUES AND MICROBIAL GROWTH

No. of hours: 15

SteriliZation and disinfection techniques - Physical methods- Autoclave, Hot air oven, Laminas air flow, **ultrasonication,** Filter sterilization. Radiation methods - U. V rays, Gamma rays, Ultrasonic methods. Chemical methods - Alcohols, Aldehydes, Phenol, Halogens and Hypochlorides.

Microbial growth — Different Phases Of Growth in Batch culture. Factors Influencing microbial growth. Synchronous, Continuous, Biphasic Growth. Methods for measuring microbial growth

Direct Microscopic, Viable count, Turbidometry, Biomass.

References:

1. Michael J. Pelczar, Jr. E.C.S.Chan, Noel R. Krieg Microbiology Tata McGraw- Hill Publisher.

2. Prescott, M.J., Harly, J.P. and Klein Microbiology 2 n d Edition, WCB McGrawHill, New York.

3. Madigan, M.T., Martinkl, I.M and Parker,j. Broch Biology Of Microorganism, 9th Edition, MacMillan Press, England.

4. Dube, R.C. and Maheshwari, D.K. General Microbiology S Chand, New Delhi.

5. Ananthanarayan and Panicker, Medical Microbiology.

I Semester

DSC-1A General Microbiology

PRACTICALS **2HPW-Credits-1**

1. Handling and calibration of light microscope.
2. Simple and differential staining (Gram staining), Spore staining.
3. Microscopic observation of cyanobacteria (*Nostoc, Spirulina*), algae and fungi (*Saccharomyces, Rhizopus, Aspergillus, Pencillium, Fusarium*).
4. Isolation of T2 bacteriophage from sewage sample.
5. Preparation of media for culturing autotrophic and heterotrophic microorganisms — algal Medium, mineral salts medium, nutrient agar medium, MacConkey agar and blood agar.
6. Sterilization techniques: Autoclave, Hot air oven and filtration.
7. Enumeration of bacterial numbers by serial dilution and plating (viable count)
8. Isolation of pure cultures by streak, spread and pour plate techniques
9. Preservation of microbial cultures- Slant, Stab, Sand cultures, mineral oil overlay and glycerol stocks
10. Turbidometric measurement of bacterial growth and plotting growth curve.

References:

- Experiments in Microbiology by K.R. Aneja.
- Gopa1Reddy.M., Reddy. M.N., SaiGopal, DVR and Mallaiah K.V. Laboratory Experiments in Microbiology.

- Dubey, R.C. and Maheshwari, D.K. Practical Microbiology, S. Chand and Co New Delhi.
- Alcamo, I.E. Laboratory Fundamentals of Microbiology. Jones and Bartlett Publishers. USA.

Semester – II **Course Title :- MICROBIAL DIVERSITY**

CO1: Concept of Biodiversity– Can learn about elements of biodiversity, its economic value. Students can also learn about classification of living organisms and get an idea about Bergey's manual.

CO2: Prokaryotic Microbial Diversity– Here students will learn about diversity of prokaryotic microorganisms such as Archaebacteria, Cyanobacteria etc.

CO3: Eukaryotic Microbial Diversity – Students will learn about diversity of eukaryotic microorganisms such as fungi, algae, protozao etc.

CO4: Microbial Ecosystems – Students can learn about interactions between microorganisms in addition to understanding about microbiome and other ecosystems.

CO5: PRACTICALS - In practicals students are made to learn isolation of methanogens, halophiles, cyanobacteria etc.

CO6: PRACTICALS – Students can learn about how to observe algae, protozoa, making of winogradsky column that shows microbial diversity.

DSC-1B **B.Sc. I Year: II Semester**

Title: MICROBIAL DIVERSITY **4HPW - Credits-4**

UNIT 1: CONCEPT OF BIODIVERSITY

Basic concept of Biodiversity and Conservation. Elements of Biodiversity - Ecosystem Diversity, Genetic Diversity, Species Abundance & Diversity. Economic Value of Biodiversity & Legal, Ethical and Conservation issues related to uses of biodiversity.

Classification of living organisms; Haeckel, Whittaker and Carl Woese systems. Differentiation of prokaryotes and eukaryotes. Classification of bacteria as per the second edition of Bergey's manual of systematic bacteriology.

UNIT 2: PROKARYOTIC MICROBIAL DIVERSITY

General characteristics of eubacteria. Rickettsia and Mycoplasma. Microbial richness: Exploration, significance, conservation and applications. Structural and physiological diversity of Archaea bacteria, Metabolic characteristics of extremophiles (Methanogens. Halophiles, thermoacidophiles).

Gram negatives: Cyanobacteria and Proteobacteria, Gram positives and heterogenous members including Fermicutes, Actinobacteria, Bacteroidetes, Acidobacteria and Planctomycetes.

UNIT 3: EUKAROTYIC MICROBIAL DIVERSITY

Eukaryotic microbial diversity. Structural, physiological and metabolic characteristics of Algae - Cyanophyta, Chlorophyta, Bacillariophyta, Phacophyta, Rhodophyta; Fungi -Phycomycetes, Basidiomycetes, Zygomyetes, Oomycets, Asomycetes, Deuteromycetes (imperfect and perfect stages) and Protozoa - Giardia, Entamoeba and Plasmodium.

UNIT 4: MICROBIAL ECOSYSTEMS

Microbial interactions: Symbiosis, neutralism, commensalism, competition, antagonism, synergism, parasitism.

Understanding microbial diversity with cultivated vs uncultivated microorganisms.

The Great Plate count anomaly. Cultivation independent methods to assess microbial diversity.

Preserved and penurbed microbial ecosystems, microbiome for sustainable agroecosystems. Human microbiome.

References:

1. Pelczar 3r. M.J . Chan. E.C.S and Kreig.N.R (2006)."Microbiology"- 5th Edition McGraw Hill Inc. New York.

2. David, B.D., Delbecco,. R., Eisen, H.N and Ginsburg, H.S (1 990) "Microbiology" 5 Edition. Harper & Row, New York.3.Stainer, R.Y., Ingraham, J.L., Wheelis, M.L and Painter, P.R. (1986). "General Microbiology" - Mac Milan Education Ltd. London.

4.Brown J. W. (2015) Principles of Microbial Diversity, ASM PfCSS

5.Epstein S.S. (2009) Uncultivated microorganisms, Springer-Verlag Publishers

6.Madigan M.T., Bender K.S., Buckley D.H., Sattley W.M. and Stahl D.A. (2017) Brock Biology of Microorganisms, 15'h Edu. (Global Edn.)Pearson Education

MICROBIAL DIVERSITY PRACTICALS

2HPW-Credits-1

- Isolation of Methanogenic bacteria from manure by anaerobic culturing
- Isolation and enumeration of halophiles from saline environment
- Isolation of bacteria from diversified habitats to demonstrate antagonism, commensalism and synergism
- Isolation of *C yanobacteria* and fungi from different habitats
- ldeniification of fungi by staining techniques
- Microscopic observation of soil algae and Protozoa
- Winogradsky's column to demonstrate microbial diversity
- Visit and observe any nearby unique ecosystems to understand the role ofmicroorganisms
- Demonstration of the great plate count anomaly

References:

- Aneja. K.R. (200 l). Experiments in Microbiology, Plant pathology, Tissue culture and Mushroom Production Technology, 3rd Edition, New Age lnternational (P) Ltd.. New Delhi.
- Dubey, R.C. and Maheswari, D.K. (2002). Practical Microbiology, S. Chand & Co., New Delhi.
- Burns. R.G. and Slater, I.H, (1982a. Experimental Microbiology and Ecology. Blackwe1l Scientific Publications, USA.
- Peppler, 1. L. and Gerba, C.P. (2004). Environmental Microbiology — A Laboratory Manual.Academic Press. New York.
- S. Gupte, S. (1995). Practical Microbiology. Jaypee Brothers Medical Publishers Pvt. Ltd.
- Kannan, N. (2003). Hand Book of Laboratory Culture Medias, Reagents, Stains and Buffers.Panima Publishing Co., New Delhi.
- Gopal Reddy, M., Reddy, M.N., Saigopal, DVR and Mallaiah, K.V. (2007). Laboratory Experiments in Microbiology, 2nd edition.Himalaya Publishing House, Mumbai.
- Reddy. S.M. and Reddy. S.R. (1998). Microbiology — Practical Manual, 3rd Edition, Sri Padinavathi Publications, Hyderabad

Course Code :-BS304 Program :- B.Sc. Semester – III

Course Title :- Haematology HPW :- 2 Credits – 2

Course type: SEC-1

CO1: students can learn about different concepts such as composition of blood (RBC, WBC, Plasma, Serum, Platelet cells).

CO2: Staining of blood films, Total blood picture, Differential count, Blood grouping, Rh-typing, Blood haemoglobin, Anticoagulants.

CO3: Here students can learn about Blood transfusion (Principles), Blood preservation, Precautions of handling blood and it's products.

CO4: students are made aware of diseases related to blood such as Hemophilia, Anaemia and ESR technique.

Title: HAEMATOLOGY III SEMESTER

Code: BS, SEC-1

UNIT-1: INTRODUCTION TO BLOOD

Blood: definition, characters, composition. Collection of blood — capillary blood: from adults and infants, examinations employed. Venous blood: from adults and infants, examinations employed composition of blood (RBC, WBC, Plasma, Serum, Platelet cells), Staining of blood films. Total blood picture, Differential count. Blood grouping, Rh-typing. Haemoglobin: composition and normal values, haemoglobin estimation Anti-coagulants.

UNIT-2: BLOOD TRANSFUSION

Principles of blood transfusion, Donor screening — cross matching, collection of blood, preservation and storage. Precautions of handling blood and it's products. Challenges in management of Hemophilia and Anaemia. General account on spread of diseases through blood and blood products. Coagulation mechanism: factors, bleeding time, clotting time. Haematological indices: packed cell volume. Eryththrocyte sedimentation: principle — determination.

References:

1. Kawthalbar.Essentials of Haematology Paperback — 2013

2. Lokwani.D.P.The ABC of CBC Interpretation of Complete Blood Count and Histograms Paperback 2013

3. RamnikSood . Medical Laboratory technology Methods and Interpretation Jaypee Publications.

4. ShirishMKawthalkar. Essential Of Hematology. Jaypee Publication

SEC-2: FOOD FERMENTATION TECHNIQUES

Semester – III **Course Title :- Haematology HPW :- 2 Credits – 2**
Course type: SEC-2

CO1: Students can learn about different fermented foods such as milk based products and grain based products.

CO2: Students can understand the concept of probiotics

CO3: Can learn about various food products made from fermented vegetables.

CO4: Can study about fermented fish and meat products.

B.Sc. II Year, III semester

Title: FOOD FERMENTATION TECHNIQUES 2HPW-Credits-2

Unit 1 Fermented Foods

Definition, types, advantages and health benefits, **Milk Based Fermented Foods -** Dahi, Yogurt, Buttermilk (Chach) and cheese: Preparation of inoculums, types of microorganisms and production process, **Grain Based Fermented Foods -** Soy sauce, Bread, Idli and Dosa: Microorganisms and production process

Unit 2 Probiotics & Fermented Foods

Vegetable Based Fermented Foods -Pickels, Saeurkraut: Microorganisms and production process

Fermented Meat and Fish- Types, microorganisms involved, fermentation process, **Probiotic Foods-**

Definition, types, microorganisms and health benefits

Suggested Readings

1. Hui YH, Meunier-Goddik L, Josephsen J, Nip WK, Stanfield PS (2004) Handbook of food and fermentation technology, CRC Press

2. Holzapfel W (2014) Advances in Fermented Foods and Beverages, Woodhead Publishing.

3. Yadav JS, Grover, S and Batish VK (1993) A comprehensive dairy microbiology, Metropolitan

4. Jay JM, Loessner MJ, Golden DA (2005) Modern Food Microbiology, 7th edition. Springer

Code: BS, DSC-IC B.Sc II year: III Semester

Title: FOOD AND ENVIRONMENTAL MICROBIOLOGY

4 HPW-Credits-4

Course Outcomes:

CO1: Can gain knowledge about the concept of fermented foods such as pickles, idly, etc.

CO2: Can learn about role of microorganisms in milk products.

CO3: Can understand what are probiotics and prebiotics.

CO4: Can understand why and how foods are spoiled

CO5: Can gain knowledge about various food preservation methods

CO6: Study about how food quality is assessed and screened.

CO7: Can learn about microorganisms present in air, water.

CO8: Can understand how sewage is being treated under aerobic and anaerobic conditions.

CO9: Can learn about soil and its properties, type of microorganisms present in soil

CO10: Can study about interactions between plants and microorganisms

CO11: Can understand the importance of bioremediation.

CO12: Can study about the microorganisms role in operation of carbon and nitrogen cycle in the atmosphere.

Title: FOOD AND ENVIRONMENTAL MICROBIOLOGY

UNIT 1: FERMENTED FOODS

Introduction to fermented foods; Health aspects of fermented foods; Fermented vegetables: Processing and fermentation of Sauerkraut and pickles, idly. Dairy Microbiology - Types of microorganisms in milk, significance of microorganisms in milk, Microbial products of milk- Bulgarian milk, Kefir, cheese, yogurt; Microorganisms as food; Probiotics and Prebiotics.

UNIT 2: MICROBIAL FOOD SPOILAGE AND POISONING

Microbial Spoilage of foods; Microbial Food poisoning, risks and hazards; Mycotoxins and their poisoning/toxicity; Food preservation methods and food safety issues. Food Quality: Importance and functions of quality control. Methods of quality assessment of foods; Screening and Enumeration of spoilage microorganisms, Detection of pathogens in food.

UNIT 3: AIR AND WATER MICROBIOLOGY

Microorganisms in air and their importance (brief account); Microorganisms and water pollution Water-borne pathogenic microorganisms and their transmission; Sanitary quality of water; Water pollution due to degradation of organic matter; Aerobic and Anaerobic sewage treatment,

UNIT 4: SOIL MICROBIOLOGY

Soil properties (physical, chemical and biological), Soil microorganisms, Methods of enumeration and activity of microbes in environment/soil; Microbes and plant interactions — Rhizosphere, Phyllosphere and Mycorrhizae; Introduction to Microbial Bioremediation, Microbial degradation of organic pollutants; Carbon and Nitrogen cycle.

References:

1. Stanbiiry, P.F., Whitaker, A. and Hall, S.J. (1997). Principles of Fermentation Technology, Aditya Books (P) Ltd. New Delhi.

2. Doyle, M.P., Beuchat, L.R. and Montville, T.J. (1997). Food Microbiology: Fundamentals and FrOntiers.ASM Press, Washington D.C., USA.

3. Frazier, W.C. and Westhoff, D.C. (1988). Food Microbiology, MeGraw-Hill, New York.

4. Jay, J.M. (1996). Modern Food Microbiology, Chapmand Has, New York.

5. Ray, B. (1996). Fundamentals of Food Microbiology, CRC Press, USA.

6. Rangaswami, G. and Bhagyaraj, D.J. (2001). Agricultural Microbiology, 2nd Edition, Prentice Hall of India, New Delhi.

7. Atlas, R.M. and Banha, R. (1998). Microbial Ecology - Fundamentals and Applications, Addison Wesley Longman, Inc., USA

8. Paul, E.A. and Clark, F.E. (1989). Soil Microbiology and Biochemistry, Academic Press.

USA.

FOOD AND ENVIRONMENT MICROBIOLOGY PRACTICALS 2HPW-Credits-1

- Determination of microbiological quality of milk by MBRT method.
- Isolation of fungi & bacteria from spoiled fruits/vegetables/Mi1k/Meat products.
- Isolation of microorganisms from air by impringement method.
- Microbiological examination of water by coliform test.
- Determination of biological Oxygen demand.
- Extraction of Mycotoxins from contaminated grains/foods.
- Detection of Mycotoxins
- Isolation and identification of probiotic bacteria
- Isolation and identification of probiotic yeast

References:

1. Stanbury, P.F., Whitaker, A. and Hall, S.J. (1997). Principles of Fermentation Technology, Aditya Books (P) Ltd. New Delhi.

2. Doyle, M.P., Beuchat, L.R. and Montville, T.J. (1997). Food Microbiology: Fundamentals and Frontiers.ASM Press, Washington D.C., USA.

3. Frazier, W.C. and Westhoff, D.C. (1988). Food Microbiology, McGraw-Hill, New York.

4. Jay, J.M. (1996). Modem Food Microbiology, Chapman and Hall, New York.

5. Ray, B. (1996). Fundamentals of Food Microbiology, CRC Press, USA.

Atlas, R.M. and Bartha, R. (1998). Microbial Ecology - Fundamentals and Applications, Addison Wesley Longman, Inc., USA

IV Semester **Title: MUSHROOM CULTIVATION**

Code: BS SEC-3 **2HPW** **Credits: 2**

Course Outcomes:

CO1: Can learn about mushrooms and their history.

CO2: Can gain knowledge about edible mushrooms and their global status of production

CO3: Can know about nutritional and health benefits of mushrooms

CO4: can learn in detail about steps involved in mushroom production.

CO5: Can learn about pests and pathogens of mushrooms and post harvest handling and care of mushroom production.

Title: MUSHROOM CULTIVATION **Code: BS SEC-3**

UNIT-I

Introduction to mushroom cultivation. Importance and history of mushroom cultivation in India. Global status of mushroom production. Edible mushrooms (white button oyster, Paddy straw). Nutritional value and health benefits of mushrooms

UNIT-2

Steps in mushroom cultivation

a.Selection of site and types of mushroom b.Mushroom farm structure, design layout

c.Principle and techniques of compost and Composting d.Principle of spawn production

e.Casing and crop production

f. Harvesting and marketing

g. Entrepreneurship development in Mushroom cultivation

Pests and pathogens of mushrooms

Post harvest handling and preservation of mushrooms

Reference:

- Mushroom cultivation in india by B.C.Suman and V.P. Sharma Published by Daya publishing house New Delhi.
- Mushrooms Cultivation, Marketing and Consumption Manjit Singh Bhuvnesh Vijay Shvet Kama l G.C. Wakchaure Directorate of Mushroom Research (Indian Council Of Agricultural Research) Chambaghat. Solan —17321 3 (HP)

SKILL ENHANCEMENT COURSE IV – (SEC-IV)

Code: BS, SEC-4 BSc **III year: IV Semester**

Title: Biofertilizers and Biopesticides 2HPW-Credits-2

Course outcomes:

CO1: Students can learn about different biofertilizers and bioinsecticides.

CO2: Can learn about Rhizobium biofertilizer production and applications.

CO3: Can learn about microbes used as bioinsecticides and their advantages.

CO4: Can learn about isolation, characters of Azospirillum and Azotobacter.

CO5: Can study about phosphate solubilizers.

CO6: Can gain knowledge about mycorrizae and their importance.

Biofertilizers and Biopesticides **SEC-4**

Unit 1 Biofertilizers and Bioinsecticides

General account of the microbes used as biofertilizers for various crop plants and their advantages over chemical fertilizers. Symbiotic N_2 fixers: Rhizobium - Isolation, characteristics, types, inoculum production and field application, legume/pulses plants Frankia - Isolation, characteristics, Alder, Casurina plants, non-leguminous crop symbiosis. Cyanobacteria, Azolla - Isolation, characterization, mass multiplication, Role in rice cultivation, Crop response, field application. General account of microbes used as bioinsecticides and their advantages over synthetic pesticides, Bacillus thuringiensis, production, Field applications.

Unit 2 Non symbiotic Nitrogen Fixation and phosphate solubilization

Free living Azospirillum, Azotobacter - free isolation, characteristics, mass inoculums, production and field application. Phosphate Solubilizers**-** Phosphate solubilizing microbes - Isolation, characterization, Mass inoculum production, field application. Mycorrhizal Biofertilizers**-**

Importance of mycorrizal inoculum, types of mycorrhizae and associated plants, Mass inoculum production of VAM, field applications of Ectomycorrhizae and VAM.

Suggested Readings

1. Kannaiyan, S. (2003). Bioetchnology of Biofertilizers, CHIPS, Texas.

2. Mahendra K. Rai (2005). Hand book of Microbial biofertilizers, The Haworth Press, Inc. New York.

3. Reddy, S.M. et. al. (2002). Bioinoculants for sustainable agriculture and forestry, Scientific

Publishers.

4. Subba Rao N.S (1995) Soil microorganisms and plant growth Oxford and IBH publishing co. Pvt. Ltd. NewDelhi.

5. Saleem F and Shakoori AR (2012) Development of Bioinsecticide, Lap Lambert Academic Publishing GmbH KG 6. Aggarwal SK (2005) Advanced Environmental Biotechnology, APH publication.

Code: BS, DSC-ID 4 HPW Credits-4

Title: MEDICAL MICROBIOLOGY & IMMUNOLOGY

CO1: Can learn about concepts of normal flora, bacterial toxins and antimicrobial resistance.

CO2: Can get knowledge about air borne, food and water borne, and sexually transmitted diseases.

CO3: Can learn about zoonotic diseases and nosocomial infections.

CO4: Can learn about cells and organs of immune system.

CO5: Can get knowledge about concepts of antigen and antibody.

CO6: Can learn about antigen-antibody reactions and immunoflouresence techniques.

Title: MEDICAL MICROBIOLOGY & IMMUNOLOGY

UNIT-1: MEDICAL BACTERIOLOGY

History of Medical Microbiology. Normal flora of human body, Host pathogen interactions.Bacterial toxins, virulence and attenuation. AntimicrobiaI resistance.

Air borne diseases -Tuberculosis.

Food and waterborne diseases- Cholera, Typhoid.

Contact diseases - Syphilis. Gonorrhea. General account of nosocomial infections.

UNIT-2: MEDICAL VIROLOGY AND PARASITOLOGY

Food and waterborne diseases - Poliomyelitis. Amoebiasis.

Insect borne diseases-Malaria, Dengue fever.

Zoonotic diseases — Rabies

Viral diseases- Hepatitis B, HIV, SARS, MERS: Air borne diseases- *Influenza.*

UNIT-3: INTRODUCTION TO IMMUNOLOGY

History of immunology. Cells and organs of immune system- Primary and Secondary lymphoid organs. Functions of B&T Lymphocytes, Natural killer cells, Polymorphonuclear cells. Structure and classification of Antigens, Factors affecting antigenicity.

Antibodies-Basic structure. Types, properties and functions of Immunoglobulins.

Types of immunity-Innate and Acquired; Humoral and cell mediated immune response. Major Histocompatibility Complex- Class 1 and 11

UNIT-4: IMMUNOLOGICAL DISORDERS AND AG-AB REACTI ONS

Types of hypersensitivity - lmmediate and delayed. Systemic and localized autoimmune disorders Complement pathways — Classical and Alternate.

Types of Antigen-Antibody reactions- Agglutination, blood groups, precipitation, neutralization, complement fixation test. Labeled antibody based techniques-ELISA, RIA and

Immunofluorescence: Polyclonal and monoclonal antibodies production and application

References:

1. Gottschalk. G. (1986). Bacterial Metabolism, Springer-Verlag,New-York.
2. Caldwell, D.R. (1995). Microbial Physiology and Metabolism, W.C. Brown PubliCations, Iowa, USA.
3. Moat. A.G. and Foster. J. W. (1995). Microbial Physiology, John-Wiley, New York.
4. White, D. (1995). The Physiology and Biochemistry of Prokaryotes, Oxford University Press, New York.
5. Reddy, S.R. and Reddy, S.M. (2004). Microbial Physiology, Scientific Publishers, Jodhpur, India.
6. Lehninger, A.L., Nelson, D.L. and Cox, M.M. (1993). Principles of Biochemistry. 2nd

Edition. CBS Publishers and Distributors, New Delhi.

7. Elliot, W.H. and Elliot, D.C. (2001). Biochemistry and Molecular Biology, 2nd Edition, Oxford University Press, U.S.A.

MEDICAL MICROBIOLOGY & IMMUNOLOGY PRACTICALS

2HPW- Credits-1

Determination of blood grouping and RH typing.

Total count of RBC and WBC.

Differential count of blood leucocytes.

WIDAL test for typhoid(slide test)by Ag-Ab reactions

VDRL test for syphilis (slide test) by Ag-Ab reactions.

Ouchterlony double diffusion test

Separation of serum and plasma

IMViC test - lndole test, Methyl red test, VogesProskauer test, Citrate utilization test.

Oxidase test.

Catalase test.

Antibiotic sensitivity testing — Disc diffusion method

References:

- Gopal Reddy, M.. Reddy, M.N., Saigopal, DVR and Mallaiah, K.V. (2007). Laboratory Experiments in Microbiology, .Himalaya Publishing House, Mumbai.
- Experiments in MlCFObiology by K.R. Aneja.

Code: BS 503, DSC-1E B.Sc III year, SEMESTER-V

Title: APPLIED MICROBIOLOGY 3 HPW Credits-3

CO 1 – Students made to learn about Physical and chemical characteristics of soil; Rhizosphere and phyllosphere, Plant growth promoting microorganisms; Biofertilizers

CO 2 Plant Diseases & Biocontrol

Students learn about diseases in plants and advantages and making of biopesticides

CO 3 Microbial ecology

Students are made to understand concept of nitrogen fixation (symbiotic,non symbiotic); Role of microorganisms in nutrient cycles and Microbial interactions.

CO 4 Role of microbes in environmental Pollution

Students can learn about microbiology of potable and polluted water, Sanitation of potable water and Sewage treatment. In addition to this they can also learn about Solid waste disposal and biodegradation of environmental pollutants –pesticides

SEMESTER-V Title: APPLIED MICROBIOLOGY

UNIT-1 - Microbes in Agriculture

Physical and chemical characteristics of soil; Rhizosphere and phyllosphere

Plant growth promoting microorganisms;

(*mycorrhizae,rhizobium,azospirillum,azatobacter,cynobacteria,frankia* and phosphate

solubilising microorganisms); Biofertilizers- *Rhizobium & Cyanobacteria*

UNIT-2 Plant Diseases & Biocontrol

Concept of disease in plant Symptoms of plant diseases caused by fungi (ground nut rust),bacteria (angular Leaf spot cotton) and viruses (tomato leaf curl) Principles of plant disease control Biological control of plant diseases, Biopesticides-*Bacillus thuringenisis*, Nuclear polyhedrosis virus (NPV), *Trichoderma*

UNIT-3 Microbial ecology

Outline classification of nitrogen fixation (symbiotic,non symbiotic); Microorganisms of environment soil, water, air; Role of microorganisms in nutrient cycles (carbon,nitrogen,sulphur) Microbial interaction-mutalism, commensalism, antagonism, competition, parasitism, predation

UNIT-4 Role of microbes in environmental Pollution

Microbiology of potable and polluted water. *E.coli* and *Streptococcus faecalis* as indicators of water pollution. Sanitation of potable water. Sewage treatment (primary, secondary and tertiary) Solid waste disposal-sanitary landfills composting. Outline of

biodegradation of environmental pollutants –pesticides

References:

1. Alexander, M. (1985). Introduction to Soil Microbiology, 3rd Edition. Wiley Eastern Ltd., New Delhi.

2. Paul, E.A. and Clark, F.E. (1989). Soil Microbiology and Biochemistry, Academic Press, USA.

3. Subba Rao, N.S. (1993). Biofertilizers in Agriculture and Forestry, 3rd Edition Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.

4. Rangaswami, G. and Bhagyaraj, D.J. (2001). Agricultural Microbiology, 2nd Edition, Prentice Hall of India, New Delhi.

5. Atlas, R.M. and Bartha, R. (1998). Microbial Ecology - Fundamentals and Applications, Addison Wesley Longman, Inc., USA

6. Lynch, J.M. and Poole, N.J. (1979). Microbial Ecology – A Conceptual Approach, Blackwell Scientific Publications, USA

7. Subba Rao, N.S. (1999). Soil Microorganisms and Plant Growth. Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.

8. Reddy, S.R. and Singara Charya, M.A. (2007). A Text Book of Microbiology - Applied Microbiology. Himalaya Publishing House, Mumbai.

9. Singh, R.P. (2007). Applied Microbiology. Kalyani Publishers, New Delhi.

Practical syllabus **2 HPW-CREDITS-1**

- Isolation & enumeration of Rhizosphere microorganisms.
- Isolation & identification of Phyllosphere microorganisms.
- Study of root nodules of leguminous plants.

- ⋅ Isolation of Rhizobium from leguminous root nodules.
- ⋅ Isolation of *Azospiriullum* and *Azotobacter*.
- ⋅ Staining & observation of VAM fungi.
- ⋅ Isolation of microorganisms in air by solid/liquid impingement method.
- ⋅ Plant diseases-Rust, Smuts, Powdery mildews, Tikka disease of ground nut, citrus
- canker, bhendi yellow vein mosaic, tomato leaf curl, little leaf of brinjal.
- ⋅ Microbial quality testing of water by coliform test
- ⋅ Determination of Biological oxygen demand (BOD) of water

References:

1. Aneja, K.R. (2001). Experiments in Microbiology, Plant pathology, Tissue culture and Mushroom Production Technology, 3rd Edition, New Age International (P) Ltd., New Delhi.

2. Dubey, R.C. and Maheswari, D.K. (2002). Practical Microbiology, S. Chand & Co., New Delhi.

3. Burns, R.G. and Slater, J.H. (1982). Experimental Microbiology and Ecology. Blackwell Scientific Publications, USA.

4. Peppler, I.L. and Gerba, C.P. (2004). Environmental Microbiology – A Laboratory Manual. Academic Press. New York.

5. Gupte, S. (1995). Practical Microbiology. Jaypee Brothers Medical Publishers Pvt. Ltd.

6. Kannan, N. (2003). Hand Book of Laboratory Culture Medias, Reagents, Stains and Buffers. Panima Publishing Co., New Delhi.

7. Gopal Reddy, M., Reddy, M.N., Saigopal, DVR and Mallaiah, K.V. (2007). Laboratory Experiments in Microbiology, 2nd edition. Himalaya Publishing House, Mumbai.

8. Reddy, S.M. and Reddy, S.R. (1998). Microbiology – Practical Manual, 3rd Edition, Sri Padmavathi Publications, Hyderabad.

SEC-3 5th semester Title: Mushroom cultivation

CO 1· Students are made to learn about importance of mushrooms, their cultivation method and its status in India.

CO 2 · Students can learn about Steps in mushroom cultivation

Title: Mushroom cultivation 2 HPW-credits-2

Unit-1

Introduction to mushroom cultivation, Importance and history of mushroom cultivation in India, Global status of mushroom production, Food value of mushroom

Unit-2

Steps in mushroom cultivation,

a.Selection of site and types of mushroom

b.Mushroom farm structure, design layout

c.Principle and techniques of compost and composting

d.Principle of spawn production

e.Casing and crop production

f. Harvesting and marketing

Pest and pathogens of mushrooms, Post harvest handling and preservation of

mushrooms

Reference:

1. Mushroom cultivation in India by B.C.Suman and V.P. Sharma Published by Daya publishing house New Delhi.

2. Mushrooms Cultivation, Marketing and Consumption Manjit Singh Bhuvnesh Vijay Shwet Kamal G.C. Wakchaure Directorate of Mushroom Research (Indian Council of Agricultural Research) Chambaghat, Solan –173213 (HP)

GE-1 5th semester Title: Microbiology and Human health

CO 1: Non-microbiology students are made to learn about history of microbiology, contributions of different scientists, basic culture techniques such as staining, and cultivation methods.

CO 2: In this students are made to learn about Microorganisms related to human health i.e. Normal microbial flora, and some pathogens.

Title: Microbiology and Human health 2 HPW-credits-2

Unit-1:

Historic developments of Microbiology, contributions of Van Leeuwenhoek, Edward Jenner, Louis Pasteur, Robert Koch.

Types of microorganisms, Morphological characteristics of bacteria, Staining, cultivation methods of bacteria, Culture Media.

Unit-II:

Microorganisms related to human health. Normal microbial flora, Pathogenic microbes and their diseases - typhoid, T.B, syphilis, AIDS, Influenza.

References:

1. Michael J. Pelczar, Jr. E.C.S.Chan, Noel R. Krieg Microbiology Tata McGraw- Hill

Publisher.

2. Prescott, M.J., Harly, J.P. and Klein Microbiology 5th Edition, WCB Mc GrawHill, New York.

3. Madigan, M.T., Martinkl, J.M and Parker,j. Broch Biology of Microorganism, 9th Edition, MacMillan Press, England.

4. Dube, R.C. and Maheshwari, D.K. General Microbiology S Chand, New Delhi.

5. Ananthanarayan and Panikar. Text book of Microbiology. Universities Press.

5th semester Title: IMMUNOLOGY

CO 1 HISTORY OF IMMUNOLOGY AND IMMUNITY
Students are made to learn about concepts of immunology such as antigens, antibodies, complement and types of immunity.
CO 2 CELLS AND ORGANS OF IMMUNE SYSTEM
Students can learn about Primary and secondary organs of immune system and cells of immune system.
CO 3 ANTIGENS AND ANTIBODY REACTION
Students can learn about Components of complement and activation of complement, types of antigens-Antibody reactions, Labeled antibody based techniques
CO 4 IMMUNOLOGICAL PROCESSES AND APPLICATIONS
In this section students can learn about types of hypersensitivity, autoimmunity, monoclonal antibodies and vaccines.

DISCIPLINE SPECIFIC ELECTIVE-(DSE-IE) - A

Title: IMMUNOLOGY 3 HPW-credits-4

UNIT-1 HISTORY OF IMMUNOLOGY AND IMMUNITY

Development of immunology; Antigen – types,chemical nature, Molecular size,

Heterogeneity, Antigenic determinants, Haptens, Factors affecting antigenicity.; Antibodies-Basic structure,Types,properties and functions of immunoglobulins.; Complement, components of complement and activation of complement-Classical, alternative and lectin pathways.

Types of immunity-Innate, Acquired; Active and passive, humoral and cell mediated immunity.

UNIT-2 CELLS AND ORGANS OF IMMUNE SYSTEM

Primary and secondary organs of immune system- Thymus, bursa of fabrica, bone marrow, spleen and lymph nodes, mucus associated lymphoid tissue (MALT).

Cells of immune system, Identification and functions of B &T Lymphocytes, NK cells, Null cells, Mast cells, Monocytes, Dendritic cells, Macrophages, Neutrophils, Basophils and Eosinophils.

UNIT-3 ANTIGENS AND ANTIBODY REACTION

Components of complement and activation of complement.

Types of antigens-Antibody reactions- Agglutination, blood groups, precipitation, neutralization, complement fixation.; Labeled antibody based techniques-ELISA, RIA and Immuno flouresence

UNIT-4 IMMUNOLOGICAL PROCESSES AND APPLICATIONS

Types of hypersensitivity immediate and delayed.; Autoimmunity and its significance.

Polyclonal and monoclonal antibodies production and application, Vaccines-Natural and recombinants.

References:

1. Sudha Gangal. Shubhangi Sontakke. Text book of Basic and Clinical Immunology,

University Press.

2. Tizard, I.R. (1995). Immunology : An Introduction, WB Saunders, Philadelphia, USA.

3. Riott, I.M. (1998). Essentials of Immunology, ELBS and Black Well Scientific Publishers, England.

4. Goldsby, Kindt, T.J. and Osborne, B.A. (2004). Kuby Immunology, 6th Edition, W.H.Freeman and Company, New York.

5. Lydyard, P.M., Whelan, A. and Fanger, M.W. (2000). Instant Notes in Immunology, Viva Books Pvt. Ltd., New Delhi.

6. Chakraborty, B. (1998). A Text Book of Microbiology, New Central Book Agency (P) Ltd, Calcutta, India.

7. Ananthanarayana, R. and Panicker, C.K.S. (2000). Text Book of Microbiology, 6th Edition, Oriental Longman Publications, USA.

8. Annadurai, B. (2008). A Textbook of Immunology and Immunotechnology. S. Chand & Co. Ltd., New Delhi.

9. Dey, N., T.K. and Sinha, D. (1999). Medical Bacteriology Including Medical Mycology and AIDS. New Central Book Agency (P) Ltd. Calcutta, India.

10. Shetty, N. (1994). Imuunology – Introductory Textbook. New Age International Pvt. Ltd., New Delhi.

11. Singh, R.P. (2007). Immunology and Medical Microbiology. Kalyani Publishers, New Delhi.

12. Reddy, S.R. and Reddy, K.R. (2006). A Text Book of Microbiology - Immunology and Medical Microbiology, Himalaya Publishing House, Mumbai.

13. Gupta, S. (1995). Short Text Book of Medical Microbiology, 8th Edition, Jaypee Brothers Medical Publishers (P) Ltd, New Delhi.

IMMUNOLOGY Practicals **B.Sc III year: 5th semester**

- Determination of blood grouping and RH typing.
- Total count of RBC and WBC. Differential count of blood leucocytes.

- Estimation of blood Haemoglobin.
- WIDAL test for typhoid(slide test)by Ag-Ab reactions.
- VDRL test for syphilis (slide test) by Ag-Ab reactions.
- Ouchterlony double diffusion test, Separation of serum and plasma

References:

1. Talwar, G.P. and Gupta, S.K. (1992). A Hand Book of Practical and Clinical Immunology. CBS Publications, New Delhi.

2. Baren, E.J. (1994). Bailey and Scott's Diagnostic Microbiology, 9th Edition, Mosby Publishers.

3. Dubey, R.C. and Maheswari, D.K. (2002). Practical Microbiology, S. Chand & Co., New Delhi.13

4. Samuel, K.M. (Ed.) (1989). Notes on Clinical Lab Techniques, M.K.G. Iyyer & Son Publishers, Chennai.

5. Wadher, B.J. and Reddy, G.L.B. (1995). Manual of Diagnostic Microbiology, Himalaya Publishing House, Mumbai.

6. Dey, N.C., Dey, T.K., Dey, M. and Sinha, D. (1998). Practical Microbiology, Protozoology, and Parasitology. New Central Book Agency (P) Ltd. Calcutta.

7. Mukherjee, K.L. (1996). Medical Laboratory Technology. Vol II. Tata Mc GrawHill Publishing Co. Ltd., New Delhi.

8. Gopal Reddy, M., Reddy, M.N., Saigopal, DVR and Mallaiah, K.V. (2007). Laboratory Experiments in Microbiology, 2nd edition. Himalaya Publishing House, Mumbai.

(DSC-IF) BSc III year: 6th semester

Title: MEDICAL MICROBIOLOGY

CO 1 INTRODUCTION TO MEDICAL MICROBIOLOGY

Students can learn about basic concepts of medical microbiology such as normal flora, infections, antibacterial substances. Etc.

CO 2 DIAGNOSTIC AND THERAPEUTICAL MICROBIOLOGY

In this section students can learn about general principles of diagnostic microbiology, lab diagnosis methods and chemotherapy concepts.

CO 3 MEDICAL BACTERIOLOGY

Students are made to study in detail about air borne, food and water borne diseases.

CO 4 MEDICAL VIROLOGY AND PARASITOLOGY

Students can learn about some other diseases such as influenza, hepatitis, polio, amoebiases, rabies, malaria, hepatitis, AIDS etc.

Title: MEDICAL MICROBIOLOGY 3HPW-credits-3

UNIT-I: INTRODUCTION TO MEDICAL MICROBIOLOGY

History of medical Microbiology.

Normal flora of human body. Definition of infection.

Non specific defence mechanism- Mechanical barriers.

Antibacterial substance- Lysozyme, Complement, Properdin, Antiviral substances,

Phagocytosis.

Host pathogen interactions. Bacterial toxins, Virulence and Attenuation.

UNIT-II- DIAGNOSTICAND THERAPEUTICAL MICROBIOLOGY

General principles of diagnostic microbiology

Collections, transport & processing of clinical samples.

General methods of lab diagnosis-cultural, biochemical, serological & molecular methods, Test for antimicrobial susceptibility. Elements of chemotherapy-Therapeutic drugs, Mode of action of Pencillin & sulpha drugs & their clinical use. Drug

resistance.

Antiviral agents- Interferon, Base analogues.

Preventive control of diseases- active & passive immunization.

UNIT-III MEDICAL BACTERIOLOGY

General account of following diseases, casual organisms, pathogenesis, epidomology, diagnosis, prevention & control; Air born diseases-Tuberculosis.; Food & waterborn diseases- Cholera, Typhoid.; Contact diseases- Syphilis, Gonorrhoea. General account of Nosocomial infections. Zoonotic diseases - Anthrax.

UNIT-IV MEDICAL VIROLOGY AND PARASITOLOGY

General account of following diseases, casual organisms, pathogenesis,epidomology,diagnosis,prevention &control

Air born diseases- Influenza.; Food & waterborn diseases- Hepatitis-A, Poliomyelitis, Amoebiosis.; Insect born diseases-Malaria, Filariasis, Dengue fever.

Zoonotic diseases -Rabies. Blood born diseases- Serum hepatitis, AIDS.

References:

1. Ananthanarayana, R. and Panicker, C.K.S. (2000). Text Book of Microbiology, 6th

Edition, Oriental Longman Publications, USA.

2. Gupte, S. (1995). Short Text Book of Medical Microbiology, 8th Edition, Jaypee

Brothers Medical Publishers (P) Ltd, New Delhi.

3. Annadurai, B. (2008). A Textbook of Immunology and Immunotechnology. S. Chand & Co. Ltd., New Delhi.

4. Dey, N., T.K. and Sinha, D. (1999). Medical Bacteriology Including Medical

Mycology and AIDS. New Central Book Agency (P) Ltd. Calcutta, India.

5. Shetty, N. (1994). Imuunology – Introductory Textbook. New Age International Pvt. Ltd., New Delhi.

6. Singh, R.P. (2007).Immunology and Medical Microbiology. Kalyani Publishers

PRACTICALS Title: MEDICAL MICROBIOLOGY 2 HPW-credits-1

- Biochemical tests for identification members of enterobacteriacea.
- IMVIC test-indole test,methyl red test,voages proskeures test,citrate utilization test. Oxidase test, Catalase test.
- Study of medically important microorganisms-Ecoli, Klebsiella, Staphylococcus,
- Psedomonus, Test for disinfectant (Phenol coefficient)
- Antibiotic sensitivity testing – Disc diffusion method

Slides

- Mycobacterium
- Candida albicans
- Entamoeba histolytica
- plasmodium

References:

1. Ananthanarayana, R. and Panicker, C.K.S. (2000). Text Book of Microbiology, 6th Edition, Oriental Longman Publications, USA.

2. Gupte, S. (1995). Short Text Book of Medical Microbiology, 8th Edition, Jaypee Brothers Medical Publishers (P) Ltd, New Delhi.

3. Annadurai, B. (2008). A Textbook of Immunology and Immunotechnology. S. Chand & Co. Ltd., New Delhi.

4. Dey, N., T.K. and Sinha, D. (1999). Medical Bacteriology Including Medical Mycology and AIDS. New Central Book Agency (P) Ltd. Calcutta, India.

5. Shetty, N. (1994). Imuunology – Introductory Textbook. New Age International Pvt. Ltd., New Delhi.

Code: BS 601, SEC-4 6th semester 2 HPW-credits-2

Title: HOSPITAL WASTE MANAGEMENT

CO 1 · students can learn about types of Hospital waste and its Management. Guidelines of Central Pollution Contreol Board (CPCB), Safe disposal of the Radioactive waste rules.

CO 2 · in this section students are made to learn about Basic steps in health care waste management such as Segregation, Disinfection, Storage and Transportation.

Title: HOSPITAL WASTE MANAGEMENT

Unit-I

- Types of Hospital waste and its Management.
- General , Hazardous , Health care waste, Infectious waste, Genotoxic Waste.
- Specification of Materials and colour coding for Identification.
- Biomedical waste management and handling rules.
- Guidelines of Central Pollution Control Board (CPCB).
- Safe disposal of the Radioactive waste rules.

Unit-II

- Basic steps in health care waste management- Segregation,

Decontamination/Disinfection, Storage and Transportation.

- Mechnical and Chemical Treatment of the Waste.
- Liquid waste treatment-Autoclaving, Incrimination.
- Waste minimization- Recyclinf and reusing.
- Health and safety practices.

- Estimation of various items of waste management.

References:

1. B.D. Acharya, Meeta Singh. Hospital Waste Management and Its Monitoring.

Code: BS 602 GE-2 6th semester

Title: CONTAGIOUS DISEASES AND IMMUNISATION

CO 1 Contagious diseases

Students are made to learn about Types of Infections, their sources, types of infections.

CO 2 Immunization

Students can learn about concepts of Immunity such as types of immunity, and vaccines.

Title: CONTAGIOUS DISEASES AND IMMUNISATION 2 HPW-credits-2

Unit-1: Contagious diseases

Types of Infections,

Sources of infections,

Mode of infections.

Bacterial diseases: Diphtheria, woophing cough, Gonorrhoea,

Viral Diseases: HSV, HIV, HBV.

Unit-2: Immunization

Immunity,

Types of Immunity.

Immunization,

Types of immunization,

Vaccines- Live and killed vaccines,

Vaccination schedule.

References:

1. Ananthanarayana, R. and Panicker, C.K.S. (2000). Text Book of Microbiology, 6th Edition, Oriental Longman Publications, USA.

2. Gupte, S. (1995). Short Text Book of Medical Microbiology, 8th Edition, Jaypee Brothers Medical Publishers (P) Ltd, New Delhi.

3. Annadurai, B. (2008). A Textbook of Immunology and Immunotechnology. S. Chand & Co. Ltd., New Delhi.

4. Dey, N., T.K. and Sinha, D. (1999). Medical Bacteriology Including Medical Mycology and AIDS. New Central Book Agency (P) Ltd. Calcutta, India.

5. Shetty, N. (1994). Imuunology – Introductory Textbook. New Age International Pvt. Ltd., New Delhi.

6. Singh, R.P. (2007). Immunology and Medical Microbiology. Kalyani Publishers, New Delhi.

Code: BS 606, DSE-1F-A Title: FOOD MICROBIOLOGY

2HPW-credits-1 6th semester

CO 1

Students can learn about Microorganisms of food materials and their sources. In this section students are made aware of microbes responsible for spoilage of foods.

CO 2

Students can learn about Microbiological production of fermented foods, Biochemical activities of microbes in milk. Microorganisms as food i.e. SCP, Edible mushrooms, Probiotics.

CO 3

Students can learn about Methods of Food preservation, food poisoning and Food intoxication.

CO 4

Students can learn about Microbiology of potable and polluted water, Solid waste disposal and Outline of biodegradtion of environmental pollution –pesticides

Title: FOOD MICROBIOLOGY 3 HPW-credits-3

UNIT-I

Microorganisms of food materials and their sources.

Spoilage of different food materials (Fruits, vegetables, Meat,Fish and Canned foods).

Food born diseases (Salmonellosis & Shigellosis) and their detection.

UNIT-II

Microbiological production of fermented foods- Bread, Cheese,Yoghurt.

Biochemical activities of microbes in milk. Microorganisms as food – SCP, Edible mushrooms

(white button oyster, Paddy straw). Concepts of Probiotics.

Unit-3

Methods of Food preservation: Physical methods - high temperature, low temperature, irradiation, aseptic packaging Chemical methods - salt, sugar, benzoates, citric acid, ethylene oxide, nitrate and nitrite, food poisoning (Staphylococci, C. botulinum) Food intoxication.

UNIT-4

Microbiology of potable and polluted water E.coli and streptococcus of water pollution

Sanitation of potable water

Sewage treatment (primary,secondary And tertiary)

Solid waste disposal-sanitary landfills & composting

Outline of biodegradation of environmental pollution –pesticides

References:

1. Stanbury, P.F., Whitaker, A. and Hall, S.J. (1997). Principles of Fermentation Technology, Aditya Books (P) Ltd. New Delhi.

2. Doyle, M.P., Beuchat, L.R. and Montville, T.J. (1997). Food Microbiology: Fundamentals and Frontiers. ASM Press, Washington D.C., USA.

3. Frazier, W.C. and Westhoff, D.C. (1988). Food Microbiology, Mc Graw-Hill, New York.

4. Jay, J.M. (1996). Modern Food Microbiology, Chapman and Hall, New York.

5. Ray, B. (1996). Fundamentals of Food Microbiology, CRC Press, USA.

6. Rangaswami, G. and Bhagyaraj, D.J. (2001). Agricultural Microbiology, 2nd Edition, Prentice Hall of India, New Delhi.

7. Atlas, R.M. and Bartha, R. (1998). Microbial Ecology - Fundamentals and Applications, Addison Wesley Longman, Inc., USA

8. Paul, E.A. and Clark, F.E. (1989). Soil Microbiology and Biochemistry, Academic Press, USA.

Title: FOOD MICROBIOLOGY 2HPW-credits-1

Practicals

Title: FOOD MICROBIOLOGY 2HPW-credits-1

- Isolation of microorganisms by crowded plate technique.
- Isolation of Amylase producing organisms.

- Isolation of microorganisms in air by petriplate exposure method.
- Determination of microbiological quality of milk by MBRT method.
- Isolation of fungi & bacteria from spoiled fruits & vegetables.
- Microbiological examination of water by coliform test.
- Determination of biological oxygen demand.
- Spoiled foods-bacterial soft rot, bread& bakery products, milk & milk products, eggs, meat and meat products, canned foods, cheese, yoghurt.
- Bacterial slides- Escherichia coli, Bacillus, Lactobacillus, Azospirillum, Azotobacter, Rhizobium, Yeast, Rhizopus, Penicillium

References:

1. Stanbury, P.F., Whitaker, A. and Hall, S.J. (1997). Principles of Fermentation

Technology, Aditya Books (P) Ltd. New Delhi.

2. Doyle, M.P., Beuchat, L.R. and Montville, T.J. (1997). Food Microbiology:

Fundamentals and Frontiers. ASM Press, Washington D.C., USA.

3. Frazier, W.C. and Westhoff, D.C. (1988). Food Microbiology, Mc Graw-Hill, New York.

4. Jay, J.M. (1996). Modern Food Microbiology, Chapman and Hall, New York. 15

5. Ray, B. (1996). Fundamentals of Food Microbiology, CRC Press, USA.

GOVERNMENT DEGREE COLLEGE FOR WOMEN
BEGUMPET, HYDERABAD
AUTONOMOUS

Reaccredited with "A^+" Grade by NAAC
CHOICE BASED CREDIT SYSTEM (CBCS)

DEPARTMENT OF CHEMISTRY

SYLLABUS, MODEL PAPERS

AND

CHEMISTRY PO, PSO

2020-2021

Telangana State Council of Higher Education, Govt. of Telangana B.Sc., CBCS Common Core Syllabi for all Universities in Telangana

PROPOSED SCHEME FOR CHOICE BASED CREDIT SYSTEM IN B.Sc., Chemistry from 2019-2020

FIRST YEAR- SEMESTER I				
CODE	**COURSE TITLE**	**COURSE TYPE**	**HPW**	**CREDITS**
BS 101	Ability Enhancement Compulsory Course AECC-1	ES	2	2
BS 102	English	CC-1A	4	4
BS 103	Second language	CC-2A	4	4
BS 104	Optional I	DSC-1A	4T+3P=7	4+1=5
BS 105	Optional II	DSC-2A	4T+3P=7	4+1=5
BS 106	**Optional III- Chemistry - I**	**DSC-3A**	**4T + 3P = 7**	**4 + 1 =5**
	Laboratory Course – I (Qualitative Analysis - Semi Micro Analysis of Mixtures)			
	Total Credits		**31**	**25**
FIRST YEAR- SEMSTER II				
BS 201	Ability Enhancement Compulsory Course AECC-2	BCS	2	2
BS 202	English	CC-1B	4	4
BS 203	Second language	CC-2B	4	4
BS 204	Optional I	DSC-1B	4T+3P=7	4+1=5
BS 205	Optional II	DSC-2B	4T+3P=7	4+1=5
BS 206	**Optional III- Chemistry - II**	**DSC-3B**	**4T + 3P = 7**	**4 + 1 =5**
	Laboratory Course - II (Quantitative Analysis – Titrations)			
	Total Credits		**31**	**25**
SECOND YEAR- SEMSTER III				
BS 301	i) Safety Rules in Chemistry Laboratory and Lab Reagents ii) Remedial methods for pollution, drinking water and Soil fertility	**SEC-1 2** **SEC-2**	**2 2**	**2 2**
BS 302	English	CC-1C	3	3
BS 303	Second language	CC-2C	3	3
BS 304	Optional I	DSC-1C	4T+3P=7	4+1=5
BS 305	Optional II	DSC-2C	4T+3P=7	4+1=5
BS 306	**Optional III- Chemistry - III**			
	Laboratory Course - III (Synthesis of Organic compounds)	**DSC-3C**	**4T + 3P = 7**	**4 + 1 =5**
	Total Credits		31	**25**

SECOND YEAR- SEMSTER IV				
BS 401	i) Materials and their Applications ii) Chemistry of Cosmetics and Food Processing	**SEC-3** **SEC-4**	**2** **2**	**2** **2**
BS 402	English	CC-1D	3	3
BS 403	Second language	CC-2D	3	3
BS 404	Optional I	DSC-1D	4T+3P=7	4+1=5
BS 405	Optional II	DSC-2D	4T+3P=7	4+1=5
BS 406	**Optional III- Chemistry - IV**	**DSC-3D**	**4T**	**4**
	Laboratory Course - IV **(Qualitative Analysis of Organic Compounds)**		**= 7** **3P**	**= 5** **1**
	Total Credits		31	**25**

* AECC: Ability Enhancement Compulsory Course, SEC: Skill Enhancement Course, DSC: Discipline Specific Course, GE: Generic Elective, ES: Environmental Science , BCS : Basic computer skills.

THIRD YEAR- SEMESTER-V				
CODE	COURSE TlTLE	course TYPE	HPW	CREDITS
BS 501	Chemistry of Cosmetics, Food Processing, Drugs and Pharmaceuticals	GE	4	4
BS 502	English	CC-IE	3	3
BS 503	Second language	CC-2E	3	3
BS 504	Optional- I A/B	DSE -IE	-	4+1=5
BS 505	Optional- II A/B	DSE -2E	-	4+1=5
BS 506	Optional- III A/B A. Spectroscopy and Chromatography (or) B. Metallurgy, Dyes and Catalysis	DSE -3E	4T = 7 3P	4 = 5 1
	Laboratory Course -V Experiments in Physical Chemistry-I			
	TOTAL			25

THIRD YEAR- SEMESTER VI				
BS **601**	Project in Chemistry/ Advanced Chemistry			4
BS 602	English	cc-lF	**3**	3
BS 603	Second language	CC-2F	3	3
BS 604	Optional- I A/D	DSE-IF	-	4+1=5
BS 605	Optional- II A/B	DSE -2F	-	4+1=5
BS 606	Optional- III A/B **A. Medicinal Chemistry** (or) **B. Agricultural and Fuel** Chemistry	DSE -3F	4T = 7 3P	**4**
	Laboratory Course -VI Experiments in Physical Chemistry-II			**1**
	TOTAL			25
	TOTAL Credits			150

Programme Outcomes :

PO1. Domain Expertise:

- Gain thorough knowledge in the chosen domain and be able to apply it wherever necessary in an innovative manner.

PO2. Modern equipment Usage:

- Equip the students with modern technological skills, so that they are able to use software applications in their careers.

PO3. Computing Skills and Ethics:

- Students learn critical thinking and are able to analyse and solve problems rationally and ethically for communication, entertainment and for the benefit of mankind throughout ones endeavours for the wellbeing of human race.

PO4. Complex Problem Investigation & Solving

- Learn to analyse the problem, frame hypotheses, interpret empirical data and execute action

PO5. Perform effectively as Individuals and in Teams

- Be able to contribute at individual level and as team member and prioritize institutional interest over individual

PO6. Efficient Communication & Life skills

- Learn efficient communication to express, listen, understand and project views in a convincing manner clearly and concisely

PO7. Environmental Sustainability

- Understand current environmental challenges faced by the country & propagate and follow environment friendly practices.

PO8. Societal contribution

- Develop the pride in volunteering to address societal issues *viz:* calamities, disasters, poverty, epidemics and involve voluntarily in social development activities at Regional , National, global levels.

PO9. Effective Project Management

- Identify the goals, objectives and components of a project and then implementation so that deadlines are achieved, even when there are setbacks.

Programme Specific Outcome (PSO):

- The students will understand the existence of matter in the universe as solids, liquids, and gases which are composed of molecules, atoms and sub atomic particles.
- Students will learn to estimate inorganic salt mixtures and organic compounds both qualitatively and quantitatively using the classical methods of analysis in practical classes.
- Know the fundamental principles of organic/Inorganic /Physical /General chemistry and predict applications of all chemical reactions.
- construct, design, formulate, organise and synthesize new chemical compounds.
- Present a paper in scientific manner.

I B.Sc. Chemistry syllabus

I Semester 60 Hrs (4 H/W)

(Syllabus with effect from 2019-20)

	Unit-I (Inorganic Chemistry)	**15h**
I	**Chemical Bonding**	**8**
II	P-Block Elements	7
	UNIT II Organic Chemistry	**15h**
I	Structural Theory in Organic Chemistry	5
II	Acyclic Hydrocarbons	6
III	Aromatic Hydrocarbons	4
	Unit-III Physical Chemistry	**15h**
I	Atomic structure and elementary quantum mechanics	3
II	Gaseous State	5
III	Liquid State and Solutions	4
IV	Solutions	3
	Unit-IV General Chemistry	**15h**
I	General Principles of Inorganic Qualitative Analysis	6
II	Isomerism	5
III	Solid state Chemistry	4

B. Sc. I Year CHEMISTRY
SEMESTER WISE SYLLABUS

SEMESTER I

Paper – I

Chemistry - I

Unit-I (Inorganic Chemistry) 15 h (1 hr/week)

S1- I-1. Chemical Bonding 8 h

Ionic solids- lattice and solvation energy, solubility of ionic solids, Fajan's rule, polarity and polarizability of ions. VSPER Theory - Common hybridization- sp, sp^2, sp^3, sp^3d, sp^3d^2 and sp^3d^3, shapes of molecules. Molecular orbital theory: Shapes and sign convention of atomic orbitals. Modes of bonds. Criteria for orbital overlap. LCAO concept. Pi and Sigma overlapping. Concept of Types of molecular orbitals- bonding, anti-bonding and non- bonding. MOED of Homo nuclear diatomics - H_2, N_2, O_2^-, O_2^{2-}, F_2 (unhybridized diagrams only) and hetero nuclear diatomics CO, CN^-, NO, NO^+ and HF. Bond order, stability and magnetic properties.

S1-I-2. P-Block Elements 1 7 h

Group–13: Structure of Diborane and higher Boranes (B_4H_{10} and B_5H_9), Boron nitrogen compounds ($B_3N_3H_6$ and BN) Lewis acid nature of BX_3. Group – 14: Carbides-Classification – ionic, covalent, interstitial – Structures and reactivity. Industrial applications. Silicones – Classification – straight chain, cyclic and cross-linked. Group – 15: Nitrides – Classification – ionic, covalent and interstitial. Reactivity – hydrolysis. Reactions of hydrazine, hydroxyl amine, phosphazenes.

Unit - II (Organic Chemistry) 15h (1 hr/week)

S1-O-1: Structural Theory in Organic Chemistry 5 h

Bond polarization: Factors influencing the polarization of covalent bonds, electro negativity – inductive effect. Application of inductive effect (a) Basicity of amines (b) Acidity of carboxylic acids (c) Stability of carbonium ions. Resonance - Mesomeric effect, application to (a) acidity of phenol. (b) acidity of carboxylic acids and basicity of anilines. Stability of carbo cations, carbanions and free radicals. Hyper conjugation and its application to stability of carbonium ions, free radicals and alkenes.

S1-O-2: Acyclic Hydrocarbons 6 h

Alkanes– Methods of preparation: From Grignard reagent, Kolbe synthesis. Chemical reactivity

- Inert nature, free radical substitution, Halogenation example- reactivity, selectivity and orientation.

Alkenes - Preparation of alkenes (with mechanism) (a) by dehydration of alcohols (b) dehydrohalogenation of alkyl halides (c) by dehalogenation of 1, 2 dihalides, Zaitsev's rule. Properties: Anti-addition of halogen and its

mechanism. Addition of HX, Markonikov's rule, addition of H_2O, HOX, H_2SO_4 with mechanism and addition of HBr in the presence of peroxide (Anti – Markonikov's addition). Oxidation (cis – additions) – hydroxylation by $KMnO_4$, OsO_4, Anti addition- per acids (via epoxidation) hydroboration, ozonolysis – location of double bond. Dienes – Types of dienes, reactions of conjugated dienes – 1, 2 and 1,4 addition of HBr to 1,3 – butadiene and Diels – Alder reaction.

Alkynes– Preparation by dehydro halogenation of vicinal dihalides, dehalogenation of tetrahalides. Physical Properties: Chemical reactivity – electrophilic addition of X_2, HX, H_2O (tautomerism), Oxidation (formation of enediol, 1, 2 diones and carboxylic acids) and reduction (Metal-ammonia reduction, catalytic hydrogenation).

Aromatic Hydrocarbons **4h**

Introduction to aromaticity: Huckel's rule – Benzene, Naphthalene and Anthracene. Reactions - General mechanism of electrophilic substitution, mechanism of nitration, sulphonation and halogenation, Friedel Craft's alkylation and acylation. Orientation of aromatic substitution - Definition of ortho, para, and meta directing groups. Ring activating and deactivating groups with examples. Orientation – (i) activating groups: Amino, methoxy and alkyl groups. (ii) Deactivating groups - nitro, nitrile, carbonyl, carboxylic acid, sulphonic acid and halo groups.

Unit – III (Physical Chemistry) **15h (1 hr/week)**

S1-P-1: Atomic structure and elementary quantum mechanics **3 h**

Black body radiation, heat capacities of solids, Rayleigh Jeans law, Planck's radiation law, photoelectric effect, Limitations of classical mechanics, Compton Effect, de Broglie's hypothesis. Heisenberg's uncertainty principle.

S1-P-2: Gaseous State

5 h

Deviation of real gases from ideal behavior. van der Waals equation of state. Critical phenomenon. PV isotherms of real gases, continuity of state. Andrew's isotherms of CO_2. The van der Waal's equation and critical state. Derivation of relationship between critical constants and van der Waal's constants. The law of corresponding states, reduced equation of states. Joule Thomson effect and inversion temperature of a gas. Liquifaction of gases: i) Linde's method based on Joule Thomson effect ii) Claude's method based on adiabatic expansion of a gas.

S1-P-3: Liquid State and Solutions **4 h**

Liquid State

Intermolecular forces, structure of liquids (qualitative description). Structural differences between solids, liquids and gases. Surface tension and its determination using stalagmometer. Viscosity of a liquid and determination of coefficient of viscosity using Ostwald viscometer. Effect of temperature on surface tension and coefficient of viscosity of a liquid (qualitative treatment only).

Solutions **3 h**

Liquid - liquid mixtures, ideal liquid mixtures**,** Raoult's and Henry's laws. Non ideal systems,

Azeotropes: HCl-H_2O and C_2H_5OH - H_2O systems. Fractional distillation, Partially miscible liquids: Phenol – Water, Trimethyl amine – Water and Nicotine – Water systems.

Unit - IV (General Chemistry) **15h (1 hr/week)**

S1-G-1. General Principles of Inorganic Qualitative Analysis **6 h**

Anion analysis: Theory of sodium carbonate extract,classification and reactions of anions- CO_3^{2-},

Cl^-, Br^-, 4^{2-}, $PO4^{3-}$, BO_3^{3-}, CH_3COO^-, $NO3^-$. Interfering ions. Cation Analysis: Principles involved - Solubility product, common ion effect, general discussion for the separation and identification of group I individual cations (Hg^{2+}, Ag^+, Pb^{2+}) with flow chart and chemical equations. Principle involved in separation of group II & IV cations. General discussion for the separation and identification of group II (Hg^{2+}, Pb^{2+}, Bi^{3+}, Cd^{2+}, Sb^{3+}), III (Al^{3+}, Fe^{3+}), IV (Mn^{2+}, Zn^{2+}) individual cations with flow chart and chemical equations. General discussion for the separation and identification of group V individual cations (Ba^{2+}, Sr^{2+}, Ca^{2+}) with flow chart and chemical equations. Theory of flame test. Identification of Group VI cations (Mg^{2+}, NH_4^+).

S1-G-2. Isomerism **5 h**

Isomerism: Definition of isomers. Classification of isomers: Constitutional and Stereoisomers - definition and examples. Constitutional isomers: chain, functional and positional isomers. Stereoisomers: enantiomers and diastereomers – definitions and examples. Representation of stereoisomers – Wedge, Fischer projection, Sawhorse, Newmann formulae.

Conformational analysis: Classification of stereoisomers based on energy. Definition and examples Conformational and configurational isomers. Conformational analysis of ethane, n- butane, 1, 2-dichloroethane,2-chloroethanol .Cyclic compounds: Baeyer's strain theory, Conformational analysis of cyclohexane, Cis-trans isomerism: E-Z-Nomenclature

S1-G-3: Solid state Chemistry **4 h**

Laws of Crystallography: (i) Law of Constancy of interfacial angles (ii) Law of Symmetry- Symmetry elements in crystals (iii) Law of rationality of indices. Definition of space lattice, unit cell. Bravais Lattices and Seven Crystal systems (a brief review). X-ray diffraction by crystals; Derivation of Bragg's equation. Determination of structure of NaCl, KCl and CsCl (Bragg's method and Powder method).

References

General reference: B.Sc I Year Chemistry: Semester I, Telugu Academy publication, Hyd

Unit- I

1. Principles of Inorganic Chemistry by Puri, Sharma and Kalia Vishal Publications 1996.
2. Concise Inorganic Chemistry by J.D. Lee 3rd edn.
3. Basic Inorganic Chemistry by F.A.Cotton, G.Wilkinson and Paul.L. Gaus 3rd edn Wiley Publishers 2001. Chem.
4. Inorganic Chemistry Principles of structure and reactivity by James E.Huhey, E.A. Keiter and R.L. Keiter 4th edn.
5. Chemistry of the elements by N.N.Greenwood and A. Earnshaw Pergamon Press 1989.
6. Inorganic Chemistry by Shriver and Atkins 3rd edn Oxford Press 1999.
7. Textbook of Inorganic Chemistry by R Gopalan.

Unit- II

1. Organic Chemistry by Morrison and Boyd.
2. Organic Chemistry by Graham Solomons.
3. Organic Chemistry by Bruice Yuranis Powla.
4. Organic Chemistry by L. G. Wade Jr.
5. Organic Chemistry by M. Jones, Jr
6. Organic Chemistry by John McMurry.
7. Organic Chemistry by Soni.
8. General Organic chemistry by Sachin Kumar Ghosh.
9. Organic Chemistry by C N pillai.

Unit III

1. Principles of physical chemistry by Prutton and Marron.
2. Text Book of Physical Chemistry by Soni and Dharmahara..
3. Text Book of Physical Chemistry by Puri and Sharma.
4. Text Book of Physical Chemistry by K. L. Kapoor.
5. Physical Chemistry through problems by S.K. Dogra.
6. Text Book of Physical Chemistry by R.P. Verma.
7. Elements of Physical Chemistry byLewis Glasstone.

Unit IV

1. Qualitative analysis by Welcher and Hahn.
2. Vogel's Qualitative Inorganic Analysis by Svehla.
3. Text Book of Organic Chemistry by Morrison and Boyd.
4. Text Book of Organic Chemistry by Graham Solomons.
5. Text Book of Organic Chemistry by Bruice Yuranis Powla.
6. Text Book of Organic Chemistry by Soni.
7. Text Book of Physical Chemistry by Soni And Dharmahara..
8. Text Book of Physical Chemistry by Puri And Sharma.
9. Text Book of Physical Chemistry by K. L. Kapoor.

B.Sc. Chemistry, I Semester

Unit-I (InorganicChemistry)

1. To predict the atomic structure, chemical bonding, and molecular geometry based on accepted models.
2. Characterize bonding between atoms, molecules, interaction and energetics (ii) hybridization and shapes of atomic, molecular orbitals, bond parameters, bond- distances and energies.
3. Valence bond theory incorporating concepts of hybridization predicting geometry of molecules.
4. Importance of hydrogen bonding, metallic bonding.
5. Predicting structure of molecules
6. Structure, bonding of p block materials and their oxides/compounds.
7. Understanding chemistry of compounds of p block elements and their structures.

UNIT II Organic Chemistry

1. Basic of organic molecules, structure, bonding, reactivity and reaction mechanisms.
2. Aromatic compounds and aromaticity, mechanism of aromatic reactions.
3. Understanding hybridization and geometry of atoms, 3-D structure of organic molecules.
4. Reactivity, stability of organic molecules, structure, stereochemistry.
5. Electrophile, nucleophiles, free radicals, electronegativity, resonance, and intermediates along the reaction pathways.
6. Mechanism of organic reactions (effect of nucleophile/leaving group, solvent), substitution vs. elimination.

Unit-III Physical Chemistry

Atomic theory and its evolution.

Learning scientific theory of atoms, concept of wave function.

1. Familiarization with various states of matter.
2. Physical properties of each state of matter and laws related to describe the states.
3. Understanding Kinetic model of gas and its properties.
4. Behavior of real gases, its deviation from ideal behavior, equation of state, isotherm, and law of corresponding states.
5. Liquid state and its physical properties related to temperature and pressure variation.
6. Properties of liquid as solvent for various household and commercial use.

Unit-IV General Chemistry.

Stereochemistry of organic molecules – conformation and configuration, asymmetric molecules and nomenclature.

3-D structure of organic molecules, identifying chiral centers.

Solids, lattice parameters – its calculation, application of symmetry, solid characteristics of simple salts.

SEMESTER-I

OBJECTIVES

The objective of **B.Sc. Chemistry I** is intended to provide:

- To predict the atomic structure, chemical bonding, and molecular geometry based on accepted models.
- To Characterize bonding between atoms, molecules, interaction and energetics and to know hybridization and shapes of atomic, molecular orbitals, bond parameters, bond- distances and energies.
- To Predict structure of molecules.
- To understand the Basic of organic molecules, structure, bonding, reactivity and reaction mechanisms.
- To understand about the Electrophile, nucleophiles, free radicals, electronegativity, resonance, and intermediates along the reaction pathways.
- To know about atomic theory and its evolution.
- To Familiarization with various states of matter and Physical properties of each state of matter and laws related to describe the states.
- To know lattice parameters ofSolids, and its calculation, application of symmetry, solid characteristics of simple salts.

Course Outcomes:

After the successful completion of the course, students should be able to:

- Differentiate the type of bonds present in the given molecule.
- Identify hybridization, structure of molecule and their bond angles.
- Interpret the Factors responsible for any Organic chemical reaction to take place.
- Identify the composition of matter which is made up of atoms and molecules.
- Describe the characteristics of states of matter and how states of matter are affected by the parameters (Pressure, Volume and Temperature)

Laboratory Course

I Practical (Inorganic Chemistry)

Paper I - Qualitative Analysis - Semi micro analysis of mixtures 45h (3 h / week)

Analysis of two anions (one simple, one interfering) and two cations in the given mixture.

Anions: $CO3^{2-}$, $SO3^{2-}$, S^{2-}, Cl^{-}, Br^{-}, I^{-}, CH_3COO^{-}, $NO3^{-}$, $PO4^{3-}$, $BO3^{3-}$, $SO4^{2-}$. .

Cations: Hg^{2+}, Ag^{+}, Pb^{2+}

Hg^{2+}, Pb^{2+}, Bi^{3+}, Cd^{2+}, Cu^{2+}, $As^{3+/5+}$, $Sb^{3+/5+}$, $Sn^{2+/4+}$

Al^{3+}, Cr^{3+}, Fe^{3+}

Zn^{2+}, Ni^{2+}, Co^{2+}, Mn^{2+}

Ba^{2+}, Sr^{2+}, Ca^{2+}

Mg^{2+}, NH_4^{+}

II. Inorganic quantitative Analysis-Inorganic Preparations

1. Tetraamine Copper (II) Sulphate
2. Potash alum $KAl(SO_4)_2.12H_2O$,

The objective of B.Sc. Chemistry Practical – I is intended to provide:

- Qualitative semimicro analysis of mixtures containing 2 anions and 2 cations.
- Emphasis should be given on understanding of the chemistry of different reactions.
- To get acquainted with basic preparation methods of inorganic metal complexes.

OUTCOMES.

After the successful completion of the course, students should be able to:

- To get adapted with techniques involved in Qualitative semimicro analysis.
- To get acknowledged with various chemical reactions of basic and acidic radicals.
- To get acknowledged withtechniques involved inpreparation methods of inorganic metal complexes.

GOVERNMENT DEGREE COLLEGE FOR WOMEN
BEGUMPET, HYDERABAD - 16
B.Sc. 1 YEAR MODEL INTERNAL QUESTION PAPER
Subject: CHEMISTRY
SEMESTER - 1

Time: 1 Hours **Max. Marks: 20**

Section – A

I Short Answer questions
Answer any TWO of the following questions **2x5=10marks**

1. Explain sailent features of L.C.A.O method?
2. What is Diel's-Alder reaction? Give an example?
3. Write a note on de-Broglie's wave theory?
4. What is common ion effect ? Explain?

SECTION-B

II Essay questions
Answer any one question

1X10 = 10 Marks

5. Draw MOED of N_2 and O_2. Explain the bond order, stability and magnetic properties?

(or)

6. Explain Freidel-Craft Alkylation and Freidel-Craft Acylation of benzene with Mechanism?

GOVERNMENT DEGREE COLLEGE FOR WOMEN
BEGUMPET, HYDERABAD - 16
B.Sc. 1 YEAR SEMESTER MODEL QUESTION PAPER
Subject: CHEMISTRY
SEMESTER - 1

Time: 2 Hours **Max. Marks: 60**
Min. Marks: 24

Section – A

I Short Answer questions
Answer any Five of the following questions **5x4=20marks**

5. Explain sailent features of L.C.A.O method?
6. What are carbides? Give the classification?
7. What is Diel's-Alder reaction? Give an example?
8. What is Huckels rule ?Give examples?
9. Write a note on de-Broglie's wave theory?
10. Describe the liquification of gas by lindes method?
11. What is common ion effect ? Explain?
12. Write the conformational isomers of 1,2-dichloroethane?

SECTION-B

II Essay questions
Answer all questions choosing any one bit from each question

4X10 = 40 Marks

9. (a) Draw MOED of N_2 and O_2. Explain the bond order, stability and magnetic properties?
(or)
(b) Write the reactions of Hydrazine and Hydroxylamine?

10. (a) What is inductive effect? Explain the acidic strength of carboxylic acids?
(or)
(b) Explain Freidel-Craft Alkylation and Freidel-Craft Acylation of benzene with Mechanism?

11. (a) Write the derivation of relation between critical constants and vanderwaal's constants?
(or)
(b) What is viscosity of liquid and write the method to determine viscosity?

12. (a) Write a note on Bayer's strain theory? Write the conformational isomers of cyclohexane?
(or)
(b) Derive Bragg's equation. Determine the structure of NaCl, KCl by bragg's method?

Government Degree College for Women, Begumpet, Hyderabad
Autonomous Accredited with "B" Grade by NAAC

Subject-Chemistry

Model Practical Question paper

B.sc I year Time: 3h Semester I Total marks=50marks

Scheme of Evaluation

Total Marks-50 **Time: 3 Hrs**

1.	Brief procedure writing for the Inorganic compounds	10 Marks
2.	Solubility	04 Marks
3.	Flame Test	02 Marks
4.	Identification of two anions and two cations	4x5=20 marks
5.	Report of two anions and two cations	04 Marks
6.	Record	05 Marks
7.	Voice-Viva	05 Marks

Minimum qualifying marks: 20 marks

I B.Sc. Chemistry syllabus

II Semester 60 Hrs (4 H/W)

(Syllabus with effect from 2019-20)

	UNIT-I Inorganic Chemistry	**15h**
I	*p*-Block elements-II	7
II	Chemistry of Zero group elements	2
III	Chemistry of *d*-Block elements	6
	UNIT II Organic Chemistry	**15h**
I	Halogen compounds	4
II	Hydroxy compounds and Ethers	6
III	Carbonyl Compounds	5
	Unit-III Physical Chemistry	**15h**
I	Electrochemistry	15
	Unit-IV General Chemistry	**15h**
I	Theory of Quantitative analysis	6
II	Stereoisomerism	5
III	Dilute Solutions and Collegative properties	4

B.Sc I Yr CHEMISTRY SEMESTER WISE SYLLABUS

SEMESTER II

Paper – II

Chemistry – II

Unit-I (Inorganic Chemistry) 15 h (1 hr/week)

S2-I-1 P-block Elements -II 7 h

Oxides: Types of oxides (a) Normal- acidic, basic amphoteric and neutral (b) Mixed (b) sub oxide d) peroxide e) superoxide. Structure of oxides of C, N, P, S and Cl - reactivity, thermal stability, hydrolysis.

Oxy acids: Structure and acidic nature of oxyacids of B, C, N, P, S, Cl and I. Redox properties of oxyacids of Nitrogen: HNO_2 (reaction with $FeSO_4$, $KMnO_4$, $K_2Cr_2O_7$), HNO_3 (reaction with H_2S, Cu), HNO_4 (reaction with KBr, Aniline), $H_2N_2O_2$ (reaction with $KMnO_4$). Redox properties of oxyacids of Phosphorus: H_3PO_2 (reaction with $HgCl_2$), H_3PO_3 (reaction with $AgNO_3$, $CuSO_4$) . Redox properties of oxyacids of Sulphur: H_2SO_3 (reaction with $KMnO_4$, $K_2Cr_2O_7$), H_2SO_4 (reaction with Zn, Fe, Cu), $H_2S_2O_3$ (reaction with Cu, Au), H_2SO_5 (reaction with KI, $FeSO_4$), $H_2S_2O_8$ (reaction with $FeSO_4$, KI). Redox properties of oxy acids of Chlorine.

Interhalogens- Classification- general preparation- structures of AB, AB_3, AB_5 and AB_7 type and reactivity.

Pseudohalogens: Comparison with halogens.

S2-I-2: Chemistry of Zero group elements 2 h

Isolation of noble gases, Structure, bonding and reactivity of Xenon compounds – Oxides, Halides and Oxy-halides. Clatherate compounds and Anomalous behaviour of He (II)

S2-I-3: Chemistry of d-block elements 6 h

Characteristics of d-block elements with special reference to electronic configuration, variable valence, ability to form complexes, magnetic properties &catalytic properties. Stability of various oxidation states and standard reduction potentials. Comparative treatment of second and third transition series with their 3d analogues. Study of Ti, Cr and Cu triads. Titanium triad – electronic configuration and reactivity of +3 and +4 states – oxides and halides. Chromium triad – reactivity of +3 and +6 states. Copper triad – reactivity of +1, +2 and +3 states.

Unit - II (Organic Chemistry) **15h(1 hr/week)**

S2-O-1: Halogen compounds **4 h**

Classification: alkyl (primary, secondary, tertiary), aryl, aralkyl, allyl, vinyl, benzyl. Chemical reactivity - reduction, formation of RMgX, Nucleophilic substitution reactions – classification into S_N1 and S_N2. Mechanism and energy profile diagrams of S_N1 and S_N2 reactions. Stereochemistry of S_N2 (Walden Inversion) 2-bromobutane, S_N1 (Racemisation) 1-bromo-1-phenylpropane Structure and reactivity – Ease of hydrolysis - comparison of alkyl, vinyl, allyl, aryl, and benzyl halides.

S2-O-2: Hydroxy compounds and ethers **6 h**

Alcohols: Preaparation: 1°, 2° and 3° alcohols using Griganard reagent, Reduction of Carbonyl compounds, carboxylic acids and esters. Physical properties: H-bonding, Boiling point and Solubility. Reactions with Sodium, $HX/ZnCl_2$ (Lucas reagent), esterification, oxidation with PCC, alk. $KMnO_4$, acidic dichromates, conc. HNO_3 and Oppenauer oxidation (Mechanism).

Phenols: Preparation: (i) from diazonium salts of anilines, (ii) from benzene sulphonic acids and (iii) Cumene hydroperoxide .

Properties: Acidic nature, formation of phenoxide and reaction with R-X, electrophilic substitution; halogenations, Riemer Tiemann reaction (Mechanism), Kolbe reaction (Mechanism), Gattermann-Koch reaction, Azo-coupling reaction, Schotton-Boumann raction, Houben-Hoesch condensation, .

Ethers: Nomenclature, preparation by (a) Williamson's synthesis (b) from alkenes by the action of conc. H_2SO_4. Physical properties – Absence of Hydrogen bonding, insoluble in water, low boiling point. Chemical properties – inert nature, action of conc. H_2SO_4 and HI.

S2-O-3 Carbonyl compounds **5 h**

Preparation of aldehydes & ketones from acid chloride,1,3-dithianes, nitriles and from carboxylic acids. Special methods of preparing aromatic aldehydes and ketones by (a) Oxidation of arenes (b) Hydrolysis of benzal halides Physical properties – absence of Hydrogen bonding. Reactivity of the carbonyl groups in aldehydes and ketones. Chemical reactivity: Addition of (a) $NaHSO_3$ (b) HCN (c) RMgX (d) NH_3 (e) RNH_2 (f) NH_2OH (g) $PhNHNH_2$ (h) 2,4-DNP (Schiff bases). Addition of H_2O to form hydrate , chloral hydrate (stable), addition of alcohols - hemi acetal and acetal formation. Cannizaro reaction. Oxidation reactions – $KMnO_4$ oxidation and auto oxidation, reduction – catalytic hydrogenation, mechanism of Clemmenson's reduction, Wolf-kishner reduction, Meerwein Pondoff Verly reduction. Reduction with LAH, $NaBH_4$.

Unit - III (Physical Chemistry) **15h(1 hr/week)**

S2-P-1: Electrochemistry **15 h**

Electrical transport – conduction in metals and in electrolyte solutions, specific conductance and equivalent conductance, measurement of equivalent conductance, variation of specific and equivalent conductance with dilution. Migration of ions and Kholrausch's law, Arrhenius theory of electrolyte dissociation and its limitations, weak and strong electrolytes, Ostwald's dilution law - its uses and limitations. Debye-Huckel-Onsagar's equation for strong electrolytes (elementary treatment only). Transport number, definition and determination by Hittorf's method for attackable electrodes. Applications of conductivity measurements: Determination of degree of dissociation, determination of Ka of acids, determination of solubility product of a sparingly soluble salt, conductometric titrations.

Electrolytic and Galvanic cells – reversible and irreversible cells, conventional representation of electrochemical cells. Electro motive force (EMF) of a cell and its measurement. Computation of EMF. Types of reversible electrodes- the gas electrode, metal-metal ion, metal-insoluble salt and redox electrodes. Electrode reactions, Nernst equation, cell EMF and Single electrode potential, Standard Hydrogen electrode – reference electrodes (calomel electrode) – standard electrode potential, sign conventions, electrochemical series and its significance. Applications of EMF measurements. Calculation of thermodynamic quantities of cell reactions (Gibbs free energy G, Helmholtz free energy and Equilibrium constant K). Determination of pH using hydrogen electrode, glass electrode and quinhydrone electrode. Solubility product of AgCl. Potentiometric titrations.

Unit – IV (General Chemistry) 15 h (1 hr/week)

S2-G-1: Theory of Quantitative Analysis **6 h**

Volumetric Analysis: Introduction, standard solutions, indicators, end point, titration curves, Types of titrations: i) neutralization titration- principle, theory of acid base indicators, titration curves and selection of indicators- strong acid - strong base, strong acid –weak base, weak acid-strong base and weak acid –weak base. Theory of redox titrations - internal(KMnO4) and external indicators – use of diphenylamine and ferroin indicators. Theory of complexometric titrations – use of EBT, Murexide and Fast sulphone black indicators. Role of pH in complexometric titrations. Precipitation titrations – theory of adsorption indicators.

Gravimetric analysis- Introduction, nucleation, precipitation, growth of precipitate, filtration and washing, drying and incineration of precipitate, coprecipitation and post precipitation. Determination of Ni^{2+}

S2-G-2: Stereoisomerism **5 h**

Optical activity: Definition, wave nature of light, plane polarised light, optical rotation and specific rotation, chiral centers. Chiral molecules: definition and criteria - absence of plane, center and S_n axis of symmetry – asymmetric and dissymmetric molecules. Examples of asymmetric molecules (Glyceraldehyde, Lactic acid, Alanine) and disymmetric molecules (trans-1,2-dichlorocyclopropane). Molecules with constitutionally symmetrical chiral carbons (Tartaric acid) Molecules with constitutionally unsymmetrical chiral carbons (2,3dibromopentane). D, L configuration – examples. R, S – configuration: Cahn-Ingold-Prelog rules, examples for asymmetric and disymmetric molecules.

S2-G-3: Dilute Solutions & Colligative Properties **4 h**

Dilute Solutions, Colligative Properties, Raoult's law, relative lowering of vapour pressure, molecular weight determination. Osmosis - laws of osmotic pressure, its measurement, determination of molecular weight from osmotic pressure. Elevation of boiling point and depression of freezing point. Derivation of relation between molecular weight and elevation in boiling point and depression in freezing point.

References

General reference: B.Sc I Year Chemistry : Semester II, Telugu Academy publication, Hyd

Unit I

1. Principles of Inorganic Chemistry by Puri, Sharma and Kalia Vishal Publications1996.
2. Concise Inorganic Chemistry by J.D. Lee 3rd edn.
3. Basic Inorganic Chemistry by F.A.Cotton, G.Wilkinson and Paul.L. Gaus 3rd edn Wiley Publishers 2001.
4. Chemistry of the elements by N.N.Greenwood and A. Earnshaw Pergamon Press1989.
5. Inorganic Chemistry by Shriver and Atkins 3rd edn Oxford Press 1999.
6. Inorganic Chemistry Principles of structure and reactivity by James E.Huhey, E.A. Keiter and R.L. Keiter 4th Edn.
7. Textbook of inorganic chemistry by R Gopalan.

Unit II

1. Organic Chemistry by Morrison and Boyd.
2. Organic Chemistry by Graham Solomons.
3. Organic Chemistry by Bruice Yuranis Powla.
4. Organic Chemistry by L. G. Wade Jr.
5. Organic Chemistry by M. Jones, Jr
6. Organic Chemistry by John McMurry.
7. Organic Chemistry by Soni.
8. General Organic chemistry by Sachin Kumar Ghosh.
9. Organic Chemistry by C N pillai

Unit III

1. Physical chemistry by P W Atkins
2. Principles of physical chemistry by Prutton and Marron.
3. Text Book of Physical Chemistry by Soni and Dharmahara.
4. Text Book of Physical Chemistry by Puri and Sharma
5. Text Book of Physical Chemistry by K. L. Kapoor
6. Physical Chemistry through problems by S.K. Dogra.
7. Elements of Physical Chemistry by Lewis and Glasstone.
8. Material science by Kakani & Kakani

Unit IV

1. Vogel's Text Book of Quantitative Analysis by G.H.Jeffery, J.Bassett, J.Mendham and R.C. Denney 5th edn Addison Wesley Longman Inc. 1999.
2. Quantitative Analysis by Day and Underwood Prentice Hall (India) VI Edn..
3. Nano: The Essentials by T. Pradeep, McGraw-Hill Education.

4. Chemistry of nanomaterials: Synthesis, Properties and applications by CNR Rao et.al.
5. Nanostructured Materials and Nanotechnology, edited by Hari Singh Nalwa, Academic Press
6. Practical chemistry by V K Ahluwalia, Sunitha Dhingra and AdarshGulati.

OBJECTIVES OF SEMESTER-II

The objective of **B.Sc. Chemistry II** is intended to provide:

- Structure, bonding of p block materials and their oxides/compounds.
- Understanding chemistry of compounds of p block elements and their structures.
- Transition metals, its stability, color, oxidation states and complexes.
- Familiarization about classes of organic compounds and their methods of preparation and Basic uses of reaction mechanisms.
- Name reactions, uses of various reagents and the mechanism of their action.
- Basic principle of laws of electrochemistry and understanding about chemical cells, electrodes and their functions.
- Stereochemistry of organic molecules – conformation and configuration, asymmetric molecules and nomenclature.
- Partial molar quantities and its attributes.
- Dilute solution and its properties.

Course Outcomes:

After the successful completion of the course, students should be able to:

- To get acquainted with application of VSEPR theory in explaining structure and bonding.
- To interpret nature of compounds of p block elements.
- To understand about the inert nature of Zero group elements, factors responsible for their reactivity and explaining structure and bonding.
- To get acquainted with characteristics of d block elements.
- To understand about the preparations, physical & chemical properties of classes of organic compounds.
- To know the basic principles of electrochemistry and its applications in daily life.
- To understand the nature of dilute solutions and its properties.

Laboratory Course 45hrs (3 h / week)

Paper II- Quantitative Analysis

Analysis Acid - Base titrations

1. Estimation of Carbonate in Washing Soda.
2. Estimation of Bicarbonate in Baking Soda.
3. Estimation of Carbonate and Bicarbonate in the Mixture.
4. Estimation of Alkali content in Antacid using HCl.
5. Estimation of NH_4^+ by back titration

Redox Titrations

1. Determination of Fe(II) using $K_2Cr_2O_7$
2. Determination of Fe(II) using $KMnO_4$ with sodium oxalate as primary standard.

Complexometric Titrations

1. Estimation of Mg^{2+}

Inorganic preparatios

1. Bis (dimethylglyoximato) Nickel(II)
2. Hexammine cobalt(III) Chloride

Objectives of practicals

- The objective of B.Sc. Chemistry Practical - II is intended to provide:
- To get acknowledged with techniques involved in quantitative analysis of products.
- To get acknowledged with techniques involved in Redox titrations and Complexometric titrations.
- To get acknowledged with techniques involved in preparation methods of inorganic metal complexes.

OUTCOMES

- After the successful completion of the course, students should be able to:
- To get adapted with techniques involved in Quantitative analysis of products.
- To get acknowledged with techniques involved in preparation methods of inorganic metal complexes.

Government Degree College for Women, Begumpet, Hyderabad
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I B.Sc II Semester Paper- II (Practicals)
Paper code 203 No. of Credits - 01

Practical Model Question Paper

Duration : 3 Hours Total Marks : 50

I. Write principle, indicator and colour change at end point in the _____ (3M)

II. Estimate the amount in the given following experiments (35M)

III Viva (6M)
IV Record (6M)

GOVERNMENT DEGREE COLLEGE FOR WOMEN
BEGUMPET, HYDERABAD - 16
B.Sc. 1 YEAR MODEL QUESTION PAPER
Subject: CHEMISTRY
SEMESTER - 2

Time: 2 Hours **Max. Marks: 60**
Min. Marks: 24

Section – A

I Answer any Five of the following questions **5x4=20marks**

1. Write a note on amphoteric oxides?
2. Explain the structures of XeF_2 and XeF_4?
3. Compare the reactivirt of allyl, Vinyl halides?
4. Write any two preparation methods of alcohols?
5. Write about Debye-Huckel-Onsagar's equation for strong electrolytes?
6. Explain Nernst equation?
7. What is coprecipitation?
8. Write a note on acid base indicators?

SECTION-B

II Answer all questions choosing any one bit from each question **4X10 = 40 Marks**

9. (a) Explain the magnetic and catalytic properties of transition elements?

(or)

(b) What are polyhalides? Explain the structures of ICl_2^-, ICl_4^-, I_3^-?

10. (a) Write Riemer Tiemann reaction with mechanism?

(or)

(b) Explain Cannizaro reaction with Mechanism?

11. (a) What is transport number?Determine the transport number using Hittorf's Method?

(or)

(b) Write about Standard Hydrogen electrode?

12. (a) Discuss the Cahn-Ingold-Prelog rules, with examples for R, S notationsfor asymmetric and disymmetric molecules.?

(or)

(b) What is Raoults law?Derive a relation between relative lowering of vapor pressure and molar mass of the solute?

II B.Sc. Chemistry syllabus

III Semester 60 Hrs (4 H/W)

(Syllabus with effect from 2019-20)

	UNIT-I Inorganic Chemistry	**15h**
I	Chemistry of f-block elements	5
II	Coordination Compounds-I	6
III	Metal carbonyls and Organometallic Chemistry	4
	UNIT II Organic Chemistry	**15h**
I	Carboxylic acids and derivatives	5
II	Nitrohydrocarbons	3
III	Amines, Cyanides and Isocyanides	7
	Unit-III Physical Chemistry	**15h**
I	Thermodynamics –I	10
II	Thermodynamics –II	5
	Unit-IV General Chemistry	**15h**
I	Evaluation of analytical data	4
II	Carbanions-I	5
III	Phase Rule	6

B.Sc. II Year CHEMISTRY
SEMESTER WISE SYLLABUS
SEMESTER III
Paper-III

Chemistry - III

Unit-I (Inorganic Chemistry) 15 h (1 hr/week)

S3-I-1: Chemistry of f-block elements: 5 h

Chemistry of Lanthanides**:** Position in periodic table, Electronic structure, oxidation state, ionic and atomic radii- lanthanide contraction- cause and consequences, anomalous behavior of post lanthanides- complexation- type of donor ligands preferred. Magnetic properties- para magnetism. Colour and spectra, f-f transitions –occurrence and separation– ion exchange method, solvent extraction.

Chemistry of actinides- general features – electronic configuration, oxidation state, actinide contraction, colour and complex formation. Comparison with lanthanides.

Additional Inputs: Comparision between f – Block and d-Block elements

S3-I-2: Coordination Compounds-I 6 h

Simple inorganic molecules and coordination complexes. Nomenclature – IUPAC rules,Coordination number, coordination geometries of metal ions, types of ligands. 2. Brief review of Werner's theory,Sidgwick's electronic interpretation and EAN rule and their limitations. (Valence bond theory (VBT) – postulates and application to (a) tetrahedral complexes $[Ni(NH_3)_4]^{2+}$ $[NiCl_4]^{2-}$ and $[Ni(CO)_4]$ **(**b) Square planar complexes $[Ni(CN)_4]^{2-}$, $[Cu(NH3)_4]^{2+}$, $[PtCl_4]^{2-}$ (c) Octahedral complexes $[Fe(CN)_6]^{4-}$, $[Fe(CN)_6]^{3-}$ $[FeF_6]^{4-}$, $[Co(NH_3)_6]^{3+}$, $[CoF_6]^{3-.}$ Limitations of VBT. 3. Isomerism in coordination compounds, stereo isomerism – (a)Geometrical isomerism in (i) square planar meta l complexes of the type$[MA_2B_2]$ $[MA_2BC]$ $[M(AB)_2]$ [MABCD] (ii) Octahedral metal complexes of the type $[MA_4B_2]$, $[M(AA)_2B_2]$ $[MA_3B_3]$ using suitable examples, (b) Optical isomerism in (i). Tetrahedral complexes [MABCD] (ii). Octahedral complexes $[M(AA)_2B_2]$, $[M(AA)_3]$ using suitable examples. Structural isomerism: ionization, linkage, coordination ligand isomerism using suitable examples.

Additional Inputs: Hydration isomerism

S3-I-3: Metal carbonyls and Organometallic Chemistry 4 h

Metal carbonyls: Preparation and properties of $Ni(CO)_4$. Structural features of $Ni(CO)_4$, $Fe(CO)_5$, $Fe_2(CO)_9$, $Fe_3(CO)_{12}$ and $Cr(CO)_6$ -18 valence electron rule.

Definition, nomenclature and classification of organometallic compounds. Methods of preparation, properties and applications of alkyl and aryl compounds of Li, Mg & Al.

Additional Inputs: Structure of $Fe(CO)_5$

Unit - II (Organic Chemistry) **15h (1 hr/week)**

S3-O-1: Carboxylic acids and derivatives **5 h**

Preparation: a) Hydrolysis of Nitriles, amides and esters. b) Carbonation of Grignard reagents. Special methods of preparation of Aromatic Acids - Oxidation of Arenes. Physical properties- hydrogen bonding, dimeric association,. Chemical properties – Reactions involving H, OH and COOH groups -salt formation, anhydride formation, Acid halide formation, Esterification (mechanism) & Amide formation. Reduction of acid to the corresponding primary alcohol - via ester or acid chloride. Degradation of carboxylic acids by Huns Diecker reaction, Schmidt reaction (Decarboxylation). Arndt – Eistert synthesis, Halogenation by Hell – Volhard - Zelensky reaction. Carboxylic acid Derivatives – Hydrolysis nand Amonolysis of acid halides, Acid anhydrides and esters (mechanism of ester hydrolysis by base and acid). Hydrolysis and dehydration of amides.

Additional Inputs: Comparision of acidic strength of carboxylic acid and alcohol

S3-O-2: Nitrohydrocarbons **3 h**

Preparation of Nitroalkanes. Reactivity - halogenation, reaction with HNO_2 (Nitrous acid), Nef reaction, reduction. Aromatic Nitrohydrocarbons: Preparation of Nitrobenzene by Nitration. Physical properties, chemical reactivity –Reduction of Nitrobenzenes in different media.

Additional Inputs: Acidic nature of α-Hydrogen of Nitrohydrocarbons

S3-O-3: Amines, Cyanides and Isocyanides **7 h**

Amines: classification into 1°, 2°, 3° Amines and Quarternary ammonium compounds. Preparative methods – Ammonolysis of alkyl halides, Gabriel synthesis, Hoffman's bromamide reaction (mechanism). Reduction of Amides and Schmidt reaction. Physical properties. Use of amine salts as phase transfer catalysts. Chemical Properties: a) Alkylation b) Acylation c) Carbylamine reaction d) Hinsberg separation. Reaction with Nitrous acid of 1°, 2°, 3° (Aliphatic and aromatic amines). Electophilic substitutions of Aromatic amines – Bromination and Nitration, oxidation of aryl and 3° Amines, diazotisation. Diazonium salts: Preparation with mechanism. Synthetic importance – a) Replacement of diazonium group by – OH, X (Cl)-Sandmeyer and Gatterman reaction, by fluorine (Schiemann's reaction), by iodine, CN, NO_2, H and aryl groups. Coupling Reaction of diazonium salts. i) with phenols ii) with anilines. Reduction to phenyl hydrazines.

Cyanides and isocyanides: Structure. Preparation of cyanides from a) Alkyl halides b) from amides c) from aldoximes. Preparation of isocyanides from Alkyl halides and Amines. Properties of cyanides and isocyanides, a) hydrolysis b) addition of Grignard reagent iii) reduction iv) oxidation.

Additional Inputs: Basic strength of aliphatic amines and aromatic amines

Unit III (Physical Chemistry) **15 h (1 hr/week)**

S3-P-1: Thermodynamics –I **10 h**

A brief review of - Energy, work and heat units, mechanical equivalent of heat, definition of system, surroundings. First law of thermodynamics statement- various forms mathematical expression. Thermodynamic quantities- extensive properties and intensive properties, state function and path

functions. Energy as a state function and exact differential. Work of expansion and heat absorbed as path function.

Expression for work of expansion, sign convention problems on first law. Heat changes at constant pressure and heat changes at constant volume. Enthalpy. Heat capacities at constant pressure and constant volume. Derivation of Cp-Cv = R. Isothermal adiabatic processes. Reversible and irreversible processes. Reversible change and maximum work. Derivation of expression for maximum work for isothermal reversible process. Problems. Internal energy of an ideal gas. Joules experiment. Joule-Thompson coefficient. Adiabatic changes in ideal gas, derivation of equation, PV^{γ}= constant. P-V curves for isothermal and adiabatic processes. Heat of a reaction at constant volume and at constant pressure, relation between ΔH and ΔV. Variation of heat of reaction with temperature. Kirchhoff's equation and problems. Limitations of first law and need for second law. Statement of second law of thermodynamics. Cyclic process. Heat engine, Carnot's theorem, Carnot's cycle. Derivation of efficiency of heat engine. Problems. Thermodynamic scale of temperature.

S3-P-2: Thermodynamics-II **5 h**

Entropy: Definition from Carnot's cycle. Entropy as a state function. Entropy as a measure of disorder. Sign of entropy change for spontaneous and non- spontaneous processes &equilibrium processes. Entropy changes in i) Reversible isothermal process, ii) Reversible adiabatic process, iii) Phase change, iv) Reversible change of state of an ideal gas. Problems. Entropy of mixing of ideal gases. Free energy Gibb's function (G) and Helmholtz'sfunction (A) as thermodynamic quantities. Concept of maximum work and network ΔG as Criteria for spontaneity. Derivation of equation ΔG =ΔH –TΔS. Significance of the equation. Gibbs equations and Maxwell relations. Variation of G with P, V and T.

Unit – IV (General Chemistry) **15 h (1 hr/week)**

S3-G-1 Evaluation of analytical data **4 h**

Significant figures, accuracy and precision. Errors-classification of errors- determinate and indeterminate errors, absolute and relative errors. Problems based on mean, median, range, standard deviation.

Additional Inputs: Gross errors

S3-G-2: Carbanions-I **5 h**

Introduction, acidic nature of α-hydrogens and tautomerism in carbonyl compounds, nitro hydrocarbons, ethyl acetoacetate, diethyl malonate. Terminal alkynes. Stabilty of carbanions Reactions : Aldol reaction, Perkin reaction, Benzoin condensation, haloform reaction, conversion of smaller alkynes to higher alkynes.

Additional Inputs: Acidic nature of α-Hydrogen of different organic compounds

S3-G-3: Phase Rule **6 h**

Statement and meaning of the terms – Phase, Component and Degrees of freedom, Gibb's Phase rule, phase equilibria of one component system – water system. Phase equilibria of two- component system – Solid-Liquid equilibria, simple eutectic –Pb-Ag system, desilverisation of lead. Solid solutions – compound with congruent melting point – Mg-Zn system and incongruent melting point – NaCl-H_2O system.

Additional Inputs: Applications of phase rule

References

General reference: B.Sc II Year Chemistry: Semester III, Telugu Academy publication, Hyd

Unit- I

1. Analytical chemistry by G. L. David Krupadanam, D. Vijaya Prasad, K. Varaprasada Rao, K.L.N. Reddy and C. Sudhakar
2. Principles of Inorganic Chemistry by Puri, Sharma and Kalia Vishal Publications(1996).
3. Concise Inorganic Chemistry by J.D. Lee 3rd edn Van Nostrand Reinhold Company(1977)
4. Basic Inorganic Chemistry by F.A.Cotton, G.Wilkinson and Paul.L. Gaus 3rd edn Wiley Publishers (2001).
5. Inorganic Chemistry Principles of structure and reactivity by James E.Huhey, E.A. Keiter and R.L. Keiter 4th edn. (2006)
6. Chemistry of the elements by N.N.Greenwood and A. Earnshaw Pergamon Press(1989).
7. Inorganic Chemistry by Shriver and Atkins 3rd edn Oxford Press (1999).
8. Textbook of Inorganic Chemistry by R Gopalan(Universities Press(2012)
9. College Practical chemistry by V K Ahluwalia, Sunitha Dhingra and Adarsh Gulati Universities Press (India) Limited(2012)

Unit- II

1. Text book of organic chemistry by Soni. Sultan Chand & Sons; Twenty Ninth edition (2012)
2. General Organic chemistry by Sachin Kumar Ghosh. New Age Publishers Pvt Ltd (2008).
3. Text book of organic chemistry by Morrison and Boyd. Person(2009)
4. Text book of organic chemistry by Graham Solomons. Wiley(2015)
5. Text book of organic chemistry by Bruice Yuranis Powla. (2012)
6. Text book of organic chemistry by C N pillai CRC Press (2012)
7. Organic Chemistry by L. G. Wade Jr.
8. Organic Chemistry by M. Jones, Jr
9. Organic Chemistry by John McMurry.

Unit III

1. Principles of physical chemistry by Prutton and Marron. The MacmillanCompany; 4th Edn.(1970)
2. Text Book of Physical Chemistry by Soni and Dharmahara. Sulthan Chand and Sons.(2011)
3. Text Book of Physical Chemistry by Puri and Sharma. S. Nagin chand and Co.(2017)
4. Text Book of Physical Chemistry by K. L. Kapoor. (2012)
5. Colloidal and surface chemistry , M. Satake, Y. Hayashi, Y.Mido, S.A.Iqbal and
6. M.S.sethi, Discovery Publishing Pvt.Ltd (2014)
7. Material science by Kakani & Kakani, New Age International(2016)
8. Physical Chemistry by Ira Levine (Author) McGraw-Hill Education; 6 edition (May 9, 2008)

Unit IV

1. Text book of organic chemistry by Morrison and Boyd, Person(2009)
2. Text book of organic chemistry by Graham solomons, Wiley(2015)
3. Text book of organic chemistry by Sony, Sultan Chand & Sons; 29th edition (2012)
4. Text book of organic chemistry by Bruice yuranis Powla, (2012)
5. General Organic chemistry by Sachin kumar Ghosh, New Age Publishers Pvt Ltd (2008)

Semeter III Course Objectives

- To learn the sources, importance, separation techniques of lanthanides
- To understand the basics of formation of coordination compounds from various theories
- Learn the preparation and properties of metal carbonyls and organo metallic compounds
- Understand the fundamental properties and reactivity of carboxylic compounds, nitrohydro compounds, amines, cyanides and isocyanides
- Understand the various laws of thermodynamic
- Basics of phase rule, number of components and degrees of freedom, eutectic point, eutectic mixture, Water system, Pb-Ag system, NaCl system and freezing mixtures.
- Evaluation of the analytical data
- Reactions involving active methylene compounds
- Synthesis of various organic compounds

COURSE OUTCOME

Inorganic Chemistry

- Predict the nature of lanthanides and actinides and their influence on the other elements of periodic table
- Analyse the geometry, stability, magnetic properties and isomerism of coordination compounds
- With the basics of 18 valence electron rule, It will help students to predict the stability of metal carbonyls
- Using the knowledge of organo metallic compounds, students can design new synthetic pathways for the synthesis of novel compounds, Hence creating a interest in research and development

Organic Chemistry

- Gains broad knowledge of the preparation and properties of mono, di and unsaturated carboxylic acids with their mechanisms that helps in understanding their importance.
- Reactivity of Nitrogen containing organic compounds and gains the knowledge of preparing various compounds such as dyes

Physical chemistry

- Students will be able to state and apply laws of thermodynamics in predicting the predict the feasibility of a process and extent of yield of the product obtain
- Differentiate between extensive properties and intensive properties, state function and path functions

General Chemistry

- Students will be able to synthesize new compounds from carbon-carbon new bond formation methods learned in carbanions
- Analyse and evaluate the experiment through the analytical data obtained in the observations made
- Use the knowledge of phase rule in the separation of various compounds

Laboratory Course

Paper III (Organic Synthesis) **45 h (3h/week)**

1. Synthesis of Organic compounds:

i. Acetylation: Acetylation of salicylic acid, Benzoylation of Aniline.

ii. Aromatic electrophilic substitution: Nitration: Preparation of nitro benzene and m-dinitro benzene.

iii. Halogenation: Preparation of p-bromo acetanilide, Preparation of 2, 4, 6-tribromo phenol.

iv. Oxidation: Preparation of benzoic acid from benzyl chloride.

v. Esterification: Preparation of n-butyl acetate from acetic acid.

vi. Methylation: Preparation of – β-naphthyl methyl ether.

vii. Condensation: Preparation of benzilidine aniline form Benzaldehyde and aniline.

viii. Diazotisation: Azocoupling of β-Naphthol.

2. Microwave assisted synthesis of Asprin – DEMO (demonstration only)

Outcomes of Practicals

- Will learn and implement the ethics of the laboratory rules while performing the experiments
- Develop the skills of handling various instruments such as distillation units, melting point apparatus etc
- Experimental learning in the preparation of various organic compounds that improves their skills in organic synthesis

Government Degree College for Women, Begumpet, Hyderabad
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II B.Sc Chemistry III Semester Paper- III (Practicals)

Practical Model Question Paper

Duration : 2 Hours Total Marks : 50

1. Write brief Procedure with chemical equation and principle for the preparation of an organic compound. (10M)

2. Prepare and submit the crude sample of organic compound (30M)

3. Record (5M)

4. Viva (5M)

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET
AUTONOMOUS

Max marks: 20M **NAAC ACCREDITED "B"**

Time: 1hour **II Year Internal Question Paper** **Invigilator Signature**

Date: **Internal assessment Test No.1**

CHEMISTRY

Paper-III

Name: _____ **Roll No._____**

Class: _____ **Semester: III_____**

SECTION – A

Answer any 2 questions of the following, each question carries 5 marks

2x5=10M

I. 1. Explain the Sidgwick's concept of EAN and Calculate EAN for the following complexes $[Fe(CN)6]^{4-}$ and $[Fe(CN)6]^{3-}$

2. Explain the structure of $Fe(CO)_5$?

3. Write classification of Organo Metallic Compounds (OMC)?

4. What is lanthanide contraction and explain its consequences?

SECTION – B

Answer any one question from the following, each question carries 10 marks

1X10=10M

II. 1. Explain the Valance Bond Theory (VBT) postulates with examples each from tetrahedral complex, square planar complex and octahedral complex?

(OR)

2. Write the preparation of Nitrobenzene with mechanism and reduction of Nitro benzene in different media.

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BEGUMPET, HYDERABAD - 16
B.Sc. II YEAR SEMESTER MODEL QUESTION PAPER
Subject: CHEMISTRY
SEMESTER - III

Time: 2 Hours **Max. Marks: 60**
Min. Marks: 24

Section – A

I Short Answer questions
Answer any Five of the following questions **5x4=20marks**

1. Define lanthanides and actinides?
2. Explain EAN rule with one example ?
3. Write Arndt-Eistert synthesis?
4. Write preparation of Nitro hydrocarbons?
5. Explain I law of thermodynamics?
6. Derive equation of Pv^{γ}= constant?
7. Define accuracy and precision.
8. Define phase, component and degrees of freedom?

SECTION-B

II Essay questions
Answer all questions choosing any one bit from each question

4X10 = 40 Marks

9. (a) Explain the Valance Bond Theory (VBT) postulates with examples each from tetrahedral complex, square planar complex and octahedral complex

(or)

(b) Write classification of Organo Metallic Compounds (OMC) with examples?

10. (a) Write the preparation of Nitrobenzene with mechanism and reduction of Nitro benzene in different media.

(or)

(b)Write preparation of amines using Gabriel synthesis, Hoffman's bromamide reaction with mechanism?

11. (a) Derive Cp-Cv = R.

(or)

(b) Explain Carnot's theorem?

12. (a) Write aldol condensation and bezoin condensation reaction?

(or)

(b) explain water system with phase diagram

B.Sc. Chemistry II Year
Semester III
Skill Enhancement Course- I (SEC-I)

301 SEC: Safety Rules in Chemistry Laboratory and Lab Reagents
Unit I: Laboratory Safety Rules and Regulations.
General rules and regulations for lab safety: Minimizing Risks of Hazards , Personal Protective Equipment (PPE) - Hair, Dressing for the Laboratory, Eye Protection, Eye-wash fountain, Gloves, Laboratory Protocols, Labeling Chemicals, Careful reading of labels Prevention of Inhaling Harmful Chemicals, Guide to Chemical Hazards, Chemical Spills etc,. Accidents use of fire extinguisher and first aid kit in the laboratory, safety symbols- Preparation of the charts by the students and display of chats in chemistry labs. Calibration of fractional weights, calibration of glass ware - burette, pipette, standard flask, Normality/Molarity and specific gravity of concentrated acids – Preparation of dilute solutions (Numerical problems). Precautions to be taken in the preparation of dilute acids and bases and bases. Preparation of stock solutions of salts with specific examples. Properties of primary standard salt and preparation of standard solution. Good laboratory practices-maintenance of observation book record.

UNIT 2: Preparation of Lab Reagents: Preparation of indicators and use of indicators in volumetric analysis- acid base titrations, redox titrations, precipitation titrations and complexometric titrations. Role of an indicator in detecting end point (Phenolphthalein, Methyl orange, Methyl-red, Potassium Chromate, Diphenylamine, EBT, Murexide, etc). Preparation of buffers – pH 10 ammonical buffer and acetate buffer solutions. Preparation of commonly used reagents : Ammonium hydroxide solution, Ammonium molybdate reagent, Ammonium hydrogen phosphate solution, Bayer's reagent, Benedict's solution, Bromine water, Dimethyl glyoxime reagent, 2,4-Dinitrophenyl hydrazine reagent, Eriochrome black-T reagent Fehling solution, Ferric chloride solution, Ferrous sulphate solution, Iodine solution, Molisch's reagent, Nessler's reagent, Neutral $FeCl_3$, Schiff's reagent, Silver nitrate solution, Sodium carbonate solution , Sodium hydroxide (Caustic soda) solution, Starch solution, Tollen's reagent.
(reference work and submission of assignments). Charts preparation depicting course content.

RECOMMENDED BOOKS

1. Vogel's Text Book of Quantitative Chemical Analysis, 5th edition.
2. Vogel's Text Book of macro and semimicro qualitative inorganic analysis. G. Svehla, 5th edition.
3. Chemistry Reagent Manual Prepared by Chemistry Department, SGTB Khalsa College under DBT's Star College Scheme, University of Delhi (Available: online)
4. American Chemical Society Safety in Academic Chemistry Laboratories 8th edition.

[Course objectives (CO)]

- To improve the skills of students in the application of theory and practical knowledge.
- To fill the gap between theory and practicals.
- To train the students in understanding laboratory safety rules and to improve the skills in
- preparation of laboratory reagents]

B.Sc. Chemistry II Year
Semester III
Skill Enhancement Course- II (SEC –II) (2 Credits)

REMEDIAL METHODS FOR POLLUTION, DRINKING WATER AND SOIL FERTILITY STANDARDS

UNIT I: Remedial Methods for Pollution Prevention and control of air pollution 15 h (1 hr/week)

Ozone hole-causes and harm due to ozone depletion. The effect of CFC's in Ozone depletion and their replacements. Global Warming and Greenhouse Effect Precautions to control global warming. Deleterious effect of pollutants - Endangered Monuments- acid rain. Precautions to protect monuments. Sources of Radiation pollution - Chernobyl accident and its Consequences. Radiation effect by the usage of cell phones and protection tips. Deleterious effects of cell phone towers and health hazards.

Sources of water pollution-(i). Pollution due to pesticides and inorganic chemicals, (ii). Thermal pollution (iii). Ground water pollution (iv). Eutrophication.

Methods for control of water pollution and water recycling. Dumping of plastics in rivers & oceans and their effect on aquatic life. Determination of (i) Dissolved Oxygen and (ii) Chemical Oxygen Demand in polluted water - Illustration through charts (or) demonstration of experiments. Sources of soil pollution (i). Plastic bags, (ii). Industrial and (iii). Agricultural sources. Control of soil pollution. Environmental laws in India. Environmental benefits of planting trees.

UNIT II: Drinking Water and Soil Fertility Standards and Analysis 15 h (1 hr/week)

Water Quality and Common Treatments for Private Drinking Water Systems: Drinking Water Standards-Primary Drinking Water Standards : Inorganics, Organics and Volatile Organic Chemicals. Secondary Drinking Water Standards-Inorganics and Physical Problems. Water Testing, Mineral Analysis, Microbiological Tests, Pesticide and Other Organic Chemical Tests. Principle involved in Water Treatment Techniques. (i) Reverse osmosis (ii) Disinfection methods such as chlorination, ultraviolet light, ozonation etc (iii) Chemical oxidation and (iv) Ion exchange (water softeners). Visit to nearby drinking water plants and interaction at sites.

Introduction to Soil Chemistry- Basic Concepts. Effect of pH on nutrient availability. Macronutrients and their effect on plants -Carbon, Hydrogen, Oxygen, Nitrogen and Phosphorus other macronutrients-Calcium, Magnesium and Sulfur. Micronutrients and their effect on plants. Boron ($B_4O_7^{2-}$), Copper (Cu^{2+}), Iron (Fe^{2+}, Fe^{3+}) Manganese (Mn^{2+}) Molybdenum (MoO_4^{2-}) Zinc (Zn^{2+}) Cobalt (Co^{2+}) Chlorine (Cl^-) and Others. Determination of soil nitrogen by Kjeldahl method- Illustration through charts (Or) demonstration of experiment. Visit to nearby agricultural forms and interaction with farmers. Discussion with farmers on the use of Soil Analysis Kits.

References

1. A Text book for 'Remedial methods for pollution, drinking water and soil fertility standards', First Edition, Authors: Dr Mudvath Ravi, Gopu Srinivas, Putta Venkat Reddy, Vuradi Ravi Kumar,

Battini Ushaiah, ISBN No. 978-93-5311-183-0.
2. Remedial methods for pollution, drinking water and soil fertility standards, Author: Dr G. Vanjatha.
3. Remedial methods for pollution, drinking water and soil fertility standards, Telugu version, Authors: Dr N. Yogi Babu, Dr. G. Vanajatha, M. Srilatha.
4. Environmental Pollution, download.nos.org/333courseE/10.pdf
5. CFC Replacements, butane.chem.uiuc.edu/pshapley/Environmental/L21/3.html
6. Effects of Acid Rain on Buildings www.air-quality.org.uk/12.php
7. Acid Rain Effects - Buildings - Chemistry chemistry.elmhurst.edu/vchembook/196buildings.html 8. How to protect national heritage - ways to protect monuments www.youthkiawaaz.com/2011/03/how-to-protect-national-heritage/.
9. Chernobyl nuclear power plant accident - NRC www.nrc.gov/reading-rm/doc- collections/fact-sheets/chernobyl-bg.pdf
10. Side-effects of harmful radiation from mobile phones and towers pib.nic.in/newsite/printrelease.aspx?relid=116304
11. Cell Phone Radiation Protection - Highly Effective Tips https: www.electricsense.com/775/how-to-protect-yourself-from-cell-phone-radiation/
12. Chemical Waste That Impact on Aquatic Life or Water Quality blog.idrenvironmental.com/chemical-waste-that-impact-on-aquatic-life-or-waterquality
13. Trees and Your Environment - Clean Air Gardening www.cleanairgardening.com/plantingtrees 14.water quality and common treatments for private drinking water . extension.uga.edu/publications/detail.html?number=b939
15. Soil chemistry https://casfs.ucsc.edu/about/publications/Teaching-Organic- Farming/PDFdownloads/2.2-soil-chemistry.pdf
16. Soil Analysis-Determination of Available Nitrogen ... - Amrita VirtualLab vlab.amrita.edu/?sub=2&brch=294&sim=1551&cnt=1
17. Determination of dissolved oxygen (DO) www.cutm.ac.in/pdf/env%20engg%20lab%20manual.pdf 18. Determination of chemical oxygen demand of wastewater www.pharmaguideline.com › quality control ›

COURSE OBJECTIVES:

- To Understand chemistry involved in environment
- To Identify the chemical reactions and changes in contaminants
- Imparts knowledge on essential nutrients, soil fertility, nutrient transformations in soil.
- To assess the water demand of area under consideration
- To plan and design water supply system
- Understand impact of human action on soil and land.
- To learn significance of water quality and its importance for living being including humans.

COURSE OUTCOMES:

- Enhance the ability to apply this knowledge and proficiency to find solutions relating to environmental concerns of varied dimensions of present times.
- Students gain Knowledge of water sources and processes involved and Application of knowledge on water resource technology
- To get acquaint in Understand the Indian constitutional provisions with respect to the environmental protection, division of powers, and fundamental rights
- Students Understand impact of human action on soil and land
- Apply the gained knowledge to practical situations particularly in agriculture.
- Ability to respond flexibly towards restoration of problematic soils of specific areas.
- Able to do sampling and analysis of air pollutant Develop an understanding of working of air pollution control devices
- Students will gain knowledge on concepts and principles of Soil fertilizes.

GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET
AUTONOMOUS
NAAC ACCREDITED "B"

Max marks: 40M
Time: 1 1/2hour **Invigilator Signature**
Date: **SEC Model Paper**

Name: _____ **Roll No._____**
Class: _____ **Semester: _III_____**

. **SECTION-A**

Answer any 4 questions from the following, each question carries 4 marks **4x4=16M**

1.UNIT -1

2. UNIT -1

3. UNIT -1

4. UNIT -2

5. .UNIT -2

6. .UNIT -2

SECTION-B

Answer all questions, each question carries 12 marks **12x2=24M**

7. UNIT -1

8. UNIT -2

II B.Sc. Chemistry syllabus

Iv Semester 60 Hrs (4 H/W)

(Syllabus with effect from 2019-20)

	UNIT-I Inorganic Chemistry	**15h**
I	**Coordination Compounds –II**	11
II	**Bioinorganic Chemistry**	4
III	Metal carbonyls and Organometallic Chemistry	4
	UNIT II Organic Chemistry	**15h**
I	**Carbohydrates**	6
II	**Amino acids and proteins**	5
III	**Heterocyclic Compounds**	4
	Unit-III Physical Chemistry	**15h**
I	**Chemical Kinetics**	11
II	**Photochemistry**	4
	Unit-IV General Chemistry	**15h**
I	**Theories of bonding in metals**	4
II	**Carbanions-II**	5
III	**Colloids & Surface Chemistry**	6

B.Sc. II yr CHEMISTRY

SEMESTER IV Paper-IV

Chemistry - IV

Unit-I (Inorganic Chemistry) 15h (1 h/week)

S4-I-1: Coordination Compounds –II 11 h

Crystal field theory (CFT)- Postulates of CFT, splitting patterns of d-orbitals in octahedral, tetrahedral, square planer with suitable examples. Crystalfield stabilization energies and its calculations for various dn configurations in octahedral complexes. High Spin Low Spin complexes. Colour and Magnetic properties of transition metal complexes. Calculations of magnetic moments spin only formula. Detection of complex formation - basic principles of various methods- change in chemical properties, solubility, colour, pH, conductivity, magnetic susceptibility.

Hard and soft acids bases (HSAB) - Classification, Pearson's concept of hardness and softness, application of HSAB principles – Stability of compounds / complexes, predicting the feasibility of reaction. Thermodynamic and kinetic stability of transition of metal complexes. Stability of metal complexes –stepwise and overall stability constant and their relationship and chelate effect determination of composition of complex by Job's method and mole ratio method.

Applications of coordination compounds: Applications of coordination compounds a) in quantitative and qualitative analysis with suitable examples b) in medicine for removal of toxic metal ions and cancer therapy c) in industry as catalysts polymerization – Ziegler Natta catalyst d) water softening.

Additional Input: Spectrochemical Series

S4-I-2:Bioinorganic Chemistry 4 h

Essential elements, biological significance of Na, K, Mg, Ca, Fe, Co, Ni, Cu, Zn and chloride (Cl-). Toxic metal ions As, Hg & Pb Oxygen transport and storage – structure of hemoglobin, binding and transport of oxygen. Fixation of CO2 in photosynthesis- overview of light and dark reactions in photosynthesis. Structure of chlorophyll and coordination of magnesium. Electron transport in light reactions from water to NADP+ (Z – scheme).

Additional Input: Toxicity of Sn

Unit - II (Organic Chemistry) 15h(1 hr/week)

S4-O-1: Carbohydrates 6 h

Introduction: Classification and nomenclature. Monosaccharides: All discussion to be confined to (+) glucose as an example of aldo hexoses and (-) fructose as example of ketohexoses. Chemical properties and structural elucidation: Evidences for straight chain pentahydroxy aldehyde structure. Number of optically active, isomers possible for the structure, configuration of glucose based on D-glyceraldehyde as primary standard (No proof for configuration is required). Evidence for cyclic structure of glucose (Pyranose structure, anomeric Carbon and anomers). Proof for the ring size (methylation, hydrolysis and oxidation reactions). (Haworth formula and chair conformational formula). Structure of fructose: Evidence of 2 – ketohexose structure. Same osazone formation from glucose and fructose, Hydrogen bonding in osazones, cyclic structure for fructose (Furanose structure,Haworth formula).

Inter Conversion of Monosaccharides: : Arabinose to D-glucose, D- mannose (kiliani – Fischer method). Epimers, Epimerisation- Lobry de bruyn van Ekenstein rearrangement. D-glucose to D-arabinose by Ruff's degradation. Aldohexose(+) (glucose) to ketohexose (–) (fructose) and Ketohexose(Fructose) to aldohexose (Glucose).
Additional Input: Difference between glucose and fructose

S4-O-2: Amino acids and proteins 5 h
Classification. Methods of synthesis: General methods of synthesis of alpha amino acids (specific examples – Glycine, Alanine, Valine and Leucine) by following methods: a) From halogenated Carboxylic acid b)Malonic ester synthesis c) strecker's synthesis. Physical properties: Optical activity of naturally occurring amino acids. Zwitter ion structure – salt like character, definition of isoelectric point. Chemical properties: General reactions due to amino and carboxyl groups – Lactams from gamma and delta amino acids by heating peptide bond (amide linkage). Structure and nomenclature of peptides. Primary structure of proteins, di peptide synthesis
Additional Input: strecker's synthesis mechanism

S4-O-3: Heterocyclic Compounds 4 h
Introduction and definition: 5 membered ring compounds with one hetero atom Ex. Furan. Thiophene and pyrrole. Importance of ring systems –Numbering. Aromatic character
Resonance structures: Explanation of feebly acidic character of pyrrole, electrophillic substitution, Halogenation, Nitration and Sulphonation. Reactivity of furan as 1,3-diene, Diels Alder reactions (one example). Sulphonation of thiophene purification of Benzene obtained from coal tar). Preparation of furan, Pyrrole and thiophene Paul-Knorr synthesis. Structure of pyridine, Basicity – Aromaticity – Comparison with pyrrole – preparation by Hantsch method and properties – Reactivity towards Nucleophilic substitution reaction – chichibabin reaction.
Additional Input: Nomenclature of heterocyclic compounds

Unit III (Physical Chemistry) 15h (1 hr/week)

S4-P-1: Chemical Kinetics 11 h
Introduction to chemical kinetics, rate of reaction, variation of concentration with time, rate laws and rate constant. Specific reaction rate. Factors influencing reaction rates: effect of concentration of reactants, effect of temperature, effect of pressure, effect of reaction medium, effect of radiation, effect of catalyst with simple examples. Order of a reaction.
First order reaction, derivation of equation for rate constant. Characteristics of first order reaction. Units for rate constant. Half- life period, graph of first order reaction, Examples-
Decomposition of H2O2 and decomposition of oxalic acid, Problems.
Pseudo first order reaction, Hydrolysis of methyl acetate, inversion of cane sugar, problems. Second order reaction, derivation of expression for second order rate constant, examples-16. Saponification of ester, $2O_3 \rightarrow 3O_2$, $C_2H_4+H_2 \rightarrow C_2H_6$. Characteristics of second order reaction, units for rate constants, half- life period and second order plots. Problems
Additional Input: Zero order reaction

S4-P-2: Photochemistry 4 h

Introduction to photochemical reactions, Difference between thermal and photochemical reactions, Laws of photo chemistry- Grotthus Draper law, Stark–Einstein's Law of photochemical equivalence. Quantum yield. Examples of photo chemical reactions with different quantum yields. Photo chemical combinations of H_2–$Cl_2$and H_2–Br_2 reactions, reasons for the high and low quantum yield. Problems based on quantum efficiency. Consequences of light absorption. Singlet and triplet states. Jablonski diagram. Explanation of internal conversion, inter- system crossing, phosphorescence, fluorescence.

Additional Input: Chemiluminescence

Unit IV (General Chemistry) 15h (1 hr/week)

S4-G-1: Theories of bonding in metals 4 h

Valence bond theory, Explanation of metallic properties and its limitations, Free electron theory, thermal and electrical conductivity of metals, limitations, Band theory, formation of bands, explanation of conductors, semiconductors n-type and p-type, extrinsic & intrinsic semiconductors, and insulators.

S4-G-2: Carbanions-II 5 h

Mannich reaction , Michael addition and Knoevengeal condensation Synthetic applications of Aceto acetic ester. Acid hydrolysis and ketonic hydrolysis: Preparation of ketones, monocarboxylic acids and dicarboxylic acids Malonic ester– synthetic applications. Preparation of (i) substituted mono carboxylic acids and (ii) substituted dicarboxylic acids.

Additional Input: Michael addition mechanism

S4-G-3: Colloids & Surface Chemistry 6 h

Definition of colloids. Classification of colloids. Solids in liquids (sols): preparations and properties – Kinetic, Optical and Electrical stability of colloids. Protective action. Hardy–Schultz law, Gold number. Liquids in liquids (emulsions): Types of emulsions, preparation and emulsifier. Liquids in solids(gels): Classification, preparations and properties, General applications of colloids.

Adsorption: Types of adsorption. Factors influencing adsorption. Freundlich adsorption isotherm. Langmuir theory of unilayer adsorption isotherm. Applications.

References

General reference: B.Sc II Year Chemistry : Semester IV, Telugu Academy publication, Hyd

Unit- I

1. Principles of Inorganic Chemistry by Puri, Sharma and Kalia Vishal Publications (1996).
2. Concise Inorganic Chemistry by J.D. Lee 3rd edn. Van Nostrand ReinholdCompany(1977)
3. Basic Inorganic Chemistry by F.A.Cotton, G.Wilkinson and Paul.L. Gaus 3rd edn Wiley Publishers (2001).
4. Inorganic Chemistry Principles of structure and reactivity by James E.Huhey, E.A. Keiter and R.L. Keiter 4th edn. (2006)

5. Chemistry of the elements by N.N.Greenwood and A. Earnshaw Pergamon Press(1989).
6. Inorganic Chemistry by Shriver and Atkins 3rd edn Oxford Press (1999).
7. Textbook of Inorganic Chemistry by R Gopalan, Universities Press,(2012)

Unit- II

1. Text book of organic chemistry by Soni. Sultan Chand & Sons; Twenty Ninthedition (2012)
2. General Organic chemistry by Sachin Kumar Ghosh. New Age Publishers Pvt Ltd (2008)
3. Text book of organic chemistry by Morrison and Boyd. Person(2009)
4. Text book of organic chemistry by Graham Solomons. Wiley(2015)
5. Text book of organic chemistry by Bruice Yuranis Powla. **(2012)**
6. Text book of organic chemistry by C N pillai CRC Press (2012)
8. Organic Chemistry by L. G. Wade Jr.
9. Organic Chemistry by M. Jones, Jr
10. Organic Chemistry by John McMurry.

Unit III

1. Principles of physical chemistry by Prutton and Marron. The MacmillanCompany; 4th edn. (1970)
2. Text Book of Physical Chemistry by Soni and Dharmahara. Sulthan Chand &sons.(2011)
3. Text Book of Physical Chemistry by Puri and Sharma. S. Nagin chand and Co.(2017)
4. Text Book of Physical Chemistry by K. L. Kapoor. (2012)
5. Physical Chemistry through problems by S.K. Dogra. (2015)
6. Text Book of Physical Chemistry by R.P. Verma.
7. Elements of Physical Chemistry byLewis Glasstone. Macmillan (1966)
8. Industrial Electrochemistry, D. Pletcher, Chapman & Hall, London, 1990

Unit IV

1. Principles of Inorganic Chemistry by Puri, Sharma and Kalia Vishal Publications(1996).
2. Concise Inorganic Chemistry by J.D. Lee 3rd edn. Van Nostrand Reinhold Company (1977)
3. Basic Inorganic Chemistry by F.A.Cotton, G.Wilkinson and Paul.L. Gaus 3rd edn Wiley Publishers (2001).
4. Inorganic Chemistry Principles of structure and reactivity by James E.Huhey, E.A. Keiter and R.L. Keiter 4th edn. (2006)
5. Text book of organic chemistry by Morrison and Boyd, Person (2009)
6. Text book of organic chemistry by Graham solomons, Wiley (2015)
7. Fundamentals of organic synthesis and retrosynthetic analysis by Ratna Kumar Kar, CBA,(2014)
8. Organic synthesis by Dr. Jagadamba Singh and Dr. L.D.S. Yadav, Pragati Prakashan, 2010
7. Stereochemistry of organic compounds by D. Nasipuri, New Academic Science Limited, 2012
8. Organic chemistry by Clayden, Greeves, Warren and Wothers, Oxford University Press, 2001
9. Fundamentals of Asymmetric Synthesis by G. L. David Krupadanam, Universities, Press 2014

Semeter IV Course Objectives

- To understand and learn the Crystal field theory splitting in d-orbitals of octahedral, tetrahedral, square planer coordination compounds.
- Pearson's concept of hardness and softness, application of HSAB principle
- Biological significance of various inorganic elements
- Preparation and properties of carbohydrates, aminoacids, proteins and heterocyclic compounds
- Understand Kinetics of chemical reactions
- Learn laws oof photochemical reactions
- Understand various theories of bonding in metals
- Understand the chemistry of colloids and adsorption
- Synthesis of organic compounds

COURSE OUTCOME

Inorganic Chemistry

- Identify the geometries associated with various d-orbital splitting patterns, predict and analyse the stability, magnetic properties and spectra of coordination compounds
- Determine the stability of compounds / complexes and predicting the feasibility of reaction using HSAB rule
- Determine the complex composition using jobs method and mole fraction method, using this knowledge students can synthesis and analyse the new coordination compounds
- Importance of micro and macro inorganic compounds for the human body.

Organic Chemistry

- Elaborate study of classification, structural elucidation, properties, and interconversions of carbohydrates and various tests for the identification of carbohydrates
- Understand the importance of amino acids and proteins in living organisms, their preparation, and properties.
- Students will be able write the various reactions of heterocyclic compound. As heterocyclic compounds play a crucial role in improving the medicinal values of the drugs, having this knowledge will enhance their creative skill in designing the new drugs, especially while working in the research and development laboratories

Physical chemistry

- Understanding chemical kinetics will help students in determining the rates of reactions and under given conditions, Therefore can predict and implement various ways of improving the reaction that is increasing the speed of the reaction
- With the laws of photochemistry, students can understand the photochemical and photophysical processes like fluorescence, phosphorescence, chemiluminescence and photosensitization etc.

General Chemistry

- Students will be able to synthesize new compounds using active methylene compounds from carbon-carbon new bond formation methods learned in carbanions
- Predict the nature of bonding between metal atoms in metals through various theories and predicting the various properties of metals.
- Understand the chemistry behind the working of batteries through their knowledge of conductors, insulators and semi conductors and Knowledge gained in colloids and adsorption.

Laboratory Course
Paper IV Semester-IV

Qualitative Analysis of Organic Compounds: 45hrs (3 h/week)

Qualitative analysis: Identification of organic compounds through the functional group analysis - ignition test, determination of melting points/boiling points, solubility test, functional group tests and preparation of suitable derivatives of the following: Carboxylic acids, phenols, amines, urea, thiourea, carbohydrates, aldehydes, ketones, amides, nitro hydrocarbons, ester and naphthalene.

Outcomes of Practicals

- Will learn and implement the ethics of the laboratory rules while performing the experiments
- Develop the skills of handling various instruments such as Bunsen burner,
- Experimental learning in the Qualitative analysis: Identification of organic compounds through the functional group analysis
- Can identify any unknown compound after performing experiment, this improves and builds their confidence in the synthesis of new compounds and identifying them qualitatively

Government Degree College for Women, Begumpet, Hyderabad
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II B.Sc Chemistry IV Semester Paper- IV (Practicals)

Practical Model Question Paper

Date **BATCH**

Duration: 2 Hours Total Marks: 50

1. Write functional group tests for the following compound (10M)
2. Identify the functional group present in the given Organic compound and report its nature, Physical constant, and solubility and functional group tests. Prepare a solid derivative and submit. (30M)

a) Flame test (3M)
b) Physical constant (3M)
c) Solubility (5M)
d) Functional group tests (15M)
e) Derivative (4M)

3. Record -5M

4. Viva -5M

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET
AUTONOMOUS

Max marks: 20M **NAAC ACCREDITED "B"**

Time: 1hour **II Year Internal Question Paper** **Invigilator Signature**

Date: **Internal assessment Test No.1**

CHEMISTRY

Paper-IV

Name: _____ **Roll No._____**

Class: _____ **Semester: IV_____**

SECTION – A

Answer any 2 questions of the following, each question carries 5 marks

2x5=10M

1. Write Pearson's concept of hardness and softness, application of HSAB principles?
2. Write biological significance of Na, K and Mg?
3. Write chichibabin reaction?
4. Write paul-knorr synthesis?

SECTION – B

Answer any one question from the following, each question carries 10 marks

1X10=10M

II. 1. Write Crystal field theory (CFT)- Postulates of CFT, splitting patterns of d-orbitals in octahedral, tetrahedral with suitable examples

(OR)

2. Write all discussion to be confined to (+) glucose as an example of aldo hexoses?

GOVERNMENT DEGREE COLLEGE FOR WOMEN
BEGUMPET, HYDERABAD - 16
B.Sc. II YEAR SEMESTER MODEL QUESTION PAPER
Subject: CHEMISTRY
SEMESTER - IV

Time: 2 Hours **Max. Marks: 60**
Min. Marks: 24

Section – A

I Short Answer questions
Answer any Five of the following questions (5x4=20marks)

1. Write Pearson's concept of hardness and softness, application of HSAB principles?
2. Write applications of coordination compounds ?
3. Define anomers and epimers with example?
4. Write chichibabin reaction?
5. Explain briefly Factors influencing on reaction rate?
6. Explain Stark–Einstein's Law of photochemical equivalence?
7. Explain conductors, semiconductors and insulators.
8. Write Mannich reaction?

SECTION-B

II Essay questions
Answer all questions choosing any one bit from each question (4X10 = 40 Marks)

9. (a) Write Crystal field theory (CFT)- Postulates of CFT, splitting patterns of d-orbitals in octahedral, tetrahedral with suitable examples

(or)

(b) Write biological significance of Na, K, Mg, Ca and Fe?

10. (a) Write all discussion to be confined to (+) glucose as an example of aldo hexoses?

. (or)

(b)Write preparation of glycine and alanine using Strecker synthesis and Gabriel pthalimide synthesis.

11. (a) Define First order reaction, derivation of equation for rate constant.

(or)

(b) Explain Jablonski diagram with internal conversion, inter- system crossing, phosphorescence, fluorescence?

12. (a) Explain Freundlich adsorption isotherm. Langmuir theory of unilayer adsorption isotherm and its Applications?

(or)

(b) Write Michael addition and Knoevengeal condensation reaction.

B.Sc. Chemistry II Year
Semester - IV
Skill Enhancement Course- III (SEC - III) (2 Credits)
Materials and their Applications

Unit – I: Types of Materials 15 h (1 hr/week)

Introduction: Materials and their importance. Classification of Materials, Advanced materials and their need. Types of Materials: Metals, ceramics, polymers and composites; Nature of bonding (Type of bond present). Types and applications of metal alloys: Classification- ferrous and non-ferrous alloys. Ferrous alloys -types and their applications. Non-ferrous alloys – Cu, Al, Ti alloys, their applications and super alloys.

Field Work- Collection of Metal Alloy Samples.

Types and Applications of Ceramics: Classification of Ceramics based on their application- glasses, clay products, refractories, abrasives, cements, and advanced ceramics. Glasses: Compositions and Characteristics of Some of the Common Commercial Glasses; Properties and applications of glass ceramics - preparation of charts depicting various types of glass and their use. Clay products: Structural clay products and the white wares. Refractories: Compositions of four Common Ceramic Refractory Materials, fireclay, silica, basic refractories ex. MgO and special refractories ex. Alumina and Zirconia Cements: Classification, preparation of cement and the setting process; quick setting cements; applications.

Field Work-Visit to industries and collection of samples of materials

Unit – II: Types of Polymers and Applications 15 h (1 hr/week)

Classification of Polymeric materials based on application: Coatings, adhesives, films, foams with examples Polymer Additives: Fillers, Plasticizers, Stabilizers, Colorants, Flame Retardants with examples.

Advanced Materials: Types of advanced materials - semiconductors, bio-compatible materials, smart materials, advanced polymeric materials and nano-engineered materials. Biocompatible materials: Definition. Materials used as biomaterials and their properties. Metals and alloys used in bone and joint replacement. Filling and restoration materials – dental cements, dental amalgams, dental adhesives.

Field Work- Visit to Dental Clinics and interaction with Doctors regarding materials used in Dental treatments.

Smart materials: Shape memory alloys- definition and examples (Ni-Ti alloys, Cu based alloys), applications. Conducting polymers: - Introduction, Electrically conducting polymers and their uses (polyaniline, polypyrrole, polyacetylene and polythiophene).

References

1. William D. Callister Materials Science and Engineering An Introduction, John Wiley & Sons, Inc, 2006.
2. Material science by Kakani and Kakani.
3. Sujata V., Bhat., —Biomaterials‖, Narosa Publication House, New Delhi, 2002.
4. M. V. Gandhi and B. S. Thompson, —Smart Materials and Structures‖, Chapman and Hall, London,

First Edition, 1992.

5 Duerig,T. W., Melton, K. N, Stockel, D. and Wayman, C.M., —Engineering aspects of Shapememory Alloys‖, Butterworth – Heinemann, 1990.

6. Conducting Polymers, Fundamentals and Applications A Practical Approach Authors: Chandrasekhar, Prasanna Ashwin-Ushas Corp., Inc. Kluwer Academic Publishers. Boston

Course Objectives:

The objective of Materials and their Applicationsis intended to provide:

- Basic knowledge of materials science, so that they would be able to understand and distinguish between variety of materials based on their structure and properties.
- Concept of Alloys - its classification and applications.
- To understand the fundamentals (structure, properties and processing) of ceramic materials to appreciate its advantages and limitations and to apply those fundamentals for selecting and developing ceramic materials for different engineering applications.
- Understand the basics of polymers and composites- classifications and their properties and applications.

Course Outcome:

After the successful completion of the course, students should be able to:

- Understand and distinguish between variety of materials based on their structure and properties.
- Know the structure and properties of different ceramic materials.
- Understand the structure and properties of nonferrous metals and alloys.
- Classify different types of polymers and composites and their structure –property relationships
- Students will get to know the different classes of materials used in engineering applications and would be able to choose the right materials for specific applications.

B.Sc. Chemistry II Year Semester IV
Skill Enhancement Course- IV (SEC - IV) (2 Credits)
Chemistry of Cosmetics and Food Processing

Unit-I: Chemistry of Cosmetics and Perfumes

A general study including preparation and uses of the following: Hair dye, hair spray, shampoo, sunscreen lotions, lipsticks, talcum powder, nail enamel, creams (cold, vanishing and shaving creams), antiperspirants and artificial flavours. Essential oils and their importance in cosmetic industries with reference to eugenol, geraniol, sandalwood oil, eucalyptus, 2-phenyl ethyl alcohol. Demonstration experiments or illustration of experimental procedures through charts for the preparation of talcum powder, shampoo and vanishing cream. Analysis of deodorants and antiperspirant - Aluminum, Zinc, Boric acid, Chloride and Sulphide.

Unit-II: Food Processing and Food Adulteration

Food processing: Introduction, methods for food processing, additives and preservatives. Food processing- impact on nutrition, analysis of calcium in milk by complexometric titration, spectrophotometric analysis of iron in foods, Spectrophotometric identification and determination of caffeine and benzoic acid in soft drinks. Field Work -Visit to Food Industries. Food adulteration: Adulterants in some common food items and their identification: Pulses, chilli powder, turmeric powder, milk, honey, spices, food grains and wheat flour, coffee powder, tea leaves, vegetable oil, ghee, ice creams, tomato sauce. Field Work-Collection of adulterated food samples, demonstration of a minimum of five experiments for testing adulterants in food items.

References

1. E. Stocchi: Industrial Chemistry, Vol -I, Ellis Horwood Ltd. UK.
2. P.C. Jain, M. Jain: Engineering Chemistry, Dhanpat Rai & Sons, Delhi
3. Sharma, B.K. & Gaur, H. Industrial Chemistry, Goel Publishing House, Meerut (1996).
4. Rameen Devi, Food Processing and Impact on Nutrition, Sc J Agric Vet Sci., AugSep 2015; 2(4A):304-311.
5. W.A. Poucher, Perfumes, Cosmetics and Soaps (1993).
6. Srilakshmi, Food Science. Edition: 3rd (2004). 7. Lillian Hoagland Meyer, Food chemistry (2008).
8. Handbook of Analysis and Quality Control for Fruit and Vegetable Products,S. Ranganna,Tata McGraw-Hill Education, 1986 – Food.
9. Fundamental concepts of applied chemistry J.C Ghosh, S. Chand and Co, Ltd, New Delhi.
10. Applied Chemistry K .Bhagavathi Sundhar, MJP publishers.

Course Objectives:

- Provide knowledge on cosmetics, and related sciences, cosmeceuticals (cosmetics with skin, hair and oral care benefits) and personal care and hygiene products.
- Provide multidisciplinary scientific knowledge to gain expertise in the field and to respond the industry challenges effectively.
- Provide with knowledge on marketing approaches on studying consumer need, need gaps, managing competition and global markets.
- Develop your potential to have a career in this fast growing industry in the area of product development & research, regulatory, quality assurance and manufacturing or pursue academic research in the area or to become an entrepreneur in the field.
- To learn about food preservatives and utility.
- To learn about the nutrition and its impotance.

Course Outcome:

- To create a workforce in application of principles of cosmetic science for the rapidly growing FMCG
- Provide in depth learning in cosmetic science, which will serve as a focus for research into the field of cosmetic science
- This course is designed to provide foundation knowledge of cosmetic principles to address the needs of cosmetic industry.
- Provide practical skills in the area of biology, formulation science and analytical techniques required to scientifically design and develop products.
- Students understand the terms food adulteration and adulterant.
- Students understand the different types of adulterants used in food.
- Students acquire the skill to detect the presence of adulterants in different food samples after having observed the animation and simulation.

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET
AUTONOMOUS
NAAC ACCREDITED "B"

Max marks: 40M
Time: 1 1/2hour

Invigilator Signature

Date: **SEC - Model Paper**

Name: _____ **Roll No._____**
Class: _____ **Semester: IV_____**

. **SECTION-A**

Answer any 4 questions from the following, each question carries 4 marks 4x4=16M

1. UNIT -1
2. UNIT -1
3. UNIT -1
4. UNIT -2
5. UNIT -2
6. .UNIT -2

SECTION-B

Answer all questions, each question carries 12 marks 12x2=24M

7. UNIT -1
8. UNIT -2

B.Sc III yr CHEMISTRY
SEMESTER WISE SYLLABUS
SEMESTER V
Paper-V
Discipline Specific Elective- A (4 credits)

Spectroscopy and Chromatography 60Hrs

Unit I Molecular spectroscopy 15Hrs

Introduction to electromagnetic radiation, interaction of electromagnetic rations with molecules, various types of molecular spectra.

Rotational spectroscopy (Microwave spectroscopy)

Rotational axis, moment of inertia, classification of molecules (based on moment of inertia), rotational energies, selection rules, determination of bond length of rigid diatomic molecules eg. HCl.

Infra red spectroscopy

Energy levels of simple harmonic oscillator, molecular vibration spectrum, selection rules. Determination of force constant. Qualitative relation of force constant to bond energies. Anharmonic motion of real molecules and energy levels. Modes of vibrations in polyatomic molecules. Characteristic absorption bands of various functional groups. Finger print nature of infrared spectrum.

Electronic spectroscopy:

Bonding and antibonding molecular orbitals,electronic energy levels of molecules (σ, π, n), types of electronic transitions:σ-σ*, n-σ*, n-л*, л-л* with suitable examples.Selectionrules,Terminology of chromophore, auxochrome, bathochromic and hypsochromic shifts. Absorption of characteristicsof chromophones: diene, enone and aromatic chromophores. Representation of UV-visible spectra.

Unit II: NMR and Mass Spectrometry 15 Hrs

S5-E-A-II: Proton Magnetic Resonance Spectroscopy

Principles of nuclear magnetic resonance, equivalent and non-equivalent protons, position of signals. Chemical shift, factors affecting chemical shifts, NMR splitting of signals — spin-spin coupling, representation of proton NMR spectrum — Integrations. 'H NMR spectrum of— ethyl bromide, acetaldehyde, 1,1,2-tribromo ethane, ethyl acetate and acetophenone.

Mass Spectrometry

Electron Impact Mass: Basic principles, Nitrogen rule, types of ions: Molecular ion and fragment ions. Representation of mass spectrum, types of peaks (molecular ion peak, base peak and isotopic ion peaks). Determination of molecular formula. Mass spectrum of ethyl chloride, ethyl bromide and acetophenone.

Unit III: Separation techniques – I **l5Hrs**

SS-E-A-III Solvent Extraction - Principle, Methods of extraction: Balch extraction, continuousextraction and counter current extraction. Application — Determination of Iron(III). **Chromatography:** Classifition of chromatograpic methods, principles of differential migration, adsorption phenomenon, nature of adsorbents, solvent systems.

Thin layer Chromatography (TLC): Advantages, preparation of plates, Solid phase and mobile phase used in TLC, eluotopic series, development of the chromatogram, Detection of the spots, visualizing agents, factors effecting Rf values and applications of TLC.

Paper Chromatography: Principle, choice of paper and solvent systems, development of chromatogram **–** ascending, descending, radial and two dimensional chromatography and applications.

Unit IV: Chromatography- II
15Hrs

S5-E-A-I: Column Chromatography- Principle, Types of stationary phases, Column packing **–** Wet packing technique, Dry packing technique. Selection criteria of mobile phase solvents for eluting polar, non-polar compounds and its applications.

Ion exchange chromatography: Principle, cation and anion exchange resins, its application in separation of ions.

Gas Chromatography: Theory and instrumentation (Block Diagram), Types of stationary phases and carrier gases (mobile phase).

High performance liquid chromatography: Theory and instrumentation, stationary phases and mobile phases. Analysis of paracetamol.

Recommended Text Books and Reference Books

1.Fundamentals of Molecular Spectroscopy, Banwell & McCash
2.Organic spectroscopy, William Kemp, Palgrave Macmillan; 2nd Revised edition
3.Spectroscopy, B K Sharma Krishna Prakashan Media, 1981
4.Elements of Organic Spectroscopy, Y R Sharma.
5.Applications of Absorption Spectroscopy of Organic Compounds (English, Paperback,Dyer R.John)
6. Organic Chemistry, Morrison and Boyd, Pearson Publications.
7. Introduction to Spectroscopy by Donald Pavia, Gary Lampman and George Kriz.
Saunders College Division,2001
8. Chemistry text book for B.Sc., published by Telugu Academy, Govt. of Telangana.
9.Analytical Chemistry by David Krupadanam, Universities Press (India) Limiied.

10.Principles of Instrumental Analysis, D.A. Skoog, F.J. Holler, T.A. Nieman, Engage earning India Ed.
11.Fundamentals of Analytical Chemistry 6 th Ed., D. A. Skoog, D.M. West, F.J. Holler,Saunders College Publishing, Fort worth (1992).
12. Instrumental Methods of Analysis. 7'th Ed. Willard, H.H., Merritt, L.L., Dean, J, & Settle,F.A. Wordsworth Publishing Co. Ltd., Belmont, California, USA, i sg8.
13.A Textbook of Quantiitative Inorganic Analysis 7t1i Ed., Vogel, A. I. Prentice Hall.
14.Analytical Chemistry 7 th edition by Gary D. Christian (2004).
15.Separation Methods, M.N Sastry, Himalaya Publication (2004).

Outcomes of Semester-V

- Gaining practical knowledge of handling chemicals and analytical instruments
- Explain principle and Applications of analytical and chromatographic techniques
- Students will be able to describe the common methods and main methods of spectroscopic and chromatographic analysis
- Assess and suggest a particular analytical technique and evaluate sensitivity
- Explain theoretical principle in separation and structure elucidation
- Able to interpret the structure with help of spectra
- Gain knowledge on importance of instrumental methods than chemical methods.
- Gain knowledge on principles involved in various techniques.

Semester - V
Laboratory Course
Paper V Experiments in Physical Chemistry-I

45 h (3 h / w)

1. **Distribution law**
   a) Determination of molecular status and partition coefficient of benzoic acid in Toluene and water.
   b) Determination of distribution coefficient of acetic acid between n-butanol and water.
2. **Electrochemistry**
   a) Determination of cell constant of a conductivity cell.
   b) Verification of Ostwald's dilution law- Determination of dissociation constant (K_a) of acetic acid by conductivity measurements.
3. **Colorimetry**
   a) Verification of Beer's law using $KMnO_4$
   b) Determination of the concentration of the given $KMnO_4$ solution.
4. **Adsorption**
   b) Adsorption of acetic acid on animal charcoal - Verification of Freundlich adsorption isotherm.
5. **Physical constants**
   a) Surface tension and b) viscosity of liquids. (Demonstration Experiment)

Reference books:

1. Senior practical physical chemistry. B. D. Khosla, V.C. Garg, Adarsh Gulati Published by R. Chand & Co.
2. Practical Physical Chemistry: B. Vishwanathan and P.S. Raghavan. Viva Books
3. Practicals in Physical Chemistry by P.S. Sindhu ISBN-10: 1-4039-2916-5 / 1403929165 ISBN-13: 978-1-4039-2916-7 / 9781403929167

Outcomes:

- Developed skills in procedures and instrumentations
- Skills in the scientific method of planning, developing, conducting, reviewing and reporting experiments
- Understanding of the professional and safety responsibilities when working with chemical systems

GOVERNMENT DEGREE COLLEGE FOR WOMENS BEGUMPET, HYDERABAD

III YEAR PRACTICAL MODEL QUESTION PAPER

Semester-V

Duration : 3hrs. Total marks 50

1. Write the principle and procedure with necessary equation. (5M)

2. Five sets of experimental readings (for kinetics) and twelve experimental readings (for instrumentation experiments) with proper tabulation. (15M)

3. Calculation results (10M)

4. Graph (10M)

5. Viva (5M)

6. Record (5M)

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET
AUTONOMOUS

Max marks: 20MARKS **NAAC ACCREDITED "B"**

Time: 1hour **model Internal Question Paper** **Invigilator Signature**

Date: **Internal assessment Test No.1**

CHEMISTRY

Paper-V

Name: _____ **Roll No._____**

Class: _____ **Semester: V_____**

SECTION – A

Answer any 2 questions (5x2=10M)

1. Define chemical shift and coupling constant.
2. Discuss about nitrogen rule.
3. Define chromophore and auxochrome
4. Write characteristic absorption bands of various functional groups

SECTION – B

Answer any one question (10X1=10M)

1. Write Beer Lambert's Law and its limitations ?

(or)

2. Draw mass spectrum of ethyl chloride and acetophenone

GOVERNMENT DEGREE COLLEGE FOR WOMEN
BEGUMPET, HYDERABAD - 16
B.Sc. III YEAR Model question paper
Subject: CHEMISTRY
SEMESTER – V
PAPER - V

Time: 2 Hours **Max. Marks: 60**

Section-A

I. Answer any four of following questions. 4 x 5 = 20

1. Unit-1
2. Unit-1
3. Unit-2
4. Unit-2
5. Unit-3
6. Unit-3
7. Unit-4
8. Unit-4

SECTION –B

Answer the following by selecting any two from each. 4 x10 = 40M

9. a) Unit-1
b) Unit-1
c. Unit-1
d. Unit-1

10. a) Unit-2
b) Unit-2
c. Unit-2
d. Unit-2

11. a) Unit-3
b) Unit-3
c. Unit-3
d. Unit-4

12. a) Unit-4
b) Unit-4
c. Unit-4
d. Unit-4

Semester V

Generic Elective (GE) Course - I (4Credits)
(for B.Sc. Non Chemistry/B.A/B.Com Students)

Chemistry of Cosmetics, Food Processing, Drugs and Pharmaceuticals 60Hrs

Unit-I: Chemistry of Cosmetics and Perfumes 15 Hrs

A general study including preparation and uses of the following: Hair dye, hair spray, shampoo, sunscreen lotions, lipsticks, talcuin powder. nail enamel, creams (cold, vanishing and shaving creams), antiperspirants and artificial flavours. Essential oils and their importance in cosmetic industries with reference to eugenol, geraniol, sandalwood oil, eucalyptus, 2-plienyl ethyl alcohol.
Demonstration experiments or illustration of experimental procedures though charts for the preparation of talcum powder, shampoo and vanishing cream. Chemistry and Applications of deodorants and antiperspirant - Aluminum, Zinc, Boric acid, Chloride and Sulphide.

Unit-II: Food Processing and Food Adulteration 15 Hrs

Food processing: Introduction, methods for food processing, additives and preservatives. Food processing- impact on nutrition,

Food adulteration: Adulterants in some common food items and their identification: Pulses, chilli powder, turmeric powder, milk, honey, spices, food grains and wheat flour, coffee powder, tea leaves, vegetable oil, gliee, ice creams, tomato sauce.
Food Packaging: Definition and function of packaging-Classification of packaging materials- different types of packaging materials such as glass, wood, metal, paper, wood, plastic etc., advantages and disadvantages of each packaging material. Packaging materials and systems: corrugated fibre board boxes, shrink bundles and reusable packages. Effect of packaging materials on nutritive values of food.
Food labelling: Introduction, need and importance.

Unit — III: General Characteristics of Drugs **l5Hrs**
Introduction: Diseases — causes of diseases, Drug — definition and sources.
ADME of drugs (brief) — Absorption, distribution, drug metabolism (in liver), elimination (brief). Toxicity. Examples (i) Zintac (Ranitidine, antacid) (ii) Paracetamol (antipyretic) (iii) Benadryl (Cough syrup). Characteristics of an ideal drug.
Nomenclature of **Drugs:** chemical name — generic name — trade name. Trade names forthe given generic names — (i) Aspirin (ii) Amoxycillin (iii) Ciprofloxacin (iv) ParacetamolM(v) Mebendazole

Drug formulations: Definition — need for conversion of drug into pharmaceutical (drug formulations) — Additives — diluents, binders, lubricants, antioxidants, flavourants, sweeteners, colourants, coating agents. Classification of Drug formulations: oral, parenterals and topical dosage forms —
advantages and disadvantages.
(i) Oral Dosage forms: Tablets (Aspirin — analgesic; Ciprofloxacin - antibacterial). Capsules (Amoxycillin — antibiotic; Omeprazole-antacid). Syrups (B-complex syrup; Benadrjl- Cough Syrup).

(ii) Parenterals (Injection forms): Propranolol (antihypertensive), Heparin (anticoagulant)
(iii) Topical dosage forms: Creams and Ointments
(iv) Antiallergic: Aclometasone (Aclovate), Betamethasone valerate(2%) Multiple purposes,
(v) Anti-itching: Doxepin Zonalon), Antifungal: Miconozole (Dactarin, Neomicol), Ketoconazole, (Nizoral Cream), Fluconazole, Anesthetic- Lidocaine, (Lidocaine ointment) and Antiseptic: Boro Plus Cream, For burns -Iodine ointment

Unit - IV: Classification of Drugs

Classification of drugs based on therapeutic action- Chemotherapeutic agents, Pharmacodynamic agents and drugs actilig on iiietabolic processes.

Brief explanation for the following:

(i) **Chemotheraupetic agents:** Antimalarials Chloroquine; Antibiot ic — AmoXICillin; Antitubercular drugs — isoniazide; Antiprotozoa ls — metronidazole.

(ii) Pharmcodynamic agents:

(a) Drugs acting on CNS: Diazepam (CNS depressant), General anesthetic (thiopenta l sodium), antipyretic and analgesic (Iburofen)

(b) Drugs acting on PNS: local anaesthetics (Benzocaine)

(c) Drugs acting on cardiovascular system: Metoprolol (antihypertensive agents), Nefidipine antianginal and antihypertensive agent)

(d) Drugs acting on renal system: Diuretics (Acetazolamide)

(iii) Drugs acting on metabolic processes:

(a) Vitamins: Common name, source, deficiency, vitamin A, B2, B6, C, D, E and K — remedy

(b) Hormones: Function (brief) - deficiency of hormones (Insulin, Testosterone and Osterone)

Course Objectives:

The objective of GE-1 is intended to provide:

- Basic knowledge on cosmetics and perfumes which are used in daily life
- Basic knowledge on adulteration of food
- Have an idea of processing food and packing of food
- Basic knowledge in pharmaceuticals in addition to understand the types of diseases, drugs used to cure specific diseases, concept of ADME, mode of action etc.
- To create interest among the students by illustrating the development of vaccines, drugs etc. that are used in treating common diseases.

- To make them understand the terminology used in pharmaceuticals such as pharmacy, pharmacokinetics, Pharmacodynamics,receptors etc.
- To have a basic knowledge of drug formulation, dosage forms, classification of drugs etc., so that it will be very useful in their day to day life.
- The importance of vitamins, harmones in the growth and development of human body.

Course Outcome:

After the successful completion of the course, students should be able to:

- Chemicalswhich are used to prepare cosmetics and perfumes
- Broad idea of adulteration of food and how to identify adultered food
- Develop skills on food processing and food packing methods
- Differentiate the diseases according to the symptoms.
- Classify the drugs based upon chemotherapy, Pharmacodynamics properties.
- Describe development, regeneration and normal function of body systems.
- Select the dose for a drug.
- Formulate and evaluate conventional dosage forms.
- Develop the drug synthesis.

Recommended Text Books and Reference Books

I. Industrial Chemistry, Vol -1, E. Stocchi, Ellis Horwood Ltd. UK.
2. Engineering Chemistry, P.C. Jain, M. Jain, Dhanpat Rai & Sons, Delhi.
3. Industrial Chemistry, Sharma, B.K. & Gaur, H. , Goel Publishing House, Meerut (1996).
4. Food Processing and Impact on Nutrition, Rameen Devi, Sc J Agric Vet Sci., Aug-Sep 2015; 2(4A):304-311.
5. Perfumes, Cosmetics and Soaps , W.A. Poacher, (1993).
6. A first course in food analysis by A Y Sathe
7. Food Science by N.Potter, CBS pub[isliers
8. Food chemistry, Lillian Hoagland Meyer, (2008).
9. A Handbook of food packaging by F. A. Paine and H.Y. Paine.
10. Fundamental concepts of applied chemistry 3.C GhOSll, S. Chand and Co, Ltd, New Delhi.
I I. Applied Chemistry K .Bhagavathi Sundliar, MIP publishers.
12. Drugs by G.L,David Krupadanam, D.Vijaya Ptasad, K.Varaprasad Rao, K.L.N. Reddy, C.Sudhakar , Universities Press (India) Limited 2007.

13.An Introduction to Medicinal Chemistry by Graham L. PntfiCk, Oxford University Press, New York. 1995

B.Sc. Chemistry III Year

Semester-VI, Paper-VI

Discipline specific elective-A(4 Credits)

Medicinal Chemistry **60Hrs**

Unit- I:Introduction and Terminology **15Hrs**

S6-E-A-I: Diseases: Common diseases, infective diseases–insect borne, air-borne, water-borne and hereditary diseases.

Terminology in Medicinal Chemistry: Drug, Active pharmaceutical ingridients(API),Phrmaceuticals,Pharmacology, Pharmacophore, Pharmacodyna-mics, Pharmacokinetics, metabolites, anti metabolites and therapeutic index.

Drugs: Nomenclature: Chemical name, Generic name and Trade names with examples;

Classification: Classification based on structures and therapeutic activity with examples.

ADMET: a) Absorption: Definition, absorption of drugs across the membrane – active and passive absorption, routes of administration of drugs. b) Distribution: definition and effect of plasma protein binding. c) Metabolism: definition, phase I and phase II reactions.d) Elimination: definition and renal elimination. e) Toxicity

Unit-II: Enzymes and Receptors **15Hrs**

S6-E-A-II: Enzymes: Introduction. Mechanism and factors affecting enzyme action, Specificity of enzyme action (including stereo specificity), Enzyme inhibitors and their importance. Types of inhibition - reversible, irreversible and their subtypes with examples.

Receptors: Introduction, Drug action-receptor theory, Mechanism of drug action, concept of agonists and antagonists with examples. Drug receptor interactions involved in drug receptorcomplex. binding role of –OH group, -NH_2 group, quaternary ammonium salts and double bond. Structure – activity relationships of drug molecules, explanation with sulfonamides.

Unit- III: Synthesis and Therapeutic Activity of Drugs **15Hrs**

S6-E-A-III: Introduction, synthesis and therapeutic activity of :

Chemotherapeutics: Sulphanilamide, dapsone, Pencillin-G (semi synthesis), Chloroquin, Isoniazid, Cisplatin and AZT.

Drugs to treat metabolic disorders: Anti diabetic - Tolbutamide; Antiinflammatiory –

Ibuprofen; Cardiovascular- Glyceryl trinitrate; Antipyretic (paracetamol, aspirin) and Antacid- Omeprazole.

Drugs acting on nervous system: Anesthetics-definition, Classification-local and general. Volatile- Nitrous oxide, chloroform uses and disadvantages. Local anesthetics – benzocaine.

Unit- IV: Molecular Messengers and Health Promoting Drugs 15Hrs

S6-E-A-IV: Molecular Messengers: Introduction to hormones and neurotransmitters, Thyroid hormones, Antithyroid drug-Carbimazol. Adrenaline: Adrenergic drugs- salbutamol, atenelol. Serotonin: SSRIs- fluoxetine. Dopamine: Antiparkinson drug- Levodopa .

Health promoting drugs: Introduction, sources, Deficiency disorders and remedy of Vitamins A,B, C, D, E K and micronutrients – Na, K, Ca, Cu, Zn and I .

Reference books

1. G.L. Patrick: Introduction to Medicinal Chemistry, Oxford University Press, New York. 2013.
2. Thomas Nogrady, Medicinal Chemistry, Oxford Univ. Press, New York.2005.
3. David William and Thomas Lemke, Foye's Principles of Medicinal Chemistry, Lippincott Williams & Wilkins, 2008.
4. Ashutosh Kar Medicinal Chemistry, New Age International, 2005.
5. O.D.Tyagi & M.Yadav Synthetic Drugs by, Anmol Publications,1998.
6. Medicinal Chemistry by Alka L. Gupta, Pragati Prakashan.
7. G. L. David Krupadanam, D.Vijaya Prasad, K.Varaprasad Rao, K. L. N. Reddy, C. Sudhakar, Drugs, Universities Press (India) Ltd. 2012.

Objectives and outcomes of semester-VI

- Basic knowledge in pharmaceuticals in addition to understand the types of diseases, drugs used to cure specific diseases, concept of ADME, mode of action etc.
- Differentiate the diseases according to the symptoms.
- Classify the drugs based upon chemotherapy, Pharmacodynamics properties.
- Understanding of basic biological and pharmacological interactions
- Use of corresponding knowledge for the development of clinically active drugs
- Drug design and analytical methods
- Relate the structure and physical properties of drugs to pharmacological activity
- Correlating the pharmacology of disease and its cure
- Drug metabolic pathways, adverse effect and therapeutic value of drug
- Chemical synthesis of some drugs
- The importance of vitamins, harmones in the growth and development of human body.

Semester - VI

Laboratory course

Experiments in Physical Chemistry-II

Paper VI (Physical Chemistry) 45hrs (3 h/w)

1. **Kinetics**

a) Determination of specific reaction rate of the hydrolysis of methyl acetate catalyzed by hydrogen ion at room temperature.

b) Determination of rate of decomposition of hydrogen peroxide catalyzed by $FeCl_3$.

2. **Electrochemistry**

A. Potentiometry:

b) Determination of redox potential of Fe^{2+}/Fe^{3+} by potentiometric titration of ferrous ammonium sulphate vs. potassium dichromate.

c) Precipitation titration of KCl vs. $AgNO_3$ -Determination of given concentration of silver nitrate.

B. pH metry:

a) pH metric titration of strong acid (HCl) vs. strong base- Determination of the concentration of the given acid.

b) pH metric titration of weak acid(acetic acid) with strong base(NaOH).- Determination of acid dissociation constant (K_a) of weak acid.

3. **Conductometry:**

Determination of overall order: Saponification of ethyl acetate with NaOH by conductance measurements.

Objectives and outcomes:

- Developed skills in procedures and instrumentations
- Gain knowledge on Principle involved in conductometry, potentiometry and pH metry and their uses in qualitative and quantitative analysis.
- Skills in the scientific method of planning, developing, conducting, reviewing and reporting experiments
- Understanding of the professional and safety responsibilities when working with chemical systems

Paper Code: /CBCS

GOVERNMENT DEGREE COLLEGE FOR WOMEN
BEGUMPET, HYDERABAD - 16
B.Sc. III YEAR Model question paper
Subject: CHEMISTRY
SEMESTER – VI
PAPER – VI

Time: 2Hours **Max. Marks: 60**

Section-A

I. Answer any four of the following questions. 4 x 5 = 20

1. Unit-1
2. Unit-1
3. Unit-2
4. Unit-2
5. Unit-3
6. Unit-3
7. Unit-4
8. Unit-4

SECTION –B

Answer the following by selecting any two from each. 4 x10 = 40M

9. a) Unit-1
   b) Unit-1
   c. Unit-1
   d. Unit-1

10. a) Unit-2
    b) Unit-2
    c. Unit-2
    d. Unit-2

11. a) Unit-3
    b) Unit-3
    c. Unit-3
    d. Unit-4

12. a) Unit-4
    b) Unit-4
    c. Unit-4
    d. Unit-4

GOVERNMENT DEGREE COLLEGE FOR WOMEN (AUTONOMOUS)

BEGUMPET, HYDERABAD-16

Affiliated To Osmania University, Re-Accredited With 'A^{+}' Grade by NAAC

DEPARTMENT OF GENETICS

POs, PSOs, COs, SYLLABUS (2021-2022)

PROGRAMME OUTCOMES

PO 1 Domain Expertise:

- Acquire comprehensive knowledge and skills.
- Make use of the knowledge in an innovative manner.
- Effectively apply the knowledge and skills to address various issues.

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PO 2 Modern equipment Usage

- Use ICT effectively.
- Access, retrieve and use authenticated information.
- Access, retrieve and use authenticated information. Have knowledge of software applications to analyze data.

PO 3 Computing Skills and Ethics

- Develop rationale and scientific thinking process.
- Use technology intelligently for communication, entertainment and for the benefit of mankind.
- Ensure ethical practices throughout ones endeavors for the wellbeing of human race.

PO 4 Complex problem Investigation & Solving

- Predict and analyze problems.
- Frame hypotheses.
- Investigate and interpret empirical data.
- Plan and execute action.

PO 5 Perform effectively as Individuals and in Teams

- Work efficiently as an individual
- Cooperate, coordinate and perform effectively in diverse teams/groups.
- Prioritize common interest to individual interest.

PO 6 Efficient Communication & Life Skills

- Express thoughts in an effective manner

- Listen, understand and project views in a convincing manner.
- Decide appropriate media to share information
- Develop skills to present significant information clearly and concisely to interested groups.

PO 7 Environmental Sustainability

- Understand sensibly the Environmental challenges.
- Think critically on environment sustainability measures.
- Propagate and follow environment friendly practices.

PO 8 Societal contribution

- Render service for the general good of the society.
- Involve voluntarily in social development activities at Regional, National, global levels.
- Have own pride in volunteering to address societal issues viz: calamities, disasters, poverty, epidemics.
- Be a patriotic citizen to uphold the values of the nation

PO 9 Effective Project Management

- Identify the goals, objectives and components of a project and decide the appropriate time of completion.
- Plan, organize and direct the endeavors of teams to achieve the set targets in time.
- Be competent in identifying opportunities and develop strategies for contingencies.

PROGRAMME SPECIFIC OUTCOMES

1. Microbiology, Chemistry , Genetics [MCG]

PSO1- Can understand distribution, morphology and physiology of microorganisms

PSO2- Acquire skills in aseptic procedures, isolation and identification.

PSO3- Can understand concepts of immunology, virology, Microbial diversity and DNA Technology.PSO4- The students will understand the existence of matter in the universe as solids, liquids, and gases which are composed of molecules, atoms and subatomic particles.

PSO5 - Students will learn to estimate inorganic salt mixtures and organic compounds both qualitatively and quantitatively using the classical methods of analysis in practical classes.

PSO6 - Know the fundamental principles of organic/Inorganic /Physical /General chemistry and predict applications of all chemical reactions.

PSO7 - Understand the basics of genetic inheritance

PSO8 – Learn all about DNA and its manipulation

PSO9 – Apply DNA technology in various fields like diagnosis of diseases, improve crop quality and livestock

2. ZOOLOGY, CHEMISTRY, GENETICS [ZCG]

PSO1- Demonstrated a broad understood of animal diversity, including knowledge of the scientific classification and evolutionary relationships of major groups of animals

PSO2- Recognized the relationships between structure and functions at different levels of biological organization (e.g., molecules, cells, organs, organisms, populations, and species) for the major groups of animals.

PSO3- Characterized the biological, chemical, and physical features of environments (e.g., terrestrial, freshwater, marine, host) that animals inhabit.

PSO4- The students will understand the existence of matter in the universe as solids, liquids, and gases which are composed of molecules, atoms and subatomic particles.

PSO5 - Students will learn to estimate inorganic salt mixtures and organic compounds both qualitatively and quantitatively using the classical methods of analysis in practical classes.

PSO6 - Know the fundamental principles of organic/Inorganic /Physical /General chemistry and predict applications of all chemical reactions.

PSO7 - Understand the basics of genetic inheritance

PSO8 – Learn all about DNA and its manipulation

PSO9 – Apply DNA technology in various fields like diagnosis of diseases, improve crop quality and livestock

Department of Genetics GDC(W) Begumpet
Syllabus 2021-22

Course outcomes:

CO1 : Understand the basic patterns of inheritance according to classical Mendelian theory.
CO2 : Learn about cell cycle and its significance in Genetics.
CO3 : Understand and analyse how gene variation occurs during cell division due to linkage.
CO4 : Understand the structure and function of the Chromosomes.
CO5 : Learn to identify the chromosomal abnormalities,phases of cell division.

Semester 1 - DSC I BS 101 Transmission Genetics

Unit 1: Mendelian inheritance and its extensions

1.1. Mendel's experiments; Law of segregation, monohybrid cross, reciprocal cross, back cross, test cross; Law of independent assortment, dihybrid cross; Chromosomal theory of Inheritance.
1.2. Variations to dominance- Co-dominance and Incomplete dominance; Lethal and Sub-lethal genes, Penetrance and Expressivity; Pleiotropism; Multiple alleles- Eye colour in Drosophila, ABO blood groups in human; Rh Blood group incompatibility; Self incompatibility in plants.
1.3. Gene interactions– types of epistasis (9:7; 9:3:4; 9:6:1; 12:3:1; 15:1)
1.4. Multifactorial inheritance: Features of quantitative inheritance- additive effect, Kernel colour and size in wheat /maize, skin color in man.
1.5. Sex linked inheritance – X-linked and Y-linked traits – holandric genes, SRY gene; Sex limited and sex influenced traits; Sex determination –mechanisms of sex determination in Drosophila and Human.
1.6. Non-medelian inheritance: Plastid inheritance – Variegation in *Mirabilusjalapa;* Maternal effects and inheritance – Shell coiling in snails, Poky mutants in *Neurospora*.

Unit II: Chromosome structure, chromatin organization and variation

4.1Chromosome morphology- size and shape; Euchromatin and Heterochromatin constitutive and facultative heterochromatin.
4.2 Components of chromatin, histones &non-histones.
4.3 Packing of DNA into chromatin – Nucleosome and higher order organization.
4.4 Specialized Chromosomes – Lampbrush chromosomes, Polytene Chromosomes
4.5 Structural chromosomal aberrations - duplications, deletions, inversions & translocations with examples, Genetic consequences.
4.6 Numerical chromosomal aberrations – aneuploidy, euploidy auto-polyploidy and allo-polyploidy, Genetic consequences.

Unit III: Linkage, Crossing over and Gene mapping

2.1 Discovery of linkage – Phases of linkage
2.2 Chiasmata and Crossing over formation– Recombination
2.3 Cytological proof for crossing over – Curt Stern and McClintock experiments
2.4 Linkage analysis – Recombination frequencies, Two-point and Three-point crosses
2.5 Gene mapping – Coincidence and Interference, Determination of gene order
2.6 Gene mapping in Neurospora – Tetrad analysis; Mitotic recombination in *Aspergillus* and Drosophila

Unit IV: Cell division and Chromosome segregation.
3.1 Eukaryotic Cell cycle – Phases of cell cycle G0, G1, S, G2
3.2 Regulation of cell cycle cyclins, CDK proteins, role of p_{53} in cell cycle
3.3 Mitosis – Stages in mitotic cell division- significance of mitosis
3.4 Meiosis – Formation of Synaptonemal complex, crossing over, chiasma formation, significance of meiosis.
3.5 Apoptosis – extrinsic & intrinsic pathways, & significance
3.6 Senescence, Necrosis –characteristics & mechanisms

Practicals
1. Identification of normal and mutant stocks of Drosophila
2. Drosophila- monohybrid and dihybrid segregation
3. Problems on Mendelian segregations- monohybrid, dihybrid and trihybrid crosses; multiple alleles, non-allelic interactions, multi-factorial inheritance; linkage and mapping of genes.
4. Neurospora – tetrad analysis
5. Study of Mitosis in Onion root tips
6. Study of Meiosis in Maize/Grasshopper
7. Preparation of Drosophila salivary gland chromosomes – Polytene chromosomes
8. Identification of structural and numerical aberrations

Recommended Books
1. Genetics by Gardener
2. Theory and problems in Genetics by Stansfield
3. Introduction to Genetic Analysis by Suzuki, Griffith, Richard and Lewontin
4. Genetics by Strickburger
5. Genetics by Snustad & Simmonds
6. Principles of Genetics by Tamarin
7. Cell & Molecular Biology – E.D.D. De Robertis & E.M.F. De Robertis

Semester 2 DSC II- Molecular Genetics

Course outcomes:

CO1 : Understand how DNA is duplicated and also its functions.
CO2 : Learn about the structure of the gene and expression.
CO3 : Learn how gene expression is regulated.
CO4 : Application of gene transfer technology in various fields.
CO5 : Learn to extract, purify and quantify DNA and RNA.

Unit 1: Nucleic acids, DNA replication & DNA repair

1.1 DNA as the genetic material-Griffiths transformation experiment, Avery, MacLeod and McCarty's experiments and Hershey & Chase phage-labelling experiment; RNA as genetic material- tobacco mosaic virus

1.2 Chemistry of Nucleic acids- Nucleotides, Franklin's X-ray crystallography, Chargaff's rule, Watson-Crick model and forms of DNA (A, B & Z); types of RNA (rRNA, mRNA & tRNA)
1.3 DNA replication-conservative, semi-conservative and dispersive models, Meselson–Stahl experiment; Mechanisms of DNA replication-linear, circular, rolling circle, D loop and θ- models.
1.4 DNA replicative enzymes (DNA polymerases, helicase, primase, ligase, telomerase, nuclease & topoisomerases) and proteins (initiator protein & single strand binding proteins);
1.5 Mutations: types of mutations- transition, transversion, frame shift, silent, missense and nonsense; Induced mutations- physical and chemical mutagens; spontaneous mutations
1.6 DNA damage and repair mechanisms - direct, excision and mismatch, SOS non homologous end joining(NHEJ)

Unit II: Gene expression in Prokaryotes & Eukaryotes
2.1 Structure of prokaryotic gene; Structure of eukaryotic gene; structure and functions of RNA polymerase & it'ssubunits in prokaryotes
2.2 Transcriptional machinery in eukaryotes (RNA polymerases) and their structural and functionalfeatures
2.3 Genetic code-properties, deciphering of genetic code, Wobble hypothesis
2.4 Transcription mechanism-initiation, elongation & proof reading, termination (rho independent & rho dependent)
2.5 Transcription in eukaryotes-Initiation, elongation & termination factors
2.6 Translation mechanism- initiation, elongation andtermination

Unit III: Gene regulation in prokaryotes & eukaryotes
3.1 Prokaryotic transcriptional regulation (inducible system) - Operon concept- lac operon & glucose effect
3.2 Prokaryotic transcriptional regulation (repressible system) – tryptophan operon
3.3 Post-transcriptional modifications- capping, poly- adenylation
3.4 Splicing and alternate splicing, rRNA and tRNA splicing
3.5 Post-translational modifications-glycosylation, lipidation, acetylation, ubiqutination and chaperones
3.6 Gal locus regulation in yeast- regulation of mating type

Unit IV: Microbial Genetics & Genetic Engineering
4.1 Transformation- competence of bacterial cells; mechanism of transformation; gene mapping by transformation; Transduction: generalized transduction, co-transduction and linkage; Mapping by co-transduction, Specialized transduction.
4.2 Conjugation- unidirectional gene transfer- F^+ and F^- High frequency recombination, Gene mapping by conjugation
4.3 Introduction to r-DNA technology; enzymes used in molecular cloning- restriction endonucleases, DNA modifying enzymes- methylases, polymerases, ligases and phosphatases.
4.4 Vectors used in cloning: *E.Coli*, plasmid vectors- pBR322, pUC vectors; cosmids; shuttle vectors- yeastvectors
4.5 Strategies for genomic libraries and cDNA libraries construction
4.6 Screening for detection of cloned genes-antibiotic resistance, blue-white screening; Blotting techniques (Southern, Western & Northern), Applications of genetic engineering in agriculture and medicine.

Practicals

1. Extraction of genomic DNA
2. Quantification of DNA by spectrophotometer
3. Agarose gel electrophoresis of DNA
4. Estimation of DNA by DPA method
5. Estimation of RNA by orcinol method
6. Effect of UV on bacterial growth
7. Preparation of competent cells of bacteria
8. Problems on restriction mapping

Recommended Books

1. Principles of Genetics- Irwin Herscowitz
2. Molecular Biology of the gene- Watson, Hopkins, Roberts, Steitz and Weiner
3. Genes- Benjamin Levin
4. General virology- Luria, Darnell, Baltimore and Campbell
5. Molecular Biology- David Frefielder
6. Practical Microbiology- Aneja
7. Microbial Genetics By Maloy, Freifelder
8. Molecular Genetics By Gunther and Stent
9. Genetic Analysis By Griffith, Suzuki and others
10. Gene cloning and DNA analysis: an introduction / T.A. Brown

Government Degree College for Women (Autonomous)

Begumpet, Hyderabad-500016

Affilated to Osmania University, Re-Accredited with'B+' Grade by NAAC

CHOICE BASED CREDIT SYSTEM(CBCS)

DEPARTMENT OF PHYSICS

SYLLABUS MODEL PAPERS AND

BOARD OF STUDIES MINUTES

2021-22

AGENDA FOR THEBOARD OF STUDIES MEETING FOR THE YEAR 2021-22

The Board of studies meeting of the Faculty of PHYSICS, GDCW, Begumpet, Hyderabad-16 was held on 11-10-21 at GDCW Begumpet under the Guidance of Dr.Ch.Kanchana Latha,

Head of the Department PHYSICS to discuss and resolve the following agenda:

1. Reapproval of Structure of Credits for Semester-I and II, Semester III and IV of the Physics for the Academic year 2021-22 under CBCS.
2. Approval of syllabus of Semester V and VI programme for the Academic year 2021-22 under CBCS.
3. Approval of Examination pattern.
4. Approval of Panel of Examiners.
5. Any other matter with the permission of the chairperson.

Roll Call: The following members were present:

Sl.No.	Name & Designation	Status	Signature
1.	**Dr.Ch. Kanchana Latha**, **Assistant Professor of Physics**, Head, Department of Physics, Government Degree College for Women, Begumpet, Hyderabad	Chairperson, Board of Studies, Department of Physics, Osmania University, Hyderabad	
2.	**Dr. M. Srinivas**, **Professor of Physics**, Department of Physics, Osmania University, Hyderabad	University Nominee, Osmania University, Hyderabad	
3.	**Smt. P. Anitha,** **Assistant Professor**, Department of Physics, SB&GNR Degree College, Khammam, Kakatiya University, Warangal	Member	
4.	**Sri B. Srinivas Goud,** **Assistant Professor of Physics**, Government Degree College, Jangaon, Kakatiya University, Warangal	Member	
5.	**Dr. K. Sundara Murthy,** **Assistant Professor of Physics**, Government Degree College for Women, Begumpet, Hyderabad	Member	
6.	**Smt. N. Anitha,** **Lecturer in Physics**, Government Degree College for Women, Begumpet, Hyderabad	Member	
7.	**Ms. Ch. Mounika**, 16011085468009 M.Sc.(Physics), @St.Pious X Degree and PG College for Women	Member	

Government Degree College for Women, Begumpet, (Autonomous), Hyderabad
Composition of the Board of Studies

1.	**Chairperson, Board of Studies, Department of Physics, Osmania University, Hyderabad**	**Dr.Ch. Kanchana Latha,** **Assistant Professor of Physics**, Head, Department of Physics, Government Degree College for Women, Begumpet, Hyderabad
2.	**One person to be nominated by the Vice-Chancellor from a panel of six recommended by the Principal**	**Dr. M. Srinivas,** **Professor of Physics,** Department of Physics, Osmania University, Hyderabad
3.	**Two subject experts from outside parent University to be nominated by Academic Council**	**Smt. P. Anitha,** **Assistant Professor of Physics**, Department of Physics, SB&GNR Degree College, Khammam, Kakatiya University, Warangal
		Sri B. Srinivas Goud, **Assistant Professor of Physics**, Government Degree College, Jangaon, Kakatiya University, Warangal
4.	**The entire faculty of each specialization**	**Dr. K. Sundara Murthy,** **Assistant Professor of Physics**, Government Degree College for Women, Begumpet, Hyderabad
		Smt. N. Anita, **Lecturer in Physics**, Government Degree College for Women, Begumpet, Hyderabad
	Visiting faculty	**Dr.G.Manoj Kumar** **Professor of Physics**, University of Hyderabad
5.	**One Post Graduate Meritorious Alumnus to be nominated by Principal, The Chairman, Board of Studies may with approval of the Principal of the College**	**Ms. Ch. Mounika**, 16011085468009 M.Sc.(Physics), @St.Pious X Degree and PG College for Women
6.	**Experts from outside the College, whenever special courses of studies are to be formulated**	**Sri M.Venkata Reddy**, Scientist-F, Head, NDE Division, DRDL. Dr.APJ Abdul Kalam Missile Complex, Kanchanbagh, Hyderabad.

MINUTES

Min-1/SEP 2021: It was resolved to Reapprove the Structure of Credits for Semester-I and II, Semester III and IVof the Physics programme as given by the Department of Physics,

Osmania University for the Academic year 2021-22 under CBCS.

Min-2/SEP 2021: It was resolved to approve the syllabus of Semester V and VI of the Physics programme of the Department of Physics, Osmania University for the Academic Year 2021-22 under CBCS.

Min-3/SEP 2021: It was resolved to approve the Examination Pattern as mentioned below:

(B.Sc **PHYSICS)** of First year, Second year and Final year for Semester I, II,III ,IV,V & VI)

MAX. MARKS: 100 (40 Internal + 60 External)

(A) Internal Assessment (Max 40 Marks)

a) Internal Written : 20 Marks
b) 4MCQ's : 10 Marks
c) Seminar : 5 Marks
d) Assignments : 5 Marks
Total : 40 Marks

Note: Average marks of two internal written tests will be considered.

(B) External Assessment (Max.60 marks) [Pass mark: 24] [Time: 2 ½ Hrs]

Part-A

I.Answer any five of the following questions (5 x4m = 20 marks)

(Any five of the eight questions given)

Part-B

II. Answer the following Questions (5 x 8 m= 40 marks)

(Five questions with internal choice for each unit)

Minute-4 / Sep 2021: It was resolved to approve the Panel of Examiners

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET,HYD-16

(An autonomous college of Osmania University)

Re-Accredited by NAAC with "B" Grade

Faculty of PHYSICS

STRUCTURE OF B.Sc Course w.e.f the academic year2021-2022

B.Sc(MPC,MPCS,MPS)PROGRAMME

FIRST YEAR

SEMESTER:I

SL.NO	CODE NO	TITLE OF THE PAPER	HPW	CREDITS	EXAM DURATION	MAX MARKS
1.	ELS1	English (First Language)	4	4		
2.	SLS1	Second Language	4	4		
3.	**AECC1**	**a)Environmental Science/** b)Basic Computer Skills	**2**	**2**	**1 ½ hours**	**50 marks**
4.	**3311**	**Mathematics-I**	**(4T+3P)**	**5**	**2 ½ hours**	**60 E+40 I=100**
5.	**3311**	**PHYSICS-I**	**(4T+3P)**	**5**	**2 ½ hours**	**60 E+40 I=100**
6.	**3311**	Chemistry/comp.science	**(4T+3P)**	5	**2 ½ hours**	**60 E+40 I=100**
		Total	**27**	**25**		

SEMESTER:II

SL.NO	CODE NO	TITLE OF THE PAPER	HPW	CREDITS	EXAM DURATION	MAX MARKS
1.	ELS2	English (First Language)	4	4		
2.	SLS2	Second Language	4	4		
3.	**AECC2**	**a)Basic Computer Skills/** b)Environmental Science	**2**	**2**	**1 ½ hours**	**50 marks**
4.	**3311**	**Mathematics-II**	**(4T+3P)**	**5**	**2 ½ hours**	**60 E+40I=100**
5.	**3311**	**PHYSICS-II**	**(4T+3P)**	**5**	**2 ½ hours**	**60 E+40I=100**
6.	**3311**	Chemistry/comp.science-II	**(4T+3P)**	5	2 ½ hours	60 E+40I=100
		Total	**27**	**25**		

SECOND YEAR
SEMESTER:III

S.NO	CODE NO	TITLE OF THE PAPER	HPW	CREDITS	EXAM DURATION	MAX MARKS
1.	ELS3	English (First Language)	3	3		
2.	SLS3	Second Language	3	3		
3.	**SEC1 UGC Specified Course**	a)Communication Skills **b)Professional Skills**	**2**	**2**	**1½ hours**	**40 E +10I=50**
4.	**SEC2 Dept. Specified Course**	**a)Digital Electronics**	**2**	**2**	**1½ hours**	**40 E +10I=50**
5.	**3311**	**Mathematics-III**	**(4T+3P)**	**5**	**2 ½ hours**	**60 E+40I=100**
6.	**3311**	**PHYSICS-III**	**(4T+3P)**	**5**	**2 ½ hours**	**60 E+40I=100**
7.	**3311**	**Chemistry/comp.science -III**	**(4T+3P)**	5	2 ½ hours	60 E+40I=100
		Total	**27**	**25**		

SEMESTER:IV

S.NO	CODE NO	TITLE OF THE PAPER	HPW	CREDITS	EXAM DURATION	MAX MARKS
1	ELS4	English (First Language)	3	3		
2	SLS4	Second Language	3	3		
3	**SEC3 UGC Specified Course**	**a)Leadership & Management Skills** b)Universal Human Values	**2**	**2**	**1½ hours**	**40 E +10I=50**
4	**SEC4 Dept. Specified Course**	a)**Basic Instrumentation**	**2**	**2**	**1½ hours**	**40 E +10I=50**
5	**3311**	**Mathematics-IV**	**(4T+3P)**	**5**	**2 ½ hours**	**60 E+40I=100**
6	**3311**	**PHYSICS-IV**	**(4T+3P)**	**5**	**2 ½ hours**	**60 E+40I=100**
7	**3311**	**Chemistry/comp.science-IV**	**(4T+3P)**	5	2 ½ hours	60 E+40I=100
		Total	**27**	**25**		

THIRD YEAR
SEMESTER:V

S. NO	CODE NO	TITLE OF THE PAPER	HPW	CREDITS	EXAM DURATIO N	MAX MARKS
1	ELS5	English (First Language)	3	3		
2	SLS5	Second Language	3	3		
3	**GE**	**a)Renewable Energy Resources**	**4**	**4**	**3 hours**	**100**
4	**3311**	**Mathematics-V**	**(4T+3P)**	**5**	**2 ½ hours**	**60 E+40I=100**
5	**3311**	**PHYSICS-V**	**(4T+3P)**	**5**	**2 ½ hours**	**50 E+35p+15I=100**
6	**3311**	**Chemistry/comp.science-V**	**(4T+3P)**	5	2 ½ hours	60 E+40I=100
		Total	**27**	**25**		

SEMESTER:VI

S.NO	CODE NO	TITLE OF THE PAPER	HPW	EXAM DURATION	MAX MARKS	CREDITS
1	ELS6	English (First Language)	3	3		
2	SLS6	Second Language	3	3		
3	**PR**	**Research Methodology and Project Report/CORE PAPER**	**2T+4R**	**4**	**1 ½ hours**	**40E+10I+35R+15V.V**
4	**3311**	**Mathematics-VI**	**(4T+3P)**	**5**	**2 ½ hours**	**60 E+40I=100**
5	**3311**	**PHYSICS-VI**	**(4T+3P)**	**5**	**2 ½ hours**	**50 E+35p+15I=100**
6	**3311**	**Chemistry/comp.science-VI**	**(4T+3P)**	5	2 ½ hours	60 E+40I=100
		Total	**27**	**25**		

ELS: English Language Skill; SLS: Second Language Skill; AEC: Ability Enhancement Compulsory Course; SEC: Skill Enhancement Course; DSC: Discipline Specific Course; DSE: Discipline Specific Elective; GE: Generic Elective; T: Theory; P: Practical; I: Internal Exam U: University Exam: PR: Project Report; VV: Viva-Voce Examination.

Note: If a student should opt for “a” in SEC in III semester, the student has to opt for “a” only in IV semester and so is the case with “b” and “c”.

SUMMARY OF CREDITS

Sl. No.	Course Category	No. of Courses	Credits Per Course	Credits
1.	English Language	6	4/3	20
2	Second Language	6	4/3	20
3	AECC	2	2	4
4	SEC	4	2	8
5	GE	1	4	4
6	Project Report /CORE PAPER	1	4	4
7	PHYSICS (T+P)	30	5	30
	TOTAL	50		150
CREDITS UNDER NON-CGPA		NSS/NCC/Sports/Extra Curricular	Up to 6 (2 in each year)	
		Summer Internship	Up to 4 (2 in each after I & II years)	

Proposed Scheme for B.Sc., (Credits)

w.e.f. 2019-20

Courses		No. of Papers	Total Credits	Credits for each paper/ Semester					
				B.Sc.					
				I	II	III	IV	V	VI
Core Courses DSC	Optional-1	4	20	5	5	5	5	-	-
	Optional-2	4	20	5	5	5	5	-	-
	Optional-3	4	20	5	5	5	5	-	-
Elective Courses DSE	Optional-1	2	10	-	-	-	-	5	5
	Optional-2	2	10	-	-	-	-	5	5
	Optional-3	2	10	-	-	-	-	5	5
Language	English (First Language)	5	20	4	4	3	3	3	3
	Second Language	5	20	4	4	3	3	3	3
Ability Enhancement Compulsory Course AECC	Environmental Science/Basic Computer Skills	1	2	2	-	-	-	-	-
	Basic Computer Skills/ Environmental Science	1	2	-	2	-	-	-	-
Skill Enhancement Course SEC	SEC1	1	2	-	-	2	-	-	-
	SEC2	1	2	-	-	2	-	-	-
	SEC3	1	2	-	-	-	2	-	-
	SEC4	1	2	-	-	-	2	-	-
Generic Elective GE	Open Stream	1	4	-	-	-	-	4	-
Project Work/Optionals		1	4	-	-	-	-	-	4
Total Credits in each semester				25	25	25	25	25	25
Total Credits in UG				150					
Credits under Non-CGPA		NSS/NCC /sports/ Extracurricular	6	Upto 6 (2 in each year)					
		Summer Internship	4	Upto 4 (2in each, after I& II years)					

PROGRAMME SPECIFIC OBJECTIVES

- **PO 1 To apply and integrate knowledge of computing to the engineering discipline.**
- **PO 2 To identify, analyze, formulate and solve complex problems related to computer science and engineering.**
- **PO 3 To design, construct and evaluate a computer based system, process or component, to meet the evolving needs.**
- **PO 4 To demonstrate application of engineering skills and techniques for efficient development of projects and products.**
- **PO 5 To use modern techniques and tools necessary for computing practice that drives towards entrepreneurship.**
- **PO 6 To develop innovative ideas that can be translated into commercial products benefiting the society and the economic growth.**
- **PO 7 To understand the impact of engineering science solutions in a social, global, environmental and economic context**

Programme Outcomes

PO 1 Domain Expertise:

- Acquire comprehensive knowledge and skills.
- Make use of the knowledge in an innovative manner.
- Effectively apply the knowledge and skills to address various issues.

PO 2 Modern equipment Usage

- Use ICT effectively.
- Access, retrieve and use authenticated information.
- Access, retrieve and use authenticated information.Have knowledge of software applications to analyze data.

PO 3 Computing Skills and Ethics

- Develop rationale and scientific thinking process.
- Use technology intelligently for communication, entertainment and for the benefit of mankind.
- Ensure ethical practices throughout ones endeavors for the wellbeing of human race.

PO 4 Complex problem Investigation & Solving

- Predict and analyze problems.
- Frame hypotheses.
- Investigate and interpret empirical data.
- Plan and execute action.

PO 5 Perform effectively as Individuals and in Teams

- Work efficiently as an individual
- Cooperate, coordinate and perform effectively in diverse teams/groups.
- Prioritize common interest to individual interest.

PO 6 Efficient Communication & Life Skills

- Express thoughts in an effective manner
- Listen, understand and project views in a convincing manner.
- Decide appropriate media to share information
- Develop skills to present significant information clearly and concisely to interested groups.

PO 7 Environmental Sustainability

- Understand sensibly the Environmental challenges.
- Think critically on environment sustainability measures.
- Propagate and follow environment friendly practices.

PO 8 Societal contribution

- Render service for the general good of the society.

- Involve voluntarily in social development activities at Regional, National, global levels.
- Have own pride in volunteering to address societal issues viz: calamities, disasters, poverty, epidemics.
- Be a patriotic citizen to uphold the values of the nation

PO 9 Effective Project Management

- Identify the goals, objectives and components of a project and decide the appropriate time of completion.
- Plan, organize and direct the endeavors of teams to achieve the set targets in time.
- Be competent in identifying opportunities and develop strategies for contingencies.

B.Sc. PHYSICS SYLLABUS UNDER CBCS SCHEME

SCHEME OF INSTRUCTION

(Revised and effective from academic year 2019-2022)

Semester	Paper (Theory and Practical)	Instructions Hrs/week	Marks	Credits
I	Paper - 1: Mechanics & Oscillations	4	100	4
	Practicals - 1: Mechanics & Oscillations	3	50	1
II	Paper - II: Thermal Physics	4	100	4
	Practicals - II : Thermal Physics	3	50	1
III	Paper - III: Electromagnetic Theory	4	100	4
	Practicals - III: Electromagnetic Theory	3	50	1
IV	Paper - IV : Waves & Optics	4	100	4
	Practicals - IV: Waves & Optics	3	50	1
V	Paper-V: A. Modern Physics B. Computational Physics	4	100	4
	Practicals - V: A. Modern Physics B. Computational Physics	3	50	1
VI	Paper -VI: A. Electronics B. Applied Optics	4	100	4
	Practicals VI: A. Electronics B. Applied Optics	3	50	1

Total credits:30

Skill Enhancement Courses

1. Experimental methods and Errors analysis
2. Electrical circuits and Networking
3. Basic Instrumentation
4. Biomedical Instrumentation
5. Digital Electronics

Generie Elective:

1. Renewable Energy & Energy Harvesting

Project work/Optional (Nano science)

Government Degree College for Women, Begumpet, (Autonomous) Hyderabad

Department of Physics
PHYSICS-SEMESTER I, II, III, IV, V, VI

MODULE:

THEORY: Max.Marks:100
Split
End Semester: 60M
Internal Assesment: 40M

Government Degree College for Women (Autonomous) Begumpet, Hyderabad

Model Question Paper for B.Sc I Year, II Year and III Year (Semester I, II, III , IV,V and VI)

Time: 2 ½ hrs **Max Marks: 60**

Section-A

Note: Answer any 5 of the following – Each question carries 4 Marks **5 X 4=20 Marks**

Q1 Unit I
Q2 Unit I
Q3 Unit II
Q4 Unit II
Q5 Unit III
Q6 Unit III
Q7 Unit IV
Q8 Unit IV

Section-B

Note: Answer all the questions –Each question carries 10 Marks **4 X 10=40 Marks**

Q9 a) Unit-I
or
b) Unit I

Q10 a) Unit-II
Or
b) Unit-II

Q11 a) Unit-III
Or
b) Unit-III

Q12 a) Unit-IV
Or
b) Unit-IV

Government Degree College for Women (Autonomous), Begumpet, Hyderabad

Pattern of Examination

Internal and Semester Evaluation pattern for first and second year is given here under:

Internal Assessment

a) Two Internals of **20 Marks** each. Average of the two Internals is considered for computation of marks

10 Marks for Unit-wise exams (20 Objective type Questions X ½ Mark = 10 Marks)

5 Marks for Seminar and Group discussion on the course,Internships,Jignasa study projects and workshops conducted by MOU`S,certificate (Agastya foundation(MOU)

5 Marks for Assignment,Science fairs and PPT presentations on field visits and Out Reached Programmes organized by neighbouring colleges.

b) Internal exam consists of **20 Marks**

In **Section A** (Two short answer Questions of 5 marks to be answered out of 4 (**2 X 5M=10M**)

In **Section-B** (One question is to be answered with **Internal choice** and carries **10 M**)

c) Internals shall be held at the end of every **9th week** and **14th week** of each semester

d) The duration of the Internals shall be **45 minutes**

Semester Examination

Semester Exams will be conducted in October and April of every year

a) 60 marks are allotted for Each paper per semester

b) Section-A (5 Questions out of 8 Questions have to be attempted – Each Question carries (4 Marks-5 X 4M = 20M)

c) Section-B (4Questions with Internal choice are to be attempted- Each question carries (10 M- 4 X 10M=40 M)

Resolved to accept the above Pattern of Examinations for B.Sc I , II and III Year

SEMESTER – I

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16

(An Autonomous College of Osmania University)

DEPARTMENT OF PHYSICS

B.Sc I YEAR (MECHANICS and OSCILLATIONS)CBCS

SEMESTER – I

DSC3311 –MECHANICS and OSCILLATIONS

Applicable from the academic year 2019onwards

MAX MARKS :60 E+40 I=100 **PPW :**5 **NO. Of Credits:**5

.**Objective:** To help students understand the role of direct observations in physics and to distinguish between interferences based on theory and the outcomes of experiments

COURSE OUTCOMES

After completion of the course the student is able to:

1. CO1.Deliberate the characteristics of Mechanics of a system of Particles

2.CO2.Write down in details with application, if applicable, Mechanics of rigid bodies

3.CO3.Learn the characteristics of small oscillations of mechanical system

4.Deliberate the characteristics of oscillations of a system of particles and its applications in rods and strings

.

B.Sc. (Physics)-I Year

Semester I

Paper -I:: Mechanics and Oscillations

(DSC - Compulsory)

Unit –I

1. Vector Analysis (10)

Scalar and Vector fields, Gradient of a Scalar field and its physical significance.Divergence and Curl of a Vector field and related problems.Vector integration, line, surface and volume integrals. Stokes, Gauss's and Green's theorems simple applications,

Unit - II

2. Mechanics of Particles (6)

Laws of motion, motion of variable mass system, motion of a rocket, multi-stage rocket, conservation of energy and momentum. Collisions in two and three dimensions, concept of impact parameter.scattering Cross-section

3. Mechanics of Rigid Bodies (6)

Definition of Rigid body, rotational kinematic relations, equation of motion for a rotating body, angular momentum and inertial tensor.Euler's equation, precession of a top, Gyroscope.

Unit-III

4. Central Forces (7)

Central forces - definition and examples, conservative nature of central forces, conservative force as a negative gradient of potential energy, equation of motion under a central force, gravitational potential and gravitational field, motion under inverse square law, derivation of Kepler's laws.

5. Special theory of Relativity (7)

Galilean relativity, absolute frames, Michelson-Morley experiment, Postulates of special theory of relativity. Lorentz transformation, time dilation, length contraction, addition of velocities, mass-energy relation.Concept of four vector formalism.

Unit - IV

6.Oscillations(12)

Simple harmonic oscillator, and solution of the differential equation Physical characteristics of SHM, torsion pendulum measurements of rigidity modulus, compound pendulum, measurement of g', combination of two mutually perpendicular simple harmonic vibrations of same frequency and different frequencies, Lissajous figures

Damped harmonic oscillator, solution of the differential equation of damped oscillator.Energy considerations, logarithmic decrement, relaxation time, quality factor, differential equation of forced oscillator and its solution amplitude resonance, velocity resonance.

Note: *Problems should be solved at the end of every chapter of all units.*

Suggested books

1. B. Keley Physics Course.Vol.1, **Mechanics** by C. Kittel, W. Knight, M.A. Ruderman.*TataMcGraw hill Company* Edition 2008.

2. **Fundamentals of Physics**Halliday/Resnick/Walker *Wiley India Edition 2007*.

3. **First Year Physics -** Telugu Academy

4. **Introduction to Physics for Scientists and Engineers**. FJ.Ruche. McGraw Hill

5. **Scars and Zemansky's University Physics** by Hugh D. Young, Roger A. Freedman Pearson Education Eleventh Edition.

6. **Theory of relativity - Resnick**

7. **Fundamentals of Physics** by Alan Giambattista et al *Tata-McGraw Hill Company* Edition, 2008.

8. **University Physics** by Young and Freeman, *Pearson Education, Edition 2005.*

9. **An introduction to Mechanics** by Daniel Klepper& Robert Kolenkow. *The McGraw Hill Companies.*

10. **Mechanics**. Hans &Puri. TMH Publications,

B.Sc. (Physics) - I year

Semester –I

Paper -1:: Mechanics and Oscillations Practicals

(DSC-Compulsory)

1. Measurement of errors-simple Pendulum.

2. Calculation of slope and intercept of a Y=mX+C graph by theoretical method (simple pendulum experiment)

3. Study of a compound pendulum-determination of 'g' and 'k'.

4. Y' by uniform Bending

5. Y by Non-uniform Bending,

6. Moment of Inertia of a fly wheel

7. Rigidity moduli by torsion Pendulum.

8. Determine surface tension of a liquid through capillary rise method.

9. Determination of Surface Tension of a liquid by any other method.

10. Determine of Viscosity of a fluid

11. Observation of Lissajous figures from CRO-Frequency ratio.Amlitude and phase difference of two waves.

12. Study of oscillations of a mass under different combination of springs-Series and parallel 13. Study of Oscillations under Bifilar suspension Verification of axis theorems

Note: *Minimum of eight experiments should be performed. Maximum of 15 students per batch and maximum of three students per experiment should be allotted in the regular practical class of three hours per week*

Suggested Books

1. D.P. Khandelwal, "A laboratory manual for undergraduate classes" (Vani Publishing House, New Delhi).

2. S.P. Singh, "Advanced Practical Physics" (PragatiPrakashan, Meerut).

3. Worsnop and Flint- Advanced Practical physics for students.

4. "Practical Physics" R.K Shukla, AnchalSrivastava

GOVERNMENT DEGREE COLLEGE FOR WOMEN,BEGUMPET,HYD-16

(An autonomous college of Osmania University)

Re-Accredited by NAAC with "B" Grade

Faculty of Physics

B.Sc I YEAR (MECHANICS AND OSCILLATIONS)CBCS

SEMESTER-I –**3311-MECHANICS AND OSCILLATTIONS-I** (Question paper pattern)

Applicable from the academic year 2021-2022

Model Question Paper for B.Sc I Year

Max.Marks :100(60E+40I)Time: 2 ½ Hrs

I. Internal Assessment:40 Marks

Written	: 20 Marks
Assignment	: 5 Marks
Seminar	: 5 Marks
MCQ's (Average of 2 MCQ`S) (Objective)	: 10Marks
Total	: 40 Marks

Note: Average marks of two Internal written test will be considered.

Model Question Paper for B.Sc I Year

Time: 2 ½ hrs **Max Marks: 60**

Section-A

Note: Answer any 5 of the following – Each question carries 4 Marks **5 X 4=20 Marks**

Q1 Unit I
Q2 Unit I
Q3 Unit II
Q4 Unit II
Q5 Unit III
Q6 Unit III
Q7 Unit IV
Q8 Unit IV

Section-B

Note: Answer all the questions –Each question carries 10 Marks **4 X 10=40 Marks**

Q9 a) Unit-I
or
b) Unit I

Q10 a) Unit-II
Or
b) Unit-II

Q11 a) Unit-III
Or
b) Unit-III
Q12 a) Unit-IV
Or
b) Unit-IV

Government Degree College for Women (Autonomous), Begumpet, Hyderabad

Pattern of Examination

Internal and Semester Evaluation pattern for first and second semester is given here under:

Internal Assessment

e) Two Internals of **20 Marks** each. Average of the two Internals is considered for computation of marks

10 Marks for Unit-wise exams (20 Objective type Questions X ½ Mark = 10 Marks)

5 Marks for Seminar and Group discussion on the course, Internships,Jignasa study projects and workshops conducted by MOU`S,certificate (Agastya foundation(MOU)

5 Marks for Assignment, Science fairs and PPT presentations on field visits and Out Reached Programmes organized by neighboring colleges.

f) Internal exam consists of **20 Marks**

In **Section A** (Two short answer Questions of 5 marks to be answered out of 4 (**2 X 5M=10M**)

In **Section-B** (One question is to be answered with **Internal choice** and carries **10 M**)

g) Internals shall be held at the end of every **9th week** and **14th week** of each semester

h) The duration of the Internals shall be **45 minutes**

Semester Examination

Semester Exams will be conducted in October and April of every year

d) 60 marks are allotted for Each paper per semester

e) Section-A (5 Questions out of 8 Questions have to be attempted – Each Question carries (4 Marks-5 X 4M = 20M)

f) Section-B (4Questions with Internal choice are to be attempted- Each question carries (10 M- 4 X 10M=40 M)

Resolved to accept the above Pattern of Examinations for B.Sc I , Year

SEMESTER – II

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16

(An Autonomous College of Osmania University)

DEPARTMENT OF PHYSICS

B.Sc I YEAR (THERMAL PHYSICS)CBCS

SEMESTER – II

3311 - THERMAL PHYSICS

Applicable from the academic year 2021 onwards

MAX MARKS :60 E+40I=100**HPW :**5**NO. Of Credits:**5

Objective: To introduce the concepts and techniques which have a wide application in experimental science but have not been introduced in the standard courses

COURSE OUTCOMES

After completion of the course the student is able to:

1. CO1.Deliberate the characteristics of Thermodynamic potentials and parameters

CO2.Write down in details with application, if low temperature and radiation pyrometers

CO3.Learn the characteristics of statistical distributions of MB,FD AND BE STATISTICAL system

CO4.To Learn the Kinetic theory of gases and parameters in Thermodynamics

.

Semester –II

Paper - II: Thermal Physics

(DSC-Compulsory)

Unit-I

1. Kinetic theory of gases: (4)

Introduction - Deduction of Maxwell's law of distribution of molecular speeds, Transport Phenomena - Viscosity of gases-thermal conductivity-diffusion of gases.

2. Thermodynamics: (8)

Basics of Thermodynamics.Camot's engine (qualitative)-Carnot's theorem -Kelvin's and Clausius statements - Thermodynamic scale of temperature - Entropy, physical significance - Change in entropy in reversible and irreversible processes - Entropy and disorder-Entropy of universe - Temperature. Entropy T-S) diagram - Change of entropy of a perfect gas-change of entropy when ice changes into steam

Unit-II

3. Thermodynamic potentials and Maxwell's equations: (6)

Thermodynamic potentials - Derivation of Maxwell's thermodynamic relations - ClausiusClayperon's equation-Derivation for ratio of specific heats - Derivation for difference of two specific heats for perfect gas. Joule Kelvin effect - expression for Joule Kelvin coefficient for perfect and Vanderwaal's gas.

4. Low temperature Physies: (6)

Joule Kelvin effect - liquefaction of gas using porous plug experiment Joule expansion - Distinction between adiabatic and Joule Thomson expansion - Expression for Joule Thomson cooling - Liquefaction of helium, Kapitza's method - Adiabatic demagnetization - Production of low temperatures - Principle of refrigeration, vapour compression type

Unit - III

5. Quantum theory of radiation: (12)

Black body-Ferry's black body - distribution of energy in the spectrum of Black body - Wein's displacement law, Wein's law, Rayleigh-Jean's law - Quantum theory of radiation - Planck's law - deduction of Wein's law, Rayleigh-Jeans law, Stefan's law from Planck's law. Measurement of radiation using pyrometers - Disappearing filament optical pyrometer-experimental determination - Angstrom pyro heliometer - determination of solar constant, effective temperature of sun.

Unit - IV

6. Statistical Mechanics: (12)

Introduction, postulates of statistical mechanics. Phase space, concept of ensembles and some known ensembles classical and quantum statistics and their differences, concept of probability, MaxwellBoltzmann's distribution law Molecular energies in an ideal gas. Maxwell-Boltzmann's velocity distribution law, Bose Einstein Distribution law.Fermi-Dirac Distribution law, comparison of three distribution laws.

NOTE: *Problems should be solved at the end of every chapter of all units.*

Suggested books

1. Fundamentals of Physics. HallidayResnick/Walker.C. Wiley India Edition 2007

2. Second Year Physies -*Telugu Academy*.

3. Modern Physics by R. Murugeshan and Kiruthiga Siva Prasath (for statistical Mechanics) *S. Chand & Co*.

4. Modern Physics by G. Aruldhas and P. Rajagopal, *Eastern Economy Education*.

5. Berkeley Physics Course. Volume-5.**Statistical Physics** by F. Reif.*The McGraw-HillCompanies.*

6. An Introduction to Thermal Physics by Daniel V. Schroeder. Pearson Education *Low Price Edition*

7. Thermodynamics by R.C. Srivastava. Subit K. Saha&Abhay K. Jain *Eastern Economy Edition*

8. **Modern Engineering Physics** by A.S. Vasudeva. *S. Chand & Co. Publications*

9. B.B Laud **"Introduction to statistics Mechanics"** (Macmillan 1981)

B.Sc. (Physics) - I year

Semester – II

Paper - II:: Thermal Physics Practicals

(DSC - Compulsory)

1. Co-efficient of thermal conductivity of a bad conductor by Lee's method.
2. Measurement of Stefan's constant.
3. Specific heat of a liquid by applying Newton's law of cooling correction
4. Heating efficiency of electrical kettle with varying voltages.
5. Calibration of thermo couple
6. Cooling Curve of a metallic body
7. Resistance thermometer
8. Thermal expansion of solids
9. Study of conversion of mechanical energy to heat.
10. Determine the Specific of a solid graphite rod)

Note: *Minimum of eight experiments should be performed. Maximum of 15 students per batch and maximum of three students per experiment should be allotted in the regular practical class of three hours per week*

Suggested Books

1. D.P. Khandelwal, "A laboratory manual for undergraduate classes" (Vani Publishing House, New Delhi).
2. S.P. Singh, "Advanced Practical Physics" (PragatiPrakashan, Meerut).
3. Worsnop and Flint. Advanced Practical physics for students.
4. "Practical Physics" R.K Shukla, AnchalSrivastava

GOVERNMENT DEGREE COLLEGE FOR WOMEN,BEGUMPET,HYD-16

(An autonomous college of Osmania University)

Re-Accredited by NAAC with "B" Grade

Faculty of commerce

B.Sc I YEAR (THERMAL PHYSICS)CBCS

SEMESTER-II –**3311 – THERMAL PHYSICS** (Question paper pattern)

Applicable from the academic year 2021-22

Max.Marks :100(60E+40I)Time: 2 ½ Hrs

I. Internal Assessment:40 Marks

Written	: 20 Marks
Assignment	: 5 Marks
Seminar	: 5 Marks
MCQ's (Objective)	: 10Marks
Total	: 40 Marks

Note: Average marks of two Internal written test will be considered.

Model Question Paper for B.Sc II Year

Time: 2 ½ hrs **Max Marks: 60**

Section-A

Note: Answer any 5 of the following – Each question carries 4 Marks **5 X 4=20 Marks**

Q1 Unit I
Q2 Unit I
Q3 Unit II
Q4 Unit II
Q5 Unit III
Q6 Unit III
Q7 Unit IV
Q8 Unit IV

Section-B

Note: Answer all the questions –Each question carries 10 Marks **4 X 10=40 Marks**

Q9 a) Unit-I
or
b) Unit I

Q10 a) Unit-II
Or
b) Unit-II

Q11 a) Unit-III
Or
b) Unit-III
Q12 a) Unit-IV
Or
b) Unit-IV

Government Degree College for Women (Autonomous), Begumpet, Hyderabad

Pattern of Examination

Internal and Semester Evaluation pattern for second semester is given here under:

Internal Assessment

i) Two Internals of **20 Marks** each. Average of the two Internals is considered for computation of marks

10 Marks for Unit-wise exams (20 Objective type Questions X ½ Mark = 10 Marks)

5 Marks for Seminar and Group discussion on the course, Internships,Jignasa study projects and workshops conducted by MOU`S,certificate (Agastya foundation(MOU)

5 Marks for Assignment, Science fairs and PPT presentations on field visits and Out Reached Programmes organized by neighboring colleges.

j) Internal exam consists of **20 Marks**

In **Section A** (Two short answer Questions of 5 marks to be answered out of 4 (**2 X 5M=10M**)

In **Section-B** (One question is to be answered with **Internal choice** and carries **10 M**)

k) Internals shall be held at the end of every **9th week** and **14th week** of each semester

l) The duration of the Internals shall be **45 minutes**

Semester Examination

Semester Exams will be conducted in October and April of every year

g) 60 marks are allotted for Each paper per semester

h) Section-A (5 Questions out of 8 Questions have to be attempted – Each Question carries (4 Marks-5 X 4M = 20M)

i) Section-B (4Questions with Internal choice are to be attempted- Each question carries (10 M- 4 X 10M=40 M)

Resolved to accept the above Pattern of Examinations for B.Sc I Year

SEMESTER - III

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16

(An Autonomous College of Osmania University)

DEPARTMENT OF PHYSICS

B.Sc II YEAR (Digital Electronics)CBCS

SEMESTER – IIISKILL ENHANCEMENT COURSE (SEC-2)

Digital Electronics

Applicable from the academic year 2021-22 onwards

MAX MARKS :50(40E+10I)
HPW :2
NO. Of Credits:2
COURSE OUTCOMES

After completion of the course the student is able to:

1. Understand the basic terminology and Principles of Electronics.
2. Describe the difference between Diodes and Transistors.

Objectives: To make Students to learn Principles of Electronics.

Skill Enhancement course - V

B.Sc. (Physics) - 11 Year

Semester III/IV

Digital Electronics

(SEC)

UNIT-I:

Semi-Conductor Theory: Energy Levels, Intrinsic and Extrinsic Semiconductors, Mobility, Diffusion and Drin current. Hall Effect, Characteristics of P-N Junction diode, Parameters and Applications. Rectifiers: Half wave and Full wave Rectifiers (Bridge, center tapped) with and without filters, ripple regulation and efficiency. Zener diode regulator

Bipolar Junction Transistor: BJT, Current components, CE, CB, CC configurations, characteristics, Transistor as amplifier. Analysis of CE, CB, CC Amplifiers (qualitative treatment only). JFET: Construction and working. parameters

UNIT-II

Photo diode, Photo Transistor, LED, LCD, SCR, UT Construction and Characteristics only Display Systems: Constructional details of C.RO and Applications.

Feedback Concepts - Properties of Negative Feedback Amplifiers, Classification. Parameters Oscillators --Barkhausen Criterion, LC Type and RO Type Oscillators and Crystal Oscillo (Qualitative treatment only).

Digital Systems: Basic Logic Gates half, Full Adder and Subtractors.

Suggested Readings

1. JocobMillman, Christos C. Hallias and SatyabrataJit, Electronics Devices and Circuits, 3rd Edition, McGraw Hill Education (India) Private Limited, 2010
2. Ram Kanth A Gaykward, Op-AMPS and Linear Integrated Circuit, 4th Edition Prentice Hall of India, 2000.

3. M. Maris Mann Digital Design, 3rd Edition, Prentice Hall of India, 2002
4. William D Cooper, and AD, Helfrick, Electronic Measurements and Instrumentation Techniques 2nd Edition, Prentice Hall of India, 2008.

S. Shalivahan. N. Suresh Kumar, A. Vallava Raj, Electronic Devices and Circus and Edition, McGraw Hill Education (India) Private Limited, 2007.

GOVERNMENT DEGREE COLLEGE FOR WOMEN,BEGUMPET,HYD-16
(An autonomous college of Osmania University)
Re-Accredited by NAAC with "B" Grade
Faculty of commerce
B.Sc II YEAR (Digital Electronics)CBCS
SEMESTER-III–SKILL ENHANCEMENT COURSE (SEC-2)
Digital Electronics (Question paper pattern)
Applicable from the academic year 2021-22

Max.Marks :50(40E+10I)

PART –A

I. Write any FOUR of the following : (4x4m = 16m)

1. Unit I
2. Unit I
3. Unit I
4. Unit II
5. Unit II
6. Unit II

PART – B

II. Answer the following Questions (2x12m = 24m)

7 a. unit I (OR) b. unit I
8.a. unit II (OR) b. unit II

- **Internal exam carries 10 Marks**

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16

(An Autonomous College of Osmania University)

DEPARTMENT OF PHYSICS

B.Sc II YEAR (Electro magnetic theory)CBCS

SEMESTER – III

3311 - Electromagnetic theory

Applicable from the academic year 2021-22 onwards

MAX MARKS :60 E+40I=100**PPW :**5**NO. Of Credits:**5

Objective: To acquire accounting knowledge of Electricity and electromagnetism concepts

COURSE OUTCOMES

After completion of the course the student is able to:

CO1 Deliberate the characteristics of Electrostatics, magnetostatics and Electromagnetism

CO2.Write down in details with application, in Gauss theorems in Electrostatics, Amperes law in magnetostatics and Maxwell`s Electromagnetism

CO3.Learn the characteristics of Electrostatics, magnetostatics and electromagnetism

CO4.Learn the various Network theorems applications for complicated networks/circuits

.

Semester – III
Paper-III:: Electromagnetic Theory
(DSC-Compulsory)

Unit 1: Electrostatics (11 hrs)

Electric Field:- Concept of electric field lines and electric flux, Gauss's law (Integral and differential forms), application to linear, plane and spherical charge distributions. Conservative nature of electric field 'E',Irrotational field, Electric potential:- Concept of electric potential, relation between electric potential and electric field, potential energy of a system of charges. Energy density in an electric field.Calculation of potential from electric field for a spherical charge distribution.

Unit II: Magnetostaties (12 hrs)

Concept of magnetic field 'B' and magnetic flux, Biot-Savart's law, B due to a straight current carrying conductor. Force on a point charge in a magnetic field. Properties of B, curl and divergence of B. solenoidal field. Integral form of Ampere's law, Applications of Ampere's law: field due to straight. circular and solenoidal currents. Energy stored in magnetic field. Magnetic energy in terms of current and inductance.Magnetic force between two current carrying conductors.Magnetic field intensity. Ballistic Galvanometer - Torque on a current loop in a uniform magnetic field, working principle of B.G., current and charge sensitivity, electromagnetic damping, critical damping resistance

Unit III: Electromagnetic Induction and Electromagnetic waves (13)

Faraday's laws of induction (differential and integral form), Lenz's law, self and mutual Induction Continuity equation, modification of Ampere's law, displacement current. Maxwell equations Maxwell's equations in vacuum and dielectric medium, boundary conditions, plane wave equation: transverse nature of EM waves, velocity of light in vacuum and in medium. Poynting's theorem.

UNIT IV:

Varying and alternating currents (6)

Growth and decay of currents in LR, CR and LCR circuits - Critical damping. Alternating current, relation between current and voltage in pure R. C and L-vector diagrams - Power in ac circuits. LCR series and parallel resonant circuit - Q-factor. AC & DC motors-single phase, three phase (basics only)

Network Theorems(6):

Passive elements, Power sources, Active elements, Network models: T andπ Transformations, Superposition theorem, Thevenin's theorem, Norton's theorem. Reciprocity theorem and Maximum power transfer theorem (Simple problems).

Text Books

1. Fundamentals of electricity and magnetism By Arthur F. Kip (McGraw-Hill, 1968)
2. Telugu Academy
3. Electricity and magnetism by J.H.Fewkes& John Yarwood. Vol.1 (Oxford Univ. Press, 1991).
4. Introduction to Electrodynamics, 3rd edition, by David J. Griffiths, (Benjamin Cummings, 1998).
5. Electricity and magnetism By Edward M. Purcell (McGraw-Hill Education, 1986)
6. Electricity and magnetism. By DC Tayal (Himalaya Publishing House, 1988)
7. Electromagnetics by Joseph A.Edminister 2nd ed. (New Delhi: Tata McGraw Hill. 2006).

B.Sc. (Physics) - II year

Semester - III Paper -: Electromagnetic Theory Practicals

(DSC - Compulsory)

PHYSICS LABORATORY

1. To verify the Thevenin Theorem
2. To verify Norton Theorem
3. To verify Superposition Theorem
4. To verify maximum power transfer theorem
5. To determine a small resistance by Carey Foster's bridge.
6. To determine the (a) current sensitivity, (b) charge sensitivity, and (c) CDR of a B.G.
7. To determine high resistance by leakage method.
8. To determine the ratio of two capacitances by De Sauty's bridge.
9. To determine self-inductance of a coil by Anderson's bridge using AC.
10. To determine self-inductance of a coil by Rayleigh's method.
11. To determine coefficient of Mutual inductance by absolute method.

Note: Minimum of eight experiments should be performed.

Maximum of 15 students per batch and maximum of three students per experiment should be allotted in the regular practical class of three hours per week.

Suggested Books for Reference:

1. B. L. Worsnop and H. T. Flint, Advanced Practical Physics, Asia Publishing House, New Delhi.

2. InduPrakash and Ramakrishna, A Text Book of Practical Physics, KitabMahal

GOVERNMENT DEGREE COLLEGE FOR WOMEN,BEGUMPET,HYD-16
(An autonomous college of Osmania University)
Re-Accredited by NAAC with "B" Grade
Faculty of commerce
B.Sc II YEAR (PHYSICS)CBCS
SEMESTER-III –**DSC 3311 –ELECTRO MAGNETIC THEORY** (Question paper pattern)
Applicable from the academic year 2021-22

Max.Marks :100(60E+40I)Time: 2 ½ Hrs

I. Internal Assessment:40 Marks

Written	: 20 Marks
Assignment	: 5 Marks
Seminar	: 5 Marks
MCQ's (Objective)	: 10Marks
Total	: 40 Marks

Note: Average marks of two Internal written test will be considered.

Model Question Paper for B.Sc II Year

Time: 2 ½ hrs **Max Marks: 60**

Section-A

Note: Answer any 5 of the following – Each question carries 4 Marks **5 X 4=20 Marks**

Q1 Unit I
Q2 Unit I
Q3 Unit II
Q4 Unit II
Q5 Unit III
Q6 Unit III
Q7 Unit IV
Q8 Unit IV

Section-B

Note: Answer all the questions –Each question carries 10 Marks **4 X 10=40 Marks**

Q9 a) Unit-I
or
b) Unit I

Q10 a) Unit-II
Or
b) Unit-II

Q11 a) Unit-III
Or
b) Unit-III

Q12 a) Unit-IV
Or
b) Unit-IV

Government Degree College for Women (Autonomous), Begumpet, Hyderabad

Pattern of Examination

Internal and Semester Evaluation pattern for second semester is given here under:

Internal Assessment

m) Two Internals of **20 Marks** each. Average of the two Internals is considered for computation of marks

10 Marks for Unit-wise exams (20 Objective type Questions X ½ Mark = 10 Marks)

5 Marks for Seminar and Group discussion on the course, Internships,Jignasa study projects and workshops conducted by MOU`S,certificate (Agastya foundation(MOU)

5 Marks for Assignment, Science fairs and PPT presentations on field visits and Out Reached Programmes organized by neighboring colleges.

n) Internal exam consists of **20 Marks**

In **Section A** (Two short answer Questions of 5 marks to be answered out of 4 (**2 X 5M=10M**)

In **Section-B** (One question is to be answered with **Internal choice** and carries **10 M**)

o) Internals shall be held at the end of every **9th week** and **14th week** of each semester

p) The duration of the Internals shall be **45 minutes**

Semester Examination

Semester Exams will be conducted in October and April of every year

j) 60 marks are allotted for Each paper per semester

k) Section-A (5 Questions out of 8 Questions have to be attempted – Each Question carries (4 Marks-5 X 4M = 20M)

l) Section-B (4Questions with Internal choice are to be attempted- Each question carries (10 M- 4 X 10M=40 M)

Resolved to accept the above Pattern of Examinations for B.Sc II , Year

SEMESTER - IV

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16

(An Autonomous College of Osmania University)

DEPARTMENT OF PHYSICS

B.Sc II YEAR (PHYSICS)CBCS

SEMESTER – IVSKILL ENHANCEMENT COURSE (SEC-4)

Basic Instrumentation/EXPERIMENTAL METHODS and ERROR ANALYSIS

Applicable from the academic year 2021-22 onwards

MAX MARKS :50PPW : 2NO. Of Credits:2

Objective: To make students to learn Practice of instrumental anatomy

COURSE OUTCOMES

After completion of the course the student is able to:

1. Analyse the different Electrical circuits.
2. Explain the Organizational structure of CRO,LCR bridges.

Skill Enhancement course II

BASIC INSTRUMENTATION

(Credits: 02) 30 hours

Unit (15 hours)

Basic of Measurement: Instruments accuracy, precision, sensitivity, resolution range etc. Errors in measurements and loading effects.Multimeter: Principles of measurement of de voltage and dc current, ac voltage, ac current and resistance. Specifications of a multimeter and their significance)

Electronic Voltmeter: Advantage over conventional multimeter for voltage measurement with respect to input impedance and sensitivity. Principles of voltage, measurement (block diagram only). Specifications of an electronic Voltmeter Multimeter and their significance. AC millivoltmeter: Type of AC millivoltmeters: Amplifier rectifier, and rectifier amplifier. Block diagram ac millivoltmeter, specifications and their significance

Cathode Ray Oscilloscope: Block diagram of basic CRO. Construction of CRT, Electron gun, electrostatic focusing and acceleration (Explanation only, no mathematical treatment), brief discussion on screen phosphor, visual persistence & chemical composition Time base operation, synchronization. Front panel controls. Specifications of a CRO and their significance.

Use of CRO for the measurement of voltage (dc and ac frequency, time period.Special features of dual trace, introduction to digital oscilloscope, probes. Digital storage Oscilloscope: Block diagram and principle of working.

Unit II (15 hours)

Signal Generators and Analysis Instruments: Block diagram, explanation and specifications of low frequency signal generators, pulse generator, and function generator. Brief idea for testing, specifications.Distortion factor meter, wave analysis.

Impedance Bridges & O-Meters: Block diagram of bridge working principles of basic (balancing type) RLC bridge. Specifications of RLC bridge. Block diagram & working principles of a Q. Meter Digital LCR bridges,
Digital Instruments: Principle and working of digital meters. Comparison of analog& digital instruments, Characteristics of a digital meter.Working principles of digital voltmeter.
Digital Multimeter: Block diagram and working of a digital multimeter. Working principle of time interval frequency and period measurement using universal counter frequency counter, time-base stability, accuracy and resolution
NOTE: Problems should be solved at the end of every chapter of all units.

Reference Books:

- A text book in Electrical Technology-B L Theraja - Chand and Co.
- Performance and design of AC machines - MG Say ELBS Edn.
- Digital Circuits and systems, Venugopal, 2011, Tata McGraw Hill.
- Logic circuit design, Shimon P. Vingron, 2012, Springer
- Digital Electronics, SubrataGhoshal. 2012. Cengage Learning.
- Electronic Devices and circuits, S. Salivahanan& N S.Kumar, 3rd Ed., 2012, Tata McGraw Hill
- Electronic circuits: Handbook of design and applications, U.Tietze, Ch.Schenk, 2008, Springer
- Electronic Devices, 7e Thomas L. Floyd, 2008, Pearson India

Skill Enhancement course I

Experimental methods and error analysis

(Credits: 02) 30 hours

Experimental methods (15 hrs):

Least count of instruments, Instruments for measuring mass, length, time, angle, current, voltage. Fundamental units. Precision and accuracy of measurements, source of error in measurements, necessity of estimating errors , types of errors, reading error of instrument, calibration error, random error, systematic error, significant digits, order of magnitude and rounding of numbers, rounding error, absolute and relative errors, Errors of computation- addition, subtraction, multiplication, division, error in power and roots, Propagation of errors, analysis of data, standard deviation, calculation of mean value.

Unit II

Stastistical Analysis of errors (15 hours)

Mean, Mean mode and standard deviation, standard deviation of mean, Least squares fitting, Normal distribution, covariance and correlation, Binomial distribution, passion distribution, chi square test

NOTE: Problems should be solved at the end of every chapter of all units.

References:

1. The theory of Errors in Physical Measurements- J C Pal- New Central Book Agency- 2010

GOVERNMENT DEGREE COLLEGE FOR WOMEN,BEGUMPET,HYD-16
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Re-Accredited by NAAC with "B" Grade
Faculty of commerce

B.Sc II YEAR (Experimental methods and Error analysis /Basic Instrumentation)CBCS

SEMESTER-IV–SKILL ENHANCEMENT COURSE (SEC-4)

Electrical circuit Networking /Basic Instrumentation (Question paper pattern)

Applicable from the academic year 2021-22

Max.Marks :50(40E+10I)

PART –A

III. Write any FOUR of the following : (4x4m = 16m)

7. Unit I
8. Unit I
9. Unit I
10. Unit II
11. Unit II
12. Unit II

PART – B

IV. Answer the following Questions (2x12m = 24m)

8 a. unit I (OR) b. unit I

8.a. unit II (OR) b. unit II

- **Internal exam carries 10 Marks**

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16

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DEPARTMENT OF PHYSICS

B.Sc II YEAR (Waves and Optics)CBCS

SEMESTER – IV

DSC3311 - Waves and Optics

Applicable from the academic year 2021-22 onwards

MAX MARKS : 60 E+40I=100**HPW : 5NO. Of Credits: 5**

Objective: To acquire conceptual and knowledge about waves and optics.

COURSE OUTCOMES

After completion of the course the student is able to:

CO1. Deliberate the characteristics of GEOMETRICAL OPTICS

CO2. Write down in details with application, in Interference ,Diffraction and polarization and optical fibers

CO3. Learn the characteristics of interference ,diffraction and polarization

CO4. Deliberate the characteristics of oscillations of a system of particles

”

Paper - IV:: Waves and Optics
(DSC - Compulsory)

Unit I Waves(12)

Fundamentals of Waves - Transverse wave propagation along a stretched string, general solution of wave equation and its significance, modes of vibration of stretched string clamped at ends, overtones, energy transport, transverse impedance.

Longitudinal vibrations in bars-wave equation and its general solution. Special cases (i) bar fixed at both ends ii) bar fixed at the mid point iii) bar free at both ends iv) bar fixed at one end. Transverse vibrations in a bar wave equation and its general solution. Boundary conditions, clamped free bar, free-free bar, bar supported at both ends, Tuning fork.

Unit II: Interference: (12)

Principle of superposition - coherence - temporal coherence and spatial coherence - conditions for Interference of light.

Interference by division of wave front: Fresnel's biprism - determination of wave length of light. Determination of thickness of a transparent material using Biprism - change of phase on reflection - Lloyd's mirror experiment.

Interference by division of amplitude: Oblique incidence of a plane wave on a thin film due to reflected and transmitted light (Cosine law) - Colours of thin films - Non-reflecting films - interference by a plane parallel film illuminated by a point source - Interference by a film with two non-parallel reflecting surfaces (Wedge shaped film) - Determination of diameter of wire-Newton's rings in reflected light with and without contact between lens and glass plate. Newton's rings in transmitted light (Haidinger Fringes) - Determination of wave length of monochromatic light - Michelson Interferometer - types of fringes-Determination of wavelength of

monochromatic light. Difference in wavelength of sodium DD, lines and thickness of a thin transparent plate.

Unit III: Diffraction: (12)

Introduction - Distinction between Fresnel and Fraunhofer diffraction, Fraunhofer diffraction - Diffraction due to single slit and circular aperture - Limit of resolution - Fraunhofer diffraction due to double slit - Fraunhofer diffraction pattern with N slits (diffraction grating).

Resolving Power of grating - Determination of wave length of light in normal and oblique incidence methods using diffraction grating.

Fresnel diffraction-Fresnel's half period zones - area of the half period zones-zone plate - Comparison of zone plate with convex lens - Phase reversal zone plate-diffraction at a straight edge - difference between interference and diffraction.

Unit IV: Polarization (12)

Polarized light : Methods of Polarization, Polarizatioin by reflection, refraction, Double refraction, selective absorption, scattering of light - Brewster's law - Malus law - Nicol prism polarizer and analyzer - Refraction of plane wave incident on negative and positive crystals (Huygen's explanation) - Quarter wave plate, Half wave plate - Babinet's compensator - Optical activity, analysis of light by Laurent's half shade polarimeter.

NOTE: *Problems should be solved at the end of every chapter of all units.*

Suggested books

1. **Optics** by AjoyGhatak. *The McGraw-Hill companies*.
2. **Optics** by Subramaniyam and Brijlal. *S. Chand & Co*.
3. **Second Year Physics** - *Telugu Academy*
4. **Modern Engineering Physics** by A.S. Vasudeva, *S. Chand & Co. Publications*.
5. **Fundamentals of Optics** by Jenkins A. Francis and White E. Harvey, *McGraw Hill Inc.*
6. K. Ghatak, **Physical Optics'**
7. D.P. Khandelwal, Optical and Atomic Physics' (Himalaya Publishing House, Bombay, 1988)
8. Jenkins and White: 'Fundamental of Optics' (McGraw-Hill)
9. Smith and Thomson: "Optics' (John Wiley and sons).

B.Sc. (Physics) - II year

Semester - IV Paper - IV:: Waves and OptiesPracticals

(DSC-Compulsory)

1. Thickness of a wire using wedge method.
2. Determination of wavelength of light using Biprism.
3. Determination of Radius of curvature of a given convex lens by forming Newton's rings.
4. Resolving power of grating.
5. Study of optical rotation-polarimeter.
6. Dispersive power of a prism

7. Determination of wavelength of light using diffraction grating minimum deviation method.

8. Wavelength of light using diffraction grating-normal incidence method.

9. Resolving power of a telescope

10. Refractive index of a liquid and glass (Boys Method).

11. Pulfrichrefractometer - determination of refractive index of liquid

12. Wavelength of Laser light using diffraction grating.

13. Verification of Laws of a stretched string (Three Laws).

14. Velocity of Transverse wave along a stretched string

15. Determination of frequency of a bar-Melde's experiment

Note: *Minimum of eight experiments should be performed Maximum of 13 students per barch and maximum of three students per experiment should be allotted in the regular practical class of three hours per week*

Suggested Books

1. D.P. Khandelwal, "A laboratory manual for undergraduate classes" (Vani Publishing House, New Delhi).

2. S.P. Singh, "Advanced Practical Physics" (PragatiPrakashan, Meerut).

3. Worsnop and Flint. Advanced Practical physics for students.

4. "Practical Physics" R.K Shukla, AnchalSrivastav

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Re-Accredited by NAAC with "B" Grade
Faculty of commerce
B.Sc II YEAR (Waves and Optics)CBCS
SEMESTER-IV -**DSC 3311 - Waves and Optics** (Question paper pattern)
Applicable from the academic year 2021-22

Max.Marks :100(60E+40I)Time: 2 ½ Hrs

I. Internal Assessment:40 Marks

Written	: 20 Marks
Assignment	: 5 Marks
Seminar	: 5 Marks
MCQ's (Objective)	: 10Marks
Total	: 40 Marks

Note: Average marks of two Internal written test will be considered.

Model Question Paper for B.Sc II Year

Time: 2 ½ hrs **Max Marks: 60**

Section-A

Note: Answer any 5 of the following – Each question carries 4 Marks **5 X 4=20 Marks**

Q1 Unit I
Q2 Unit I
Q3 Unit II
Q4 Unit II
Q5 Unit III
Q6 Unit III
Q7 Unit IV
Q8 Unit IV

Section-B

Note: Answer all the questions –Each question carries 10 Marks **4 X 10=40 Marks**

Q9 a) Unit-I
or
b) Unit I

Q10 a) Unit-II
Or
b) Unit-II

Q11 a) Unit-III
Or
b) Unit-III

Q12 a) Unit-IV
Or
b) Unit-IV

Government Degree College for Women (Autonomous), Begumpet, Hyderabad

Pattern of Examination

Internal and Semester Evaluation pattern for second semester is given here under:

Internal Assessment

q) Two Internals of **20 Marks** each. Average of the two Internals is considered for computation of marks

10 Marks for Unit-wise exams (20 Objective type Questions X ½ Mark = 10 Marks)

5 Marks for Seminar and Group discussion on the course, Internships,Jignasa study projects and workshops conducted by MOU`S,certificate (Agastya foundation(MOU) and Value added(First-Aid techniques by Dhanvantri Charitable Trust(MOU) courses

5 Marks for Assignment, Science fairs and PPT presentations on field visits and Out Reached Programmes organized by neighboring colleges.

r) Internal exam consists of **20 Marks**

In **Section A** (Two short answer Questions of 5 marks to be answered out of 4 (**2 X 5M=10M**)

In **Section-B** (One question is to be answered with **Internal choice** and carries **10 M**)

s) Internals shall be held at the end of every **9th week** and **14th week** of each semester

t) The duration of the Internals shall be **45 minutes**

Semester Examination

Semester Exams will be conducted in October and April of every year

m) 60 marks are allotted for Each paper per semester

n) Section-A (5 Questions out of 8 Questions have to be attempted – Each Question carries (4 Marks-5 X 4M = 20M)

o) Section-B (4Questions with Internal choice are to be attempted- Each question carries (10 M- 4 X 10M=40 M)

Resolved to accept the above Pattern of Examinations for B.Sc II , Year

SEMESTER - V

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16

(An Autonomous College of Osmania University)

DEPARTMENT OF PHYSICS

B.Sc III YEAR (PHYSICS)CBCS

SEMESTER – V

GE – RENEWABLE ENERGY RESOURCES

Applicable from the academic year 2021-22 onwards

Objective :To acquire knowledge for application of Renewable Energy Resources for Sustainable developments

Total: 48 hrs

(4 Hrs/week)

Unit I: Principles of Solar Radiation and Collection (Qualitative only): (12 Hrs)

Non-renewable energy resources - Principles of power generation and transmission.A model of conventional thermal power plant.Advantages and disadvantages of conventional power plants. Role and potential of new and renewable sources, the solar energy option, environmental impact of solar power, physics of the sun, the solar constant, solar radiation on tilted surface, instruments for measuring solar radiation and sun shine, solar radiation data.

Unit II: Solar Energy Storage and Applications: (12 Hrs)

Solar energy collectors - Flat plate and concentration collectors, classification of concentration collectors and orientation, advanced collectors. Different sensible, latent heat and stratified storage, solar ponds. Solar Applications - solar heating cooling technique, solar distillation and drying, photovoltaic energy conversion

Unit III: Wind and Bio-Mass Energy: (12 Hrs)

Resources and potentials, horizontal and vertical axis windmills, performance characteristics. Principles of Bio-Conversion, Energy from waste, types of bio-gas digesters, gas yield, combustion characteristics of bio-gas, utilization for cooking. LPG and CNG.

Unit IV: Geothermal and Ocean Energy (12 Hrs)

Resources, types of wells, methods of harnessing the energy, potential in India.OTEC, principles of utilization, setting of OTEC plants, thermodynamic cycles.Tidal and wave energy, Potential and conversion techniques, mini-hydel power plants, land and their economics.

TEXT BOOKS:

1. Non-Conventional Energy Sources - G.D Rai, Khanna Publishers

2. Renewable Energy ResourcesTwidell&Wier, CRC Press(Taylor & Francis)

REFERENCE BOOKS:

1. Renewable energy resources. Tiwari and Ghosal, Narosa. 2. Renewable Energy Technologies - Ramesh & Kumar, Narosa 3. Non-Conventional Energy Systems - K Mittal, Wheeler 4.Renewable energy sources and emerging technologies by D.P. Kothari, K.C. Singhal.

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16

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DEPARTMENT OF PHYSICS

B.COM III YEAR (COMPUTER APPLICATIONS /TAX PROCEDURES/ BUSINESS ANALYTICS)CBCS

SEMESTER – V

DSE 3311 – MODERN PHYSICS

Applicable from the academic year 2021-22 onwards

MAX MARKS :60 E+40I=100**HPW :5NO. Of Credits:5**

Objective: To make the students acquire the knowledge of classical and quantum physics.

COURSE OUTCOMES

After completion of the course the student is able to:

1. Imbibe conceptual knowledge of Classical physics adequacies.
2. Differentiate methods of Classical and quantum physics
3. Apply quantum mechanics to Schrodinger Wave Equation.
4. Demonstrate mastery of solid state physics for matrial science applications.

B.Sc. (Physics)- III Year

Semester -V Paper-V :: (A) Modern Physics

(DSE - Elective)

UNIT I: SPECTROSCOPY (12)

Atomic Spectra: Introduction - Drawbacks of Bohr's atomic model. Sommerfeld's elliptical orbits - relativistic correction (no derivation). Stem &Gerlach experiment. Vector atom model and quantum numbers associated with it. L-S and). coupling schemes. Spectral terms, selection rules, intensity rules - spectra of alkali atoms, doublet fine structure, Zeeman Effect, Paschen-Back Effect and Stark Effect (basic idea).

Molecular Spectroscopy: Types of molecular spectra, pure rotational energies and spectrum of diatomic molecule. Determination of inter nuclear distance. Vibrational energies and spectrum of diatomic molecule. Raman effect, classical theory of Raman effect. Experimental arrangement for Raman effect and its applications.

UNIT -II :Quantum Mechanics (14)

Inadequacy of classical Physics: Spectral radiation - Planck's law (only discussion). Photoelectric effect - Einstien's photoelectric equation.Compton's effect - experimental verification.

Matter waves & Uncertainty principle: de Broglie's hypothesis - wavelength of matter waves, properties of matter waves. Phase and group velocities. Davisson and Germer experiment. Double slit experiment. Standing de Brogile waves of electron in Bohr orbits. Heisenberg's uncertainty principle for position and momentum (x and Px) Energy and time (E and t). Gamma ray microscope. Diffraction by a single slit. Position of electron in a Bohr orbit.Complementary principle of Bohr.

Schrodinger Wave Equation

Schrodinger time independent and time dependent wave equations.Wave function properties - Significance.Basic postulates of quantum mechanics. Operators, eigen functions and eigen values, expectation values

Unit - III: Nuclear Physics (10)

Nuclear Structure: Basic properties of nucleus size, charge, mass, spin, magnetic dipole moment and electric quadrupole moment. Binding energy of nucleus, deuteron binding energy, p-p, n-n, and n-p scattering (concepts), nuclear forces.Nuclear models- liquid drop model, shell model.

Alpha and Beta Decays: Range of alpha particles, Geiger - Nuttal law. Gammow's theory of alpha decay. Geiger - Nuttal law from Gammow's theory, Beta spectrum-neutrino hypothesis

Particle Detectors: GM counter, proportional counter, scintillation counter

UNIT: IV: Solid State Physics &Crystolography (12)

Crystal Structure: Crystalline nature of matter. Cystal lattice Unit Cell, Elements of symmetry.Crystal systems, Bravais lattices.Miller indices. Simple crystal structures (S.C., BCC, FCC, CSCI. NaCl, diamond and Zine Blende)

X-ray Diffraction: Diffraction of X-rays by crystals, Bragg's law, Experimental techniques - Laue's method and powder method.

Bonding in Crystals: Types of bonding in crystals - characteristics of crystals with different bondings.Lattice energy of ionic crystals-determination of Madelung constant for NaCl crystal Calculation of Born Coefficient and repulsive exponent Bom-Haber cycle.

Suggested books

1. Modern Physics by G. Aruldas& P. Rajagopal Eastern Economy Edition
2. Concepts of Modern Physics by Arthur Beiser, Tata McGraw-Hill Edition.
3. Modern Physics by R. Murugeshan and Kiruthiga Siva Prasath S. Chand & Co.
4. Nuclear Physics by D.C. Tayal, Himalaya Publishing House
5. Molecular Structure and Spectroscopy by G Aruldhas. Prentice Hall of India, New Delhi.
6. Spectroscopy Atomic and Molecular by Gurdeep R Chatwal and ShyamAnand - Himalaya PublishingHouse.
7. Third Year Physics - Telugu Academy.
8. Elements of Solid State Physics by J.P. Srivastava (for chapter on nanomaterials)- Prentice hall of India Pvt. Ltd.

B.Sc. (Physics Practical) - III year

Semester - V Paper: V:: A. Modern Physics Practicals

(DSE)

1. Measurement of Planck's constant using black body radiation and photo-detector

2. Photo-electric effect: photo current versus intensity and wavelength of light; maximum energy of photo-electrons versus frequency of light

3. To determine the Planck's constant using LEDs of at least 4 different colors.

4. To determine the ionization potential of mercury.

5. To determine the absorption lines in the rotational spectrum of lodine vapour.

6. To determine the value of e/m by (a) Magnetic focusing or (b) Bar magnet.

7. To setup the Millikan oil drop apparatus and determine the charge of an electron

8. To show the tunneling effect in tunnel diode using 1-V characteristics

9. To determine the wavelength of laser source using difraction of single slit.

10. To determine the wavelength of laser source using diffraction of double slits.

11. To determine (1) wavelength and (2) angular spread of He-Ne laser using plane diffraction grating

12. To determine the value of elm for electron by long solenoid method.

13. Photo Cell - Determination of Planck's constant.

14. To verify the inverse square law of radiation using a photo-electric cell.

15. To find the value of photo electric work function of a material of the cathode using a photo electric cell.

16. Measurement of magnetic field-Hall probe method.

17. To determine the dead time of a given G.M. tube using double source.

18. Hydrogen spectrum - Determination of Rydberg's constant

19. Energy gap of intrinsic semi-conductor

20.G.M. Counter-Absorption coefficients of a material.

21. To draw the plateau curve for a Geiger Muller counter.

22. To find the half-life period of a given radioactive substance using a G.M. Counter

Reference Books:

1. Advanced Practical Physics for students, B.L. Flint and H.T. Worsnop, 1971, Asia PublishingHouse

2. Advanced level Physics Practicals, Michael Nelson and Jon M. Ogbom, 4th Edition, reprinted1985. Heinemann Educational Publishers

3. A Text Book of Practical Physics, I. Prakash& Ramakrishna, 11th Edn, 2011.Kitab Mahal

Note: Minimum of eight experiments should be performed.

GOVERNMENT DEGREE COLLEGE FOR WOMEN,BEGUMPET,HYD-16
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Re-Accredited by NAAC with "B" Grade
Faculty of Physics

B.Sc III YEAR (MODERN PHYSICS)CBCS

SEMESTER-V**DSE 3311 –MODERN PHYSICS**(Question paper pattern)
Applicable from the academic year 2021-22

Max.Marks :100(60E+40I)Time: 2 ½ Hrs

I. Internal Assessment:40 Marks

Written	: 20 Marks
Assignment	: 5 Marks
Seminar	: 5 Marks
MCQ's (Objective)	: 10Marks
Total	: 40 Marks

Note: Average marks of two Internal written test will be considered.

Model Question Paper for B.Sc II Year

Time: 2 ½ hrs **Max Marks: 60**

Section-A

Note: Answer any 5 of the following – Each question carries 4 Marks **5 X 4=20 Marks**

Q1 Unit I
Q2 Unit I
Q3 Unit II
Q4 Unit II
Q5 Unit III
Q6 Unit III
Q7 Unit IV
Q8 Unit IV

Section-B

Note: Answer all the questions –Each question carries 10 Marks **4 X 10=40 Marks**

Q9 a) Unit-I
or
b) Unit I

Q10 a) Unit-II
Or
b) Unit-II

Q11 a) Unit-III
Or
b) Unit-III

Q12 a) Unit-IV
Or
b) Unit-IV

Government Degree College for Women (Autonomous), Begumpet, Hyderabad

Pattern of Examination

Internal and Semester Evaluation pattern for second semester is given here under:

Internal Assessment

u) Two Internals of **20 Marks** each. Average of the two Internals is considered for computation of marks

10 Marks for Unit-wise exams (20 Objective type Questions X ½ Mark = 10 Marks)

5 Marks for Seminar and Group discussion on the course, Internships,Jignasa study projects and workshops conducted by MOU`S,certificate (Agastya foundation(MOU)

5 Marks for Assignment, Science fairs and PPT presentations on field visits and Out Reached Programmes organized by neighboring colleges.

v) Internal exam consists of **20 Marks**

In **Section A** (Two short answer Questions of 5 marks to be answered out of 4 (**2 X 5M=10M**)

In **Section-B** (One question is to be answered with **Internal choice** and carries **10 M**)

w) Internals shall be held at the end of every **9th week** and **14th week** of each semester

x) The duration of the Internals shall be **45 minutes**

Semester Examination

Semester Exams will be conducted in October and April of every year

p) 60 marks are allotted for Each paper per semester

q) Section-A (5 Questions out of 8 Questions have to be attempted – Each Question carries (4 Marks-5 X 4M = 20M)

r) Section-B (4Questions with Internal choice are to be attempted- Each question carries (10 M- 4 X 10M=40 M)

Resolved to accept the above Pattern of Examinations for B.Sc II , Year

SEMESTER - VI

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16

(An Autonomous College of Osmania University)

DEPARTMENT OF PHYSICS

B.Sc III YEAR (NANO SCIENCE)CBCS

SEMESTER – VI

PR/PAPER IN LIEU OF PROJECT : RESEARCH METHODOLOGY & PROJECT REPORT /NANO SCIENCE

Applicable from the academic year 2021-22 onwards

MAX MARKS : 60 T + (30R + 10V=40 P) =100 marks
HPW : 2T+4R
NO. Of Credits:4

Objective: To introduce the basics of conducting research in NANOl sciences.
To introduce the basics of conducting research in Physicalsciences.

COURSE OUTCOMES

After completion of the course the student is able to:

1.understand some basic concepts of research and its methodologies .
2. identify appropriate research topics.
3. select and define appropriate research problem and parameters.
4. prepare a project proposal (to undertake a project).
5. organize and conduct research (advanced project) in a more appropriate manner.
6. write a research report and thesis.
7. write a research proposal (grants)

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16

(An Autonomous College of Osmania University)

DEPARTMENT OF PHYSICS

B.Sc III YEAR (ELECTRONICS)CBCS

SEMESTER – VI

DSE 3311 - ELECTRONICS

Applicable from the academic year 2021-22 onwards

MAX MARKS :60 E+40I=100**PPW : 5NO. Of Credits: 5**

COURSE OUTCOMES

After completion of the course the student is able to:

1. Understand various BIASING concepts, Junction diodes.
2. Analyse and provide recommendations to improve the operations of Feed back amplifiers, UJT
3. Evaluate the Characteristics of FET,UJT.
4. Differentiate methods of Digital Electronics applications in circuits.

Objective: To be acquaint with Digital -circuit techniques and application methods.

Unit-1: (12 Hrs)

Band theory of P-N junction

1. Energy band in solids (band theory), valence band, conduction band and forbidden energy gap in solids, insulators, semiconductors and pure or intrinsic semiconductors and impure or extrinsic semi-conductors. N-type semi-conductors, P-type semi-conductors.Fermi level, continuity equation.

2. Diodes: P-N junction diode, Half-wave, full-wave and bridge rectifier. Zener diode & its characteristics.Zener diode as voltage regulator.

Unit II: (12 Hrs)

1. Bipolar Junction Transistor (BJT) – p-n-p and n-p-n transistors, current components in transistors, CB, CE and CC configurations - transistor as an amplifier - RC coupled amplifier - Frequency response (Qualitative analysis).

2. Feedback concept & Oscillators: Feedback, General theory of feedback - Concepts of oscillators, Barkhausen's criteria, Phase shift oscillator - Expression for frequency of oscillation.

Unit-III : (10 hrs)

Special devices- Construction and Characteristics: Photo diode - Shockley diode - Solar cell. Optocouplers - Field Effect Transistor (FET) - FET as an Amplifier - Uni Junction Transistor (UT). UT as a relaxation oscillator - Silicon controlled rectifier (SCR) - SCR as a switch.

Unit-IV: (14 Hrs)

1. Digital Electronics

Binary number system, convertion of binary to decimal and vice-versa. Binary addition and subtraction (l's and 2's complement methods).Hexadecimal number system.Conversion from binary to hexadecimal and vice versa.Decimal to hexadecimal and vice versa.

2. Logic gates: OR, AND, NOT gates, truth tables, realization of these gates using discrete components. NAND, NOR as universal gates, Exclusive - OR gate (EX-OR). De Morgan's Laws - Verification.

NOTE: Problems should be solved from every chapter of all units.

Suggested books

1. Electronic devices and circuits - Millman and Halkias. *McGraw-Hill Education*
2. Principles of Electronics by V.K. Mehta - *S. Chand & Co*.
3. Basic Electronics (Solid state) - B. L. Theraja. S. Chand & Co.
4. A First Course in Electronics- Anwar A. Khan &Kanchan K. Dey, PHI
5. Physics of Semiconductor Devices S. M. Sze
6. Physics of Semiconductors. Streetman
7. Basic Electronics - BernodGrob.
8. Third year Electronics - Telugu Academy
9. Digital Principles & Applications - A.P. Malvino and D.P. Leach

B.Sc. (Physics Practical) - III year

Semester - VI

Paper: VI::A. Electronics

1. Construction of logic gates (AND, OR NOT, gates) with discrete components – Truth table Verification

2. AND, OR, NOT-gates constructions using universal gates - Verification of truth tables.

3. Construction of NAND and NOR gates with discrete components and truth table

Verification

4. Characteristics of a Transistor in CE configuration

5. R.C. coupled amplifier-frequency response.

6. Verification of De Morgan's Theorem.

7. Zener diode V.1 characteristics.

8. P-n junction diode V. I characteristics

9. Zener diode as a voltage regulator

10. Construction of a model D.C. power supply

11. RC phase shift Oscillator-determination of output frequency

- ❖ Every student should complete minimum 06 experiments.

Suggested Books

1.B.Sc. Practical Physics-C. L. Arora - S. Chand & Co.

2. Viva-voce in Physics - R.C. Gupta, PragathiPrakashan, Meerut.

3. Laboratory manual for Physics Course by B.P. Khandelwal.

4. Practical Physics by M. Arul Thakpathi by Comptex Publishers.

5. B.Sc. practical physics - Subbi Reddy

Note: Minimum of eight experiments should be performed.

GOVERNMENT DEGREE COLLEGE FOR WOMEN,BEGUMPET,HYD-16

(An autonomous college of Osmania University)

Re-Accredited by NAAC with "B" Grade

Faculty of Physics

B.Sc III YEAR (ELECTRONICS)CBCS

SEMESTER-VI

DSE 3311 -ELECTRONICS(Question paper pattern)

Applicable from the academic year 2021-22

Max.Marks :100(60E+40I)Time: 2 ½ Hrs

Internal Assessment:40 Marks

Written	: 20 Marks
Assignment	: 5 Marks
Seminar	: 5 Marks
MCQ's (Objective)	: 10Marks
Total	: 40 Marks

Note: Average marks of two Internal written test will be considered.

Model Question Paper for B.Sc III Year

Time: 2 ½ hrs **Max Marks: 60**

Section-A

Note: Answer any 5 of the following – Each question carries 4 Marks **5 X 4=20 Marks**

Q1 Unit I
Q2 Unit I
Q3 Unit II
Q4 Unit II
Q5 Unit III
Q6 Unit III
Q7 Unit IV
Q8 Unit IV

Section-B

Note: Answer all the questions –Each question carries 10 Marks **4 X 10=40 Marks**

Q9 a) Unit-I
or
b) Unit I

Q10 a) Unit-II
Or
b) Unit-II

Q11 a) Unit-III
Or
b) Unit-III

Q12 a) Unit-IV
Or
b) Unit-IV

Government Degree College for Women (Autonomous), Begumpet, Hyderabad

Pattern of Examination

Internal and Semester Evaluation pattern for second semester is given here under:

Internal Assessment

y) Two Internals of **20 Marks** each. Average of the two Internals is considered for computation of marks

10 Marks for Unit-wise exams (20 Objective type Questions X ½ Mark = 10 Marks)

5 Marks for Seminar and Group discussion on the course, Internships,Jignasa study projects and workshops conducted by MOU`S,certificate (Agastya foundation(MOU) and Value added(First-Aid techniques by Dhanvantri Charitable Trust(MOU) courses

5 Marks for Assignment, Science fairs and PPT presentations on field visits and Out Reached Programmes organized by neighboring colleges.

z) Internal exam consists of **20 Marks**

In **Section A** (Two short answer Questions of 5 marks to be answered out of 4 (**2 X 5M=10M**)

In **Section-B** (One question is to be answered with **Internal choice** and carries **10 M**)

aa) Internals shall be held at the end of every **9th week** and **14th week** of each semester

bb) The duration of the Internals shall be **45 minutes**

Semester Examination

Semester Exams will be conducted in October and April of every year

s) 60 marks are allotted for Each paper per semester

t) Section-A (5 Questions out of 8 Questions have to be attempted – Each Question carries (4 Marks-5 X 4M = 20M)

u) Section-B (4Questions with Internal choice are to be attempted- Each question carries (10 M- 4 X 10M=40 M)

Resolved to accept the above Pattern of Examinations for B.Sc II , Year

Government Degree College for Women (Autonomous) Begumpet, Hyderabad

Department of Physics
List of panel of Examiners for Physics
B.Sc. I, II & III year

S.No	SEM	Paper	Title of the Paper	Name of the Examiner	Contact No.	Designation	College
1	I	I	**Mechanics**	**Sri N.Hari Kumar/R.Jagadish/Dr. M.Vijaya lakshmi**	9000400464/**9885334357/9441899369**	**Assistant Professor of Physics**	**Dr.B.R.Ambedkar College, Baghlingampalli, Jagruti Degree&PG college (Hyd)./Gdc Kukatpally**
2	II	II	**Thermodynamics**	**Dr.M.Kondaiah/Smt.Ch.Sirisha**	**9966586998/9676181913**	**Assistant Professor of Physics**	**Gdc Kukatpally/New Science college**
3	III	III	**Electromagnetism**	**(Smt.)Shanmukhi Jyothi/S.Radhika/Dr.M.Vijaya Lakshmi**	7799529939/9440249103/9441893	**Assistant Professor of Physics**	GDC Hussainialam/Gdc Narayanguda/Gdc Kukatpally
4	IV	IV	**Optics**	**Ch.Sirisha/Smt.Shanmukhi Jyothi**	**9676181913/**7799529939	**Assistant Professor of Physics**	New science college/GDC Hussainialam

5	V	V	**Modern Physics**	**R.Jagadish /Ch.Sirisha/(smt)Shanmukhi Jyothi**	**9885334357/9676181913/**7799529939	**Assistant Professor of Physics**	Jagruthi degree and PG college/New science college/GDC Hussainialam
6	VI	VI	**Basics of Electronics**	Dr.M.kondaiah/Smt.CH. sirisha	**9966586998/9676181913**	**Assistant Professor of Physics**	**Gdc Kukatpally/** New science college

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET

(AUTONOMOUS)

CHOICE BASED CREDIT SYSTEM

(CBCS)

SYLLABUS

For

B.A (COMPUTER APPLICATIONS)

Under Graduate Programme

DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS

(W.e.f. 2020 - 21 Session)

Programme Outcomes

PO1. Domain Expertise:

- Gain thorough knowledge in the chosen domain and be able to apply it wherever necessary in an innovative manner.

PO2. Modern equipment Usage:

- Equip the students with modern technological skills, so that they are able to use software applications in their careers.

PO3. Computing Skills and Ethics:

- Students learn critical thinking and are able to analyse and solve problems rationally and ethically for communication, entertainment and for the benefit of mankind throughout ones endeavours for the wellbeing of human race.

PO4. Complex Problem Investigation & Solving

- Learn to analyse the problem, frame hypotheses, interpret empirical data and execute action

PO5. Perform effectively as Individuals and in Teams

- Be able to contribute at individual level and as team member and prioritize institutional interest over individual

PO6. Efficient Communication & Life skills

- Learn efficient communication to express, listen, understand and project views in a convincing manner clearly and concisely

PO7. Environmental Sustainability

- Understand current environmental challenges faced by the country & propagate and follow environment friendly practices.

PO8. Societal contribution

- Develop the pride in volunteering to address societal issues *viz:* calamities, disasters, poverty, epidemics and involve voluntarily in social development activities at Regional , National, global levels.

PO9. Effective Project Management

- Identify the goals, objectives and components of a project and then implementation so that deadlines are achieved, even when there are setbacks.

PROGRAM SPECIFIC OUTCOMES

1) Ability to pursue careers in IT industry/ consultancy/ research and development, teaching and allied areas related to computer science.
2) Comprehend, explore and build up computer programs in the areas allied to Algorithms, System Software, Multimedia, Web Design and Big Data Analytics for efficient design of computer-based systems of varying complexity.

GOVERNMENT DEGREE COLLEGE FOR WOMEN

(AUTONOMOUS)

BEGUMPET, HYDERABAD

DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS

ALLOCATION OF CREDITS

Course Code	Course Title	Course Type	Hours per Week	Credits
SEMESTER – I				
106	Programming in C	DSC-3A	4T+3P=7	4+1=5
SEMESTER – II				
206	Programming in C++	DSC-3B	4T+3P=7	4+1=5
SEMESTER – III				
301	A:Scilab - 1	SEC-1	2	2
	B: Python - 1			
306	Relational Database Management System	DSC-3C	4T+3P=7	4+1=5
SEMESTER – IV				
401	C: SciLab – 2	SEC-2	2	2
	D: Python – 2			
406	Multimedia Systems	DSC- 3C	4T+3P=7	4+1=5
SEMESTER – V				
501	Information Technologies – 1	GE–1	2	2
505	Multimedia Systems	DSC- 3E	3T+2P=5	3+1=4
506	Elective–A: Web Technologies	DSE-1E	3T+2P=5	3+1=4
	Elective–B: Visual Programming	DSE-2E	3T+2P=5	3+1=4
SEMESTER – VI				
601	Information Technologies – 2	GE–2	2	2

605	**Mobile Applications**	**DSC–3F**	**3T+2P=5**	**3+1=4**
606	**Elective–A: PHP Programming**	**DSE–1F**	**3T+2P=5**	**3+1=4**
	Elective–B: Information Security and Cyber Laws	**DSE–2F**	**3T+2P=5**	**3+1=4**
	PROJECT			**1**

Government College for Women Begumpet, Hyderabad-500016
(An Autonomous college of Osmania University)
Re-Accredited by NAAC with 'A+' Grade
B.A (C/A) I YEAR
Semester-I
Subject: Computer Applications
Paper- I Programming in C

Theory: 4 **Hours/Week** **4 credits**

Course Outcome:

1) Able to implement the algorithms and draw flowcharts for solving Mathematical and Engineering problems.
2) Demonstrate an understanding of computer programming language concepts. To be able to develop C programs on Linux platform.
3) Ability to design and develop Computer programs, analyzes, and interprets the concept of pointers, declarations, initialization, operations on pointers and their usage.
4) Able to define data types and use them in simple data processing applications also he/she must be able to use the concept of array of structures.
5) Student must be able to define union and enumeration user defined data types. Develop confidence for self education and ability for life-long learning needed for Computer language.

Syllabus

Unit – I

Computer Fundamentals: Introduction of Computers, Classification of Computers, Anatomy of a Computer, Memory Hierarchy, Introduction to OS.
Program Fundamentals: Generation and Classification of Programming Languages,Writing first C Program
Algorithms: Definitions, Different Ways of Stating Algorithms (Step-form, Pseudo-code, Flowchart), Strategy for Designing Algorithms.
Basics of C: Overview of C, Developing Programs in C, Parts of Simple C Program, Structure of a C Program, Comments, Program Statements, C Tokens, Keywords, Identifiers, Data Types, Variables, Constants, Operators and Expressions, Type Conversions.

Unit – II

Input-Output: Non-formatted and Formatted Input and Output Functions, Escape Sequences,

Control Statements: Selection Statements – if, if-else, nested if, nested if-else, comma operator, conditional operator, switch; Iterative Statements–while, for, do-while; Special Control Statement–goto, break, continue, return, exit.
Arrays and Strings: One and Two Dimensional Arrays, Character Arrays, Functions from ctype.h, string.h.

Unit – III
Functions: Concept of Function, Using Functions, Call-by-Value Vs Call-by-reference, Passing Arrays to Functions, Score of Variables, Storage Classes, Inline Functions, and Recursion.
Pointers: Introduction, Address of Operator (&), Pointer, Uses of Pointers, Arrays and Pointers, Pointers and Strings, Dynamic Memory Allocation.

Unit – IV
User-Defined Data Types: Declaring a Structure (Union) and its members, Initialization Structure (Union), Accessing members of a Structure (Union), Structures verses Unions, Enumeration Types.
Files: Introduction, Using Files, Working with Text Files and Binary Files, Other File Management Functions.

Text
PradipDey, ManasGhosh, Computer Fundamentals and Programming in C (2e)
References

1. Ivor Horton, Beginning C
2. Herbert Schildt, The Complete Reference C
3. Paul Deitel, Harvey Deitel, C How To Program
4. Byron S. Gottfried, Theory and Problems of Programming with C
5. Brian W. Kernighan, Dennis M. Ritchie, The C Programming Language
6. B. A. Forouzan, R. F. Gilberg, A Structured Programming Approach Using C

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B.A (C/A) I YEAR
Semester-I
Subject: Computer Applications
Paper- I Programming in C

Course Outcome:

1) Know concepts in problem solving ·
2) To do programming in C language ·
3) To write diversified solutions using C language.

Practical Question Bank

Practical: 3 Hours/Week **1 credit**

1. Write a program to find the largest two numbers using if and conditional operator.
2. Write a program to calculate arithmetic operations of two numbers using switch.
3. Write a program to print the reverse of a given number.
4. Write a program to print whether the given number is a prime or not.
5. Write a program to find largest and smallest elements in a given list of numbers.
6. Write a program to find the sum of two matrices.
7. Write a program to find the product of two matrices.
8. Write a program to print the reverse of a given string.
9. Write a program to find the factorial of a positive integer using iteration and recursion.
10. Write a program to find the GCD of two positive integers using iteration and recursion.
11. Write a program to demonstrate the call by value and the call by reference concepts.
12. Write a program to illustrate the use of Enumeration data type.
13. Write a program to illustrate the use of structure concept.
14. Write a program to illustrate the use of union concept.

15. Write a program to write content into a file and display contents of a file

16. Write a program to copy content of one file into another file and display the content of new file.

Note

Write the Pseudo Code and draw Flow Chart for the above programs.

Recommended to use Open Source Software: GCC on Linux; DevC++ (or) CodeBlocks on Windows 10.

Government College for Women Begumpet, Hyderabad-500016

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B.A (C/A) I YEAR
Semester-II
Subject: Computer Applications
Paper- II Programming in C++

Theory **4 Hours/Week** **4credits**

Course Outcome:

1) To understand how C++ improves C with object-oriented features.
2) To learn how to write inline functions for efficiency and performance.
3) To learn the syntax and semantics of the C++ programming language.
4) To learn how to design C++ classes for code reuse.
5) To learn how to implement copy constructors and class member functions.
6) To understand the concept of data abstraction and encapsulation.
7) To learn how to overload functions and operators in C++.
8) To learn how containment and inheritance promote code reuse in C++.
9) To learn how inheritance and virtual functions implement dynamic binding with polymorphism.
10) To learn how to design and implement generic classes with C++ templates.
11) To learn how to use exception handling in C++ programs.

Syllabus

Unit – I

Introduction to C++: Applications, Example Programs, Tokens, Data Types, Operators, Expressions, Control Structures, Arrays, Strings, Pointers, Arrays.

Functions: Introduction, Prototype, Passing Data by Value, Reference Variables, Using Reference Variables as Parameters, Inline Functions, Default Arguments, Overloading Functions, Passing Arrays to Functions.

Unit – II

Object Oriented Programming: Procedural Programming verses Object-Oriented Programming, Terminology, Benefits, OOP Languages, and OOP Applications.

Classes: Introduction, Defining an Instance of a Class, Private Members, Inline Member Functions, Constructors, Passing Arguments to Constructors, Destructors, Overloading Constructors, Private Member Functions, Arrays of Objects, Instance and Static Members, Friends of Classes, Copy Constructors, Operator Overloading.

Unit – III

Inheritance: Introduction, Protected Members and Class Access, Base Class Access Specification, Constructors and Destructors in Base and Derived Classes, Polymorphism and Virtual Member Functions, Abstract Base Classes and Pure Virtual Functions, Multiple Inheritance.

C++ Streams: Stream Classes, Unformatted I/O Operations, Formatted I/O Operations.

Unit – IV

Exceptions: Introduction, Throwing an Exception, Handling an Exception, Object-Oriented Exception Handling with Classes, Multiple Exceptions, Re-throwing an Exception.

Templates: Function Templates–Introduction, Function Templates with Multiple Type, Overloading with Function Templates, Class Templates – Introduction, Defining Objects of the Class Template, Class Templates and Inheritance.

Text

Tony Gaddis, Starting out with C++: from control structures through objects (7e)

References

B. Lippman, C++ Primer
Bruce Eckel, Thinking in C++
K.R. Venugopal, Mastering C++
Herbert Schildt, C++: The Complete Reference
BjarneStroustrup, The C++ Programming Language
SouravSahay, Object Oriented Programming with C++

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B.A (C/A) I YEAR
Semester-II
Subject: Computer Applications
Paper- II Programming in C++

Practical **3Hours/Week** **1 credit**

Course Outcome:

1) Creating simple programs using classes and objects in C++.
2) Implement Object Oriented Programming Concepts in C++.
3) Develop applications using stream I/O and file I/O.
4) Implement simple graphical user interfaces.
5) Implement Object Oriented Programs using templates and exceptional handling concepts.

Practical Question Bank

1. Write a program to print the sum of digits of a given number
2. Write a program to check whether the given number is Armstrong or not
3. Write a program to check whether the given string is Palindrome or not
4. Write a program to read student name, roll no, marks and display the same using class and object.
5. Write a program to find area of a rectangle, circle, and square using class and object.
6. Write a program to implement inline function inside and outside of a class for
    a. Finding the area of a square
    b. Finding the area of a cube
7. Write a program to implement friend function and friend class
8. Write a program to implement constructor and destructor with in a class.

9. Write a program to demonstrate hierarchical inheritance.
10. Write a program to demonstrate multiple inheritances.
11. Write a program to demonstrate the constructor overloading.
12. Write a program to demonstrate static polymorphism.
13. Write a program to demonstrate dynamic polymorphism.
14. Write a program to implement polymorphism using pure virtual functions.
15. Write a program to demonstrate the function templates and class templates.
16. Write a program to demonstrate exception handling using try, catch, and finally.

Note: Recommended to use Open Source Software: GCC on Linux; DevC++ (or) CodeBlocks on Windows.

Government College for Women Begumpet, Hyderabad-500016
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Re-Accredited by NAAC with 'A+' Grade
B.A (C/A) II YEAR
Semester-III
Subject: Computer Applications

Theory **4 Hours/Week** **4credits**

Course Outcome:

a. Explain the basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL.
b. Design ER-models to represent simple database application scenarios
c. Convert the ER-model to relational tables, populate relational database and formulate SQL queries on data.
d. Improve the database design by normalization.
e. Familiar with basic database storage structures and access techniques: file and page organizations, indexing methods including B tree, and hashing.

Syllabus

Unit – I

Introduction to Databases: Introduction, Traditional File-Based Systems, Database Approach, Advantages and Disadvantages of DBMSs, The Three-Level ANSI-SPARC Architecture, Database Languages, Data Models, Functions of a DBMS, Components of a DBMS.

Relational Model: Introduction, Terminology, Integrity Constraints, Views.

Unit – II

SQL: Introduction, Data Manipulation Language commands, Sorting Results, Using the SQL Aggregate Functions, Grouping Results, Sub-queries, ANY and ALL, Joins, EXISTS and NOT EXIST, Combining Result Tables.

SQL: The ISO SQL Data Types, Data Definition Language commands –Creating an Index, Removing an Index, Views–Creating a View, Removing a View, WITH CHECK OPTION, Advantages and Disadvantages of Views.

Unit – III

Advanced SQL: The SQL Programming Language–Declarations, Assignments, Control Statements, Exceptions, Cursors, Subprograms, Stored Procedures, Functions, and Packages, Triggers, Recursion.

Entity–Relationship Modeling: Entity Types, Relationship Types, Attributes, Keys, Strong and Weak Entity Types, Problems with ER Models–Fan Traps, Chasm Traps.

Enhanced Entity–Relationship Modeling: Specialization/Generalization, Aggregation, and Composition.

Unit – IV

Functional–Dependencies: Anomalies, Partial Functional Dependency, Transitive Functional Dependency.

Normalization: The Purpose of Normalization, Data Redundancy, Functional Dependencies, 1NF, 2NF, 3NF, BCNF.

Transaction Management: Transaction Support–Properties of Transactions, Concurrency Control–The Need for Concurrency Control, Serializability and Recoverability, Locking Methods, Deadlock, Time Stamping Methods.

Text Books:

Text Thomas M. Connolly, Carolyn E. Begg, Database Systems–A Practical Approach to Design, Implementation, and Management (6e)

Sharon Allen, Evan Terry, Beginning Relational Data Modeling

Reference

Jeffrey A. Hoffer, V. Ramesh, HeikkiTopi, Modern Database Management Raghu Ramakrishnan, Johannes Gehrke, Database Management Systems RamezElmasri, Shamkant B. Navathe, Fundamentals of Database Systems Abraham Silberschatz, Henry F. Korth, S. Sudarshan, Database System Concepts

Carlos Coronel, Steven Morris, Peter Rob, Database Systems: Design, Implementation, and Management

Government College for Women Begumpet, Hyderabad-500016
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B.A (C/A) II YEAR
Semester-III
Subject: Computer Applications

Practical **2 Hours/Week** **1 credit**

Course Outcome:

1) To explain basic database concepts, applications, data models, schemas and instances.
2) To demonstrate the use of constraints and relational algebra operations. IV. Describe the basics of SQL and construct queries using SQL.
3) To emphasize the importance of normalization in databases.
4) To facilitate students in Database design .
5) To familiarize issues of concurrency control and transaction management.

Practical Question Bank

Consider the relational schema for part of the DreamHome case study is:
Branch (branchNo, street, city, postcode)
Staff (staffNo, fName, IName, position, sex, DOB, salary, branchNo)
PropertyForRent (propertyNo, street, city, postcode, type, rooms, rent, ownerNo, staffNo, branchNo)
Client (clientNo, fName, IName, telNo, prefType, maxRent, eMail)
PrivateOwner (ownerNo, fName, IName, address, telNo, eMail, password)
Viewing (clientNo, propertyNo, viewDate, comment)
Registration (clientNo, branchNo, staffNo, dateJoined)

1. Create a database with name "Dream Home" and now create all the tables listed above with constraints.
2. Insert a new row into the table supplying data for all columns.
3. Modify data in the database using UPDATE
4. Delete data from the database using DELETE
5. Changing a table definition using ALTER

6. Removing a table using DROP
7. Removing rows in table using TRUNCATE
8. Create an index and removing an index
9. Practice other standard SQL commands for creating, modifying, displaying data of tables.
10. List full details of all staff.
11. List all staff with a salary greater than £10000.
12. List the property numbers of all properties that have been viewed.
13. Produce a list of salaries for all staff, showing only the staffNo, fName, IName, and salary details.
14. List all cities where there is either a branch office or a property for rent.
15. List all cities where there is a branch office but no properties for rent.
16. List all cities where there is both a branch office and at least one property for rent.
17. List the names and comments of all clients who have viewed a property for rent.
18. Produce a status report on property viewings.
19. List complete details of all staff who work at the branch in Glasgow.
20. List the addresses of all branch offices in London or Glasgow.
21. List all staff with a salary between £20,000 and £30,000.
22. Identify all clients who have viewed all properties with three rooms.
23. How many properties cost more than £350 per month to rent?
24. How many different properties were viewed in May 2013?
25. Find the total number of Managers and the sum of their salaries.
26. Find the minimum, maximum and average staff salary.
27. Find the number of staff working in each branch and the sum of their salaries.
28. List all managers and supervisors.
29. Find all owners with the string ‘Glasgow’ in their address.
30. List the details of all viewings on property PG4 where a comment has not been supplied.
31. Produce a list of salaries for all staff, arranged in descending order of salary.
32. Produce an abbreviated list of properties arranged in order of property type.

33. Find the number of staff working in each branch and the sum of their salaries.

34. For each branch office with more than one member of staff, find the number of staff working in each branch and the sum of their salaries.

35. List the staff who work in the branch at '163 Main St'.

36. List all staff whose salary is greater than the average salary, and show by how much their salary is greater than the average.

37. List the properties that are handled by staff who work in the branch at '163 Main St'.

38. Find all staff whose salary is larger than the salary of at least one member of staff at branch B003.

39. Find all staff whose salary is larger than the salary of every member of staff at branch B003

40. List the names of all clients who have viewed a property, along with any comments supplied.

41. For each branch office, list the staff numbers and names of staff who manage properties and the properties that they manage.

42. For each branch, list the staff numbers and names of staff who manage properties, including the city in which the branch is located and the properties that the staff manage.

43. Find the number of properties handled by each staff member, along with the branch number of the member of staff.

44. List all branch offices and any properties that are in the same city.

45. List all properties and any branch offices that are in the same city.

46. List the branch offices and properties that are in the same city along with any unmatched branches or properties.

47. Find all staff who work in a London branch office.

48. Construct a list of all cities where there is either a branch office or a property.

49. Construct a list of all cities where there is both a branch office and a property.

50. Create a view so that the manager at branch B003 can see the details only for staff who work in his or her branch office.

51. Create a view of the staff details at branch B003 that excludes salary information, so that only managers can access the salary details for staff who work at their branch.

52. Create a view of staff who manage properties for rent, which includes the branch number they work at, their staff number, and the number of properties they manage.

53. Removing a view using DROP VIEW

54. Give the user with authorization identifier Manager all privileges on the Staff table.

55. Give users Personnel and Director the privileges SELECT and UPDATE on column salary of the Staff table.

56. Revoke the privilege SELECT on the Branch table from all users.

57. Revoke all privileges you have given to Director on the Staff table.

58. Demonstrate exceptions in PL/SQL

59. Demonstrate cursors in PL/SQL

60. Write PL/SQL queries to create procedures.

61. Write PL/SQL queries to create functions.

62. Write PL/SQL queries to create package.

63. Write PL/SQL queries to create triggers.

64. Write PL/SQL queries using recursion.

65. Create a database with name "Hotel" and now create all the tables listed above with constraints.

66. Insert a new row into the table supplying data for all columns.

67. Modify data in the database using UPDATE

68. Delete data from the database using DELETE

69. Changing a table definition using ALTER

70. Removing a table using DROP

71. Removing rows in table using TRUNCATE

72. Practice other standard SQL commands for creating, modifying, displaying data of tables.

73. List full details of all hotels.

74. List full details of all hotels in London.

75. List the names and addresses of all guests living in London, alphabetically ordered by name.

76. List all double or family rooms with a price below £40.00 per night, in ascending order of price.

77. List the bookings for which no dateTo has been specified.

78. How many hotels are there?

79. What is the average price of a room?

80. What is the total revenue per night from all double rooms?

81. How many different guests have made bookings for August?

82. List the price and type of all rooms at the Grosvenor Hotel.

83. List all guests currently staying at the Grosvenor Hotel.

84. List the details of all rooms at the Grosvenor Hotel, including the name of the guest staying in the room, if the room is occupied.

85. What is the total income from bookings for the Grosvenor Hotel today?

86. List the rooms that are currently unoccupied at the Grosvenor Hotel.

87. What is the lost income from unoccupied rooms at the Grosvenor Hotel?

88. List the number of rooms in each hotel.

89. List the number of rooms in each hotel in London.

90. What is the average number of bookings for each hotel in August?

91. What is the most commonly booked room type for each hotel in London?

92. What is the lost income from unoccupied rooms at each hotel today?

93. Insert rows into each of these tables.

94. Update the price of all rooms by 5%.

95. Investigate the SQL dialect on any DBMS that you are currently using. Determine the system's compliance with the DML statements of the ISO standard. Investigate the functionality of any extensions that the DBMS supports. Are there any functions not supported?

96. Demonstrate that queries written using the UNION operator can be rewritten using the OR operator to produce the same result.

97. Apply the syntax for inserting data into a table.

98. Create a view containing the cheapest hotels in the world.

99. Create the Hotel table using the integrity enhancement features of SQL.

100. Create a database trigger for the following situations:

(a) The price of all double rooms must be greater than £100.

(b) The price of double rooms must be greater than the price of the highest single room.

(c) A booking cannot be for a hotel room that is already booked for any of the specified dates.

(d) A guest cannot make two bookings with overlapping dates.

(e) Maintain an audit table with the names and addresses of all guests who make bookings for hotels in London (do not store duplicate guest detail

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B.Sc II Year Examination
Semester – III
Subject: Computer Science
Paper- Python – 1 (SEC-I)
Syllabus

Theory **2 Hours/Week** **2 credits**

Course Outcome:

1. To acquire programming skills in core Python.
2. To acquire Object Oriented Skills in Python.
3. To develop the skill of designing Graphical user Interfaces in Python .
4. To develop the ability to write database applications in Python.

Syllabus

Unit – I

Introduction to Python Programming: How a Program Works, Using Python, Program Development Cycle, Input, Processing, and Output, Displaying Output with the Print Function, Comments, Variables, Reading Input from the Keyboard, Operators, Type conversions, Expressions.

Decision Structures and Boolean Logic: if, if-else, if-elif-else Statements, Nested Decision Structures, Comparing Strings, Logical Operators, Boolean Variables.

Repetition Structures: Introduction, while loop, for loop, Nested Loops.

Unit – II

Functions: Introduction, Defining and Calling a Void Function, Designing a Program to Use Functions, Local Variables, Passing Arguments to Functions, Global Variables and Global Constants, Value-Returning Functions- Generating Random Numbers, Writing Our Own Value-Returning Functions, The math Module, Storing Functions inModules.

File and Exceptions: Introduction to File Input and Output, Using Loops to Process Files, Processing Records, Exceptions.

Text Tony Gaddis, Starting Out With Python(3e)

References

1. Kenneth A. Lambert, Fundamentals of Python
2. Clinton W. Brownley, Foundations for Analytics with Python
3. JamesPayne,BeginningPythonusingPython2.6andPython

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B.A (C/A) III YEAR
Semester-IV
Subject: Computer Applications
Paper- IV(Multimedia Systems)

Theory **3 Hours/Week** **3 credits**

Course Outcomes:

1) Student will develop multimedia skills understanding the principal players of individual players in multimedia teams in developing projects.
2) Students will work with all aspects of images.
3) Students will work with all aspects of sound.
4) Students will work with all aspects of video.
5) Students will learn copyright laws associated with multimedia.
6) Students will learn the cost involved in multimedia planning, designing, and producing.
7) Students will learn ways to present their multimedia projects.

Syllabus

Unit – I

Multimedia: Introduction, Definitions, Where to Use Multimedia- Multimedia in Business, Schools, Home, Public Places, Virtual Reality;

Text: Meaning, Fonts and Faces, Using Text in Multimedia, Computers and Text, Font Editing and Design Tools, Hypermedia and Hypertext.

Unit – II

Images: Making Still Images, Color.
Sound: The Power of Sound, Digital Audio, MIDI Audio, MIDI vs. Digital Audio, Multimedia System Sounds, Audio File Formats.

Unit – III

Animation: The Power of Motion, Principles of Animation, Making Animations.
Video: Using Video, Digital Video Containers, Shooting and Editing Video.
Making Multimedia: The Stages of a Multimedia Project, the Intangibles, Hardware, Software.

Unit – IV

The Internet and Multimedia: Internetworking, Multimedia on the Web.
Designing for the World Wide Web: Developing for the Web, Text for the Web, Images for the Web, Sound for the Web.

Text	Tay Vaughan, *Multimedia: Making it work (8e)*
	Keyes, *Multimedia Handbook*
References	K. Andleigh, K. Thakkar, *Multimedia System Design*
	Ralf Steinmetz, KlaraNaharstedt, *Multimedia: Computing, Communications Applications*

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B.A (C/A) III YEAR
Semester-IV
Subject: Computer Applications
Paper- IV (Multimedia Systems)

Practical **2 Hours/Week** **1 credit**

Course Outcomes:

1. Identify the basic tools and components of a multimedia project.

2. Apply basic elements and principles of photo editing software to achieve a great photo effect by applying effects like color, shadows, alteration of backgrounds, cropping and collage making.

3. Create simple shapes using animation editing software and design simple animation by applying shape tweens and motion tweens.

4. Prepare and present a multimedia portfolio containing electronic media that demonstrates multimedia and problem-solving skills.

Practical Question Bank

Implement the followings using Blender-

1) Create an animation using the tools panel and the properties panel to draw the following – Line, oval, circle, pencil, brush, lasso tooletc...
2) Create an animation using the tools panel and the properties panel to draw the following – rectangle, square, triangle, diamond, octagon etc...
3) Create an animation using text tool to set the font, size, coloretc.
4) Create an animation using free transform tool that should use followings- Move Objects, Skew Objects, Stretch Objects, RotateObjects,
5) Stretch Objects while maintaining proportion, Rotate Objects after relocating the center dot
6) Create an animation using layers having following features- Insert layer, Delete layer, Guide layer, Masklayer.
7) Modify the document (changing background color etc.)using the following tools Eraser tool, Hand tool, Ink bottle tool, Zoom tool, Paint Bucket tool, Eyedroppertool
8) Create an animation for bus car race in which both starts from the same point and car wins the race.

9) Create an animation for bus car race in which both starts from the same point and bus wins the race.
10) Create an animation in which text Hello gets converted into GoodBye (using motion/shape tweening).
11) Create an animation in which text gets converted into digits (like hello is85121215).

12) Create an animation having five images having fade-in fade-out effect.

13) Create an scene to show the sunrise (using multiple layers and motion tweening)

14) Create an scene to show the sunset (using multiple layers and motion tweening)

15) Create an animation to show the ripple effect.
16) Create an animation (using Shape tweening and shape hints) for transforming one shape into another.
17) Create an animation for bouncing ball (you may use motion guidelayer).

Note**:** Practical exercises based on concepts listed in theory using Presentation tools in office automation

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B.Sc II Year Examination
Semester – IV
Subject: Computer Science
Paper- Python – 2 (SEC-3)

Theory **2 Hours/Week** **2 credits**

Course Outcomes:

1. To acquire programming skills in core Python.
2. To acquire Object Oriented Skills in Python
3. To develop the skill of designing Graphical user Interfaces in Python
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Syllabus

Unit – I

Lists and Tuples: Sequences, Introduction to Lists, List slicing, Finding Items in Lists with the in Operator, List Methods and Useful Built-in Functions, Copying Lists, Processing Lists, Two-Dimensional Lists, Tuples.

Strings: Basic String Operations, String Slicing, Testing, Searching, and Manipulating Strings.

Dictionaries and Sets: Dictionaries, Sets, Serializing Objects.

Recursion: Introduction, Problem Solving with Recursion, Examples of Recursive Algorithms.

Unit – II

Object-Oriented Programming: Procedural and Object-Oriented Programming, Classes, Working with Instances, Techniques for Designing Classes, Inheritance, Polymorphism.

GUI Programming: Graphical User Interfaces, Using the tkinter Module, Display text with Label Widgets, Organizing

Widgets with Frames, Button Widgets and Info Dialog Boxes, Getting Input with Entry Widget, Using Labels as Output Fields, Radio Buttons, Check Buttons.

Text Tony Gaddis, Starting Out With Python(3e)

References

1. Kenneth A. Lambert, Fundamentals ofPython
2. Clinton W. Brownley, Foundations for Analytics withPython
3. JamesPayne,BeginningPythonusingPython2.6andPython3
4. Charles Dierach, Introduction to Computer Science usingPython
5. PaulGries,PracticalProgramming:AnIntroductiontoComputerScienceusingPython3

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B.A (C/A) III YEAR
Semester-V
Subject: Computer Applications
Paper- V (Multimedia Systems)

Theory 3 Hours/Week 3 credits

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Syllabus

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B.A (C/A) III YEAR
Semester-V
Subject: Computer Applications
Paper- V (Multimedia Systems)

Practical **2 Hours/Week** **1 credit**

Course Outcomes:

1. Identify the basic tools and components of a multimedia project.

2. Apply basic elements and principles of photo editing software to achieve a great photo effect by applying effects like color, shadows, alteration of backgrounds, cropping and collage making.

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B.A (C/A) III YEAR
Semester-V
Subject: Computer Applications
Paper- VI (Web Technologies) (Elective-A)

Theory **3 Hours/Week** **3 credits**

Course Outcomes:

1) Students are able to develop a dynamic webpage by the use of java script and Students will be able to connect a java program to a DBMS and perform insert.
2) Students will be able to write a server side java application called Servlet to catch
3) Update and delete operations on DBMS table. Students will be able to write a server side java application called JSP to catch form.
4) Form data sent from client, process it and store it on database. data sent from client and store it on database.

SYLLABUS

UNIT I : Introduction to Internet basics, Client& Server technology, Browsers, Types of Browsers.
Introduction to HTML, HTML commands, Presentational Elements, PhraseElements, Core Elements and Attributes, Text formatting, Text Styles, Lists.

UNIT II :
Images: Adding Images using <IMG> element, Adding Audio and Video to web page
Tables: Introduction to Tables, Nested Tables.
Forms: IntroducingForms, Formcontrols, sending form data to server.

UNIT III :
Frames: Introduction to Frames, <FRAME>element, Creating link between Frames, Nested Frames.
Cascading Style sheets: Introduction to CSS, CSS rules.

CSSProperties: Controlling text, Text Formatting
Text Pseudo Classes, Selectors, Lengths, Links, Lists, Tables, Outlines, Positioning and Layout with CSS.

UNIT IV :

Introduction to Java Script, Java Script in Web pages, Advantages of Java Script, writing Java Script into HTML, Variables, Operators & Expressions in Java Script,

Conditional checking statements, Loops, Functions, Events, Dialog boxes, Built –in- Objects, FormValidation, Java Script Libraries

Text:

Jon Duckett, Beginning HTML, XTML, CSS and JavaScript

References

Chris Bates, Web Programming
M. Srinivasan, Web Technology: Theory and Practice
Achyut S. Godbole, AtulKahate, Web Technologies
Kogent Learning Solutions Inc, Web Technologies Black Book Ralph Moseley and M. T. Savaliya, Developing Web Applications
P.J. Deitel& H.M. Deitel, Internet and World Wide Web How to program.

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B.A (C/A) IIIYEAR
Semester-V
Subject: Computer Applications
Paper- VI (Web Technologies) (Elective-A)

Practical **2 Hours/Week** **1 credit**

Course Outcomes:

1) Analyze a web page and identify its elements and attributes.
2) Create web pages using XHTML and Cascading Style Sheets.
3) Build dynamic web pages using JavaScript (Client side programming).
4) Create XML documents and Schemas.

Practical Question Bank

1. Write a HTML program using basic text formatting tags, <hn>, <p>, <br>,<pre>.
2. WriteaHTMLprogramusingpresentationalelementtags<b>,<i>,<strike>,<sup>,<sub>,<big>, <small>,<hr>.
3. WriteaHTMLprogramusingphraseelementtags<blockquote>,<cite>,<abbr>,<acronym>,<kbd>, <address>.
4. Write a HTML program using different list types.
5. Write a HTML program using grouping elements and.
6. Write a HTML program using images.
7. Write a HTML program to create your time table.
8. Write a HTML program to create a form using text inputs, password inputs, multiple line text input, buttons, check boxes, radio buttons, select boxes, file select boxes.
9. Write a HTML program to create a frames and links between frames.
10. Write a HTML program to create different types of style sheets.
11. Write a HTML program to create CSS on links, lists, tables and generated content.
12. Write a JavaScript program to calculate area of rectangle using function.
13. Write a JavaScript program using switch case.
14. Write a JavaScript program to print multiplication table of given number using loop.

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SEMESTER-V
B.A (C/A) III Year
Subject: Computer Applications
Paper: Information Technologies (GE-1)

Course Outcomes:

1) To keep track of the latest developments in information technologies
2) To use modern technologies to access, organize, store, manipulate, interpret and present information, and thus to empower them to be more ready for problem solving and creative applications in their respective disciplines using computer-aided means.

SYLLABUS

Unit – I

Introduction to Computers: What is a Computer? Characteristics of Computers, Generations of Computers,
Classification of Computers, Basic Computer Organization, Applications of Computers.
Input and Output Devices: Input Devices, Output Devices, Soft Copy Devices, Hard Copy Devices.
Computer Memory and Processors: introduction, Memory Hierarchy, Processor Registers, Cache Memory,
Primary Memory, Secondary Storage Devices, Hard Disks, Optical Drives, USB Flash Drives, Memory
Cards.

Unit – II

Computer Software: Introduction, Classification of Computer Software, System Software, Applications
Software, Firmware, Middleware, Acquiring Computer Software.
Operating Systems: Introduction, Evolution of OS, Process Management, Memory Management, File
Management, Device Management, Security Management, Command Interpreter, Windows, Linux.

Text: ReemaThareja, Fundamentals of Computers

References

P. K. sinha, Computer Fundamentals
Anita Goel, Computer Fundamentals
V. Rajaraman, Fundamentals of Computers
E. Balagurusamy, Fundamentals of Computers
J. Glenn Brookshear, Dennis Brylow, Computer Science An Overview
Note: Student friendly video lecturers pertaining to this course are available at
http:// spoken-tutorial.org/
Teachers are advised to teach this courses in the computer lab itself, so that the interested students may derive some time to perform few programs their own.

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B.A (C/A) III YEAR
Semester-VI
Subject: Computer Applications
Paper- VII (Mobile Applications)
SYLLABUS

Theory **3 Hours/Week** **3 credits**

Course Outcomes:

1) Explains the basic concepts of Android phone features and capabilities.
2) Understands the basic technologies used by the Android platform.
3) Recognizes the structure of an Android application project. Uses the tools necessary for Android application project.
4) Recognizes the concept of application development for mobile devices.
5) Recognizes mobile computing platforms and mobile computing.
6) Recognizes smart devices.
7) Recognizes mobile development environments.

Syllabus

Unit – I

Introduction to Programming and App Inventor: Introduction, What Is a Computer Program? Introducing App Inventor, Getting Hands-On with App, Tutorial 1-1,1-2,1-3,1-4 Working with Media: Displaying Images, Tutorial2-1,2-2,2-3,Duplicating Blocks and Using Dropdowns, Sounds, Color Blocks, Layout Components, Tutorial 2-7Input, Variables, and Calculations: The Text Box Component, Performing Calculations, Tutorial 3- 1, 3-2,Storing Data with Variables Tutorial 3-3, Creating Blocks with Type blocking, Math Functions.

Unit – II

Decision Blocks and Boolean: Introduction to Decision Blocks, Relational Operators and the if Block, Tutorial 4-1, The if then else Block Tutorial 4-2, A First Look At Comparing Strings, Logical Operators, Tutorial 4-4,Nested Decision Blocks, Tutorial 4-5 The if then else if Block, The Screen's Initialize Event

Unit – III

The ListPickerComponent, The Checkbox Component, Repetition Blocks, Times, and Dates: The NotifierComponent, The while Loop, Tutorial 5-1, The for each Loop Tutorial 5-2, The Clock Component, The Date Picker Component Procedures and Functions.

Unit – IV

Lists -Graphics and Animation: The Canvas Component, Tutorial 9-1, The Ball and Image SpriteComponent, Tutorial 9-2, 9-3,Using the Clock Component to Create Animations Working with Text: Concatenating Strings, Comparing Strings, Trimming a String, Converting Case, Finding a Substring Tutorial 10-3,Replacing substring , Extracting a Substring, Splitting a Substring Text to Speech and Text Messaging.

Text Tony Gaddis, Rebecca Halsey, Starting Out with App Inventor for Android (1e)

References

Mark L. Murphy, Beginning Android
J.F. DiMarzio, Android – A Programmer's Guide
W Frank Ableson, RobiSen, Chris King, Android in Action
Lucas Jordan, Pieter Greyling, Practical Android Projects

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B.A (C/A) III YEAR
Semester-VI
Subject: Computer Applications
Paper- VII (Mobile Applications)

Practical **2 Hours/Week** **1 credit**

Course Outcomes:

1) Apply essential Android Programming concepts.
2) Develop various Android applications related to layouts & rich uses interactive interfaces.
3) Develop Android applications related to mobile related server-less database like SQLITE.

Practical Question Bank

1 .Create the Screen for the Hello World App

2 .Develop a mobile app to Create Good Morning Translator App

3. Design a mobile app to change the Screen's Background Image

4. Create a mobile app for layout components and Color Blocks

5 .Design the mobile app for the Kilometer Converter

6 .Create mobile app to calculate Test Average

7. Develop a mobile app to demonstrate Range Checker

8. Develop a mobile app for Grader App

9. Design a mobile app to demonstrate checkbox components

10. Demonstrate a mobile app for while loop

11. Design a mobile app to Calculate Sum of Consecutive Numbers

12. Design a mobile app to create Lights

13 .Design a mobile app to demonstrate lists

14. Design a mobile app to validate an Email Address

15. Design a mobile app to display images of all states and union territories in India

16 .Design a mobile app of your college having college information, features, events and placements

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B.A (C/A) III YEAR
Semester-VIII
Subject: Computer Applications
Paper- VIII (PHP Programming)(Elective-A)

Theory **3 Hours/Week** **3 credits**

Course Outcomes:

1) List the major elements of the PHP & MySQL work and explain why PHP is good for web development.
2) Learn how to take a static website and turn it into a dynamic website run from a database using PHP and MySQL.
3) Analyze the basic structure of a PHP web application and be able to install and maintain the web server, compile, and run a simple web application.
4) Learn how databases work and how to design one, as well as how to use phpMyAdmin to work with MySQL.
5) Learn different ways of connecting to MySQL through PHP, and how to create tables, enter data, select data, change data, and delete data. Connect to SQL Server and other data sources.

Syllabus

Unit – I

Introducing PHP – What is PHP? Why use PHP? Evolution of PHP, Installing PHP, creating your first script. PHP Language Basics – Using variables, Understanding Data Types, Operators and Expressions, Constants.
Decisions and Loops – Making Decisions, Doing Repetitive Tasks with Looping, Mixing Decisions and Looping with HTML. Strings – Creating and Accessing Strings, Searching Strings, Replacing Text with Strings, Dealing with Upper and Lowercase, Formatting Strings.

Unit – II

Arrays – Creating Arrays, Accessing Array Elements, Looping Through Arrays with for-each, Working with Multidimensional Arrays, Manipulating Arrays.
Functions – What is a Function? Why Functions are useful? Calling Functions, Working with Variable
Functions, Writing your own Functions, Writing Recursive Functions.

Unit – III

Objects –Introduction OOP Concepts, Creating Classes and Objects in PHP, Creating and using Properties, Working with Methods, Object Overloading with _get(), _set() and _call(), Using Inheritance to Extend Power of Objects.
Constructors and Destructors, Automatically Loading Class Files, Storing as Strings.
Handling HTML Forms with PHP , Dealing with Multi-Value Fields.

Unit – IV

Working with Files and Directories - Getting Information on Files, Opening and Closing Files, Reading and Writing to Files, Copying, Renaming, and Deleting Files, Working with Directories.
Introducing Databases and SQL – Deciding How to Store Data, Understanding Relational Databases, Setting Up MySQL, A Quick Play with MySQL, Connecting MySQL from PHP.
Retrieving Data from MySQL with PHP .Manipulating MySQL Data with PHP – Inserting, Updating, and Deleting Records.
Text Matt Doyle, Beginning PHP 5.3 (Wrox – Wiley Publishing)

References

Ellie Quigley, PHP and MySQL by Example
Joel Murach, Ray Harris, Murach's PHP and MySQL
Brett McLaughlin, PHP & MySQL: The Missing Manual
Luke Welling, Laura Thomson, PHP and MySQL Web Development
W. Jason Gilmore, Beginning PHP and MySQL From Novice to Professional
Andrew Curioso, Ronald Bradford, Patrick Galbraith, Expert PHP and MySQL

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B.A (C/A) III YEAR
Semester-VI
Subject: Computer Applications
Paper- VIII(PHP Programming) (Elective-A)

Practical **2 Hours/Week** **1 credit**

Course Outcomes:

1) The objective of this course is to provide the necessary knowledge to design and develop dynamic.
2) database-driven web applications using PHP version 5.
3) Students will learn how to connect to any ODBC-compliant database, and perform hands on practice with a MySQL database to create database-driven HTML forms and reports etc.
4) Students also learn how to configure PHP and Apache Web Server. Comprehensive lab exercises provide facilitated hands on practice crucial to develop competence web sites.

Practical Question bank

1. Write a PHP script to find the factorial of a given number.
2. Write a PHP script to find the sum of digits of a given number.
3. Write a PHP script to find whether the given number is a prime or not.
4. Write a PHP script to demonstrate the use of break, continue statements using nested loops.
5. Write a PHP script to display the FiboNAACi sequence with HTML page.
6. Write a PHP script to create a chess board.
7. Write a PHP script using built-in string function like strstr(), strops(), substr_count(), etc...
8. Write a PHP script to transform a string to uppercase, lowercase letters, make a string's first character uppercase.
9. Write a PHP script that inserts a new item in an array in any position.
10. Write a PHP function to check whether all array values are strings or not.
11. Write a PHP script to count number of elements in an array and display a range of array elements.

12.Write a PHP script using a function to display the entered string in reverse.

13. Write a PHP script for creating the FiboNAACi sequence with recursive function.

14. Write a PHP script using pass by value and pass by reference mechanisms in passing arguments to functions.

15. Write a PHP script to demonstrate the inheritance.

16.Write a PHP script to demonstrate the overloading property accesses with _get() and _set().

17. Write a PHP script to demonstrate the use of final classes and final methods.

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SEMESTER-VI
B.A (C/A) III Year
Subject: Computer Applications
Paper: Information Technologies (GE-2)

Theory **2 Hours/Week** **2 credits**

Course Outcomes:

1) Competently use professional skills and knowledge in the systematic development of complex information systems.
2) Apply their skills and knowledge in a professionally responsible manner.
3) Communicate effectively with other computer scientists and the wider global community using a wide range of communication technologies.
4) Undertake research in information technology.

Syllabus

Unit – I

Introduction to Algorithms and Programming Languages: Algorithm, Control Structures, Flowcharts, Pseudo code, Programming Languages, Generations of Programming Languages.
Database Systems: File Oriented Approach, Database Oriented Approach, Database Views, Three-Schema Architecture, Database Models, Components of DBMS, Introduction of SQL Queries.

Unit – II

Computer Networks: Introduction, Connection Media, Data Transmission Mode, Data Multiplexing, Data Switching, Network Topologies, Types of Networks, Networking Devices, OSI Model.
The Internet: Internet Services, Types of Internet Connections, Internet Security.
Emerging Computer Technologies: Distributed Networking, Peer-to-peer Computing, Grid Computing, Cloud Computing, Utility Computing, On0demand Computing, Wireless Network, Bluetooth, Artificial Intelligence.

Text
ReemaThareja, Fundamentals of Computers

Government Degree College for Women Begumpet, Hyderabad-500016
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MODEL PAPER

Time: 2 1/2hr **Max Marks: 60**

SECTION-A

I Short Answer Questions
Answer any Five of the following questions **5x4=20marks**

1. Question from unit -1.
2. Question from unit -1.
3. Question from unit -2.
4. Question from unit -2.
5. Question from unit -3.
6. Question from unit -3.
7. Question from unit -4.
8. Question from unit -4.

SECTION-B

II Essay Questions
Answer all questions choosing any one bit from each question **4x10=40marks**

9. a) Question from unit-1.

(or)

b) Question from unit-1

10. a) Question from unit-2.

(or)

b)Question from unit-2

11. a) Question from unit-3.

(or)

b) Question from unit-3.

12. a) Question from unit-4.

(or)

b) Question from unit-4

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SEC

MODEL PAPER

Time:1hrs **MaxMarks: 40**

SECTION-A

I. Answer any 4 out of 6 questions. **4*4=16**

1. Question from unit -1.
2. Question from unit -1.
3. Question from unit -1.
4. Question from unit -2.
5. Question from unit -2.
6. Question from unit -2.

SECTION-B

II. Answer the following questions. **2x12=24**

1. a) Question from unit-1.

(or)

b) Question from unit-1

2. a) Question from unit-2.

(or)

b) Question from unit-2.

Practical Examinations

1. Practical examinations will be held at the end of each Semester.
2. 50 marks are allotted for the Practical examination consisting of External and Internal Evaluation.
3. Practical Question Bank is prepared & provided to the students from which practicals will be conducted.
4. Practicals shall be conducted in each Semester as per the Syllabus and Time table.

Resolved to accept the above pattern of examination

GOVERNMENT DEGREE COLLEGE FOR WOMEN BEGUMPET

(AUTONOMOUS)

CHOICE BASED CREDIT SYSTEM

(CBCS)

SYLLABUS
For
B.Sc

Under Graduate Programme

DEPARTMENT OF COMPUTER SCIENCE

PROGRAMME OUTCOMES:

PO1. Domain Expertise:

- Gain thorough knowledge in the chosen domain and be able to apply it wherever necessary in an innovative manner.

PO2. Modern equipment Usage:

- Equip the students with modern technological skills, so that they are able to use software applications in their careers.

PO3. Computing Skills and Ethics:

- Students learn critical thinking and are able to analyse and solve problems rationally and ethically for communication, entertainment and for the benefit of mankind throughout ones endeavours for the wellbeing of human race.

PO4. Complex Problem Investigation & Solving

- Learn to analyse the problem, frame hypotheses, interpret empirical data and execute action

PO5. Perform effectively as Individuals and in Teams

- Be able to contribute at individual level and as team member and prioritize institutional interest over individual

PO6. Efficient Communication & Life skills

- Learn efficient communication to express, listen, understand and project views in a convincing manner clearly and concisely

PO7. Environmental Sustainability

- Understand current environmental challenges faced by the country & propagate and follow environment friendly practices.

PO8. Societal contribution

- Develop the pride in volunteering to address societal issues *viz:* calamities, disasters, poverty, epidemics and involve voluntarily in social development activities at Regional , National, global levels.

PO9. Effective Project Management

- Identify the goals, objectives and components of a project and then implementation so that deadlines are achieved, even when there are setbacks.

PROGRAMME SPECIFIC OUTCOMES

1. Ability to apply the knowledge gained during the course of the program from Mathematics, Basic Computing, Basic Sciences and Social Sciences in general and all computer science courses in particular to identify, formulate and solve real life complex engineering problems faced in industries and/or during research work with due consideration for the public health and safety, in the context of cultural, societal, and environmental situations.
2. Ability to provide socially acceptable technical solutions to complex computer science engineering problems with the application of modern and appropriate techniques for sustainable development relevant to professional engineering practice.
3. Ability to apply the knowledge of ethical and management principles required to work in a team as well as to lead a team. Ability to comprehend and write effective project reports in multidisciplinary environment in the context of changing technologies.

Syllabus for Computer Science

Proposed scheme for **B.Sc.** Programme under **Choice Based Credit System**

Code	Course Title	Course Type	HpW	Credits
	SEMESTER – I			
BS106	Programming in C	DSC–3A	4T+3P=7	4 + 1 =5
	SEMESTER – II			
BS206	Programming in C++	DSC–3B	4T+3P=7	4 + 1 =5
	SEMESTER – III			
BS301	Python-I	SEC–1	2T	2
BS306	Data Structures			
	SEMESTER – IV			
BS401	Python-II	SEC–2	2T	2
BS406	Database Management Systems	DSC–3D	4T+3P=7	4 + 1 =5
	SEMESTER – V			
BS501	Information Technologies –1	GE–1	2	2
BS502	E: Python – 1	SEC–3	2	2
	F: Computer Organization			
BS505	Programming in Java	DSC–3E	3T+2P=5	3 + 1 =4
BS506	Elective–A: Operating Systems	DSE–1E	3T+2P=5	3 + 1 =4
	Elective–B: Software Engineering	DSE–2E		
	SEMESTER – VI			
BS601	Information Technologies –2	GE–2	2T	2
BS602	G: Python – 2	SEC–4	2T	2
	H: Information Security			
BS605	Computer Networks	DSC–3F	3T+2P=5	3 + 1 =4
BS606	Elective–A: PHP with MySQL	DSE–1F	3T+2P=5	3 + 1 =4
	Elective–B: Web Technologies	DSE–2F		
		Total Number of Credits		**48**

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B.SC I Year Examination
Semester – I
Subject: Computer Science
Paper- I–Programming in C

Theory **4 Hours/Week** **4 credits**

Course Outcomes:

1. Able to implement the algorithms and draw flowcharts for solving Mathematical and Engineering problems.
2. Demonstrate an understanding of computer programming language concepts. To be able to develop C programs on linux platform.
3. Ability to design and develop Computer programs, analyzes, and interprets the concept of pointers, declarations, initialization, operations on pointers and their usage.
4. Able to define data types and use them in simple data processing applications also he/she must be able to use the concept of array of structures.
5. Student must be able to define union and enumeration user defined data types. Develop confidence for self education and ability for life-long learning needed for Computer language.

SYLLABUS

Unit – I

Computer Fundamentals: Introduction of Computers, Classification of Computers, Anatomy of a Computer, Memory Hierarchy, Introduction to OS.
Program Fundamentals: Generation and Classification of Programming Languages, Writing First C Program.
Algorithms: Definitions, Different Ways of Stating Algorithms (Step-form, Pseudo-code, Flowchart), Strategy for Designing Algorithms.
Basics of C: Overview of C, Developing Programs in C, Parts of Simple C Program, Structure of a C Program, Comments, Program Statements, C Tokens, Keywords, Identifiers, Data Types, Variables, Constants, Operators and Expressions, Type Conversions.

Unit – II

Input-Output: Non-formatted and Formatted Input and Output Functions, Escape Sequences,
Control Statements: Selection Statements – if, if-else, nested if, nested if-else, comma operator, conditional operator, switch; Iterative Statements–while, for, do-while; Special Control Statement–goto, break, continue, return, exit.
Arrays and Strings: One and Two Dimensional Arrays, Character Arrays, Functions from ctype.h, string.h.

Unit – III

Functions: Concept of Function, Using Functions, Call-by-Value Vs Call-by-reference, Passing Arrays to Functions, Score of Variables, Storage Classes, Inline Functions, and Recursion.

Pointers: Introduction, Address of Operator (&), Pointer, Uses of Pointers, Arrays and Pointers, Pointers and Strings, Dynamic Memory Allocation.

Unit – IV

User-Defined Data Types: Declaring a Structure (Union) and its members, Initialization Structure (Union), Accessing members of a Structure (Union), Structures verses Unions, Enumeration Types.

Files: Introduction, UsingFiles, Working with Text Files and Binary Files, File Management Functions.

Text

Pradip Dey, Manas Ghosh, Computer Fundamentals and Programming in C (2e)

References

1. Ivor Horton, Beginning C
2. Herbert Schildt, The Complete Reference C
3. Paul Deitel, Harvey Deitel, C How To Program
4. Byron S. Gottfried, Theory and Problems of Programming with C
5. Brian W. Kernighan, Dennis M. Ritchie, The C Programming Language

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B.SC I Year Examination
Semester – I
Subject: Computer Science
Paper- I–Programming in C

Credit :1

Course Outcomes:

1. Know concepts in problem solving ·
2. To do programming in C language ·
3. To write diversified solutions using C language

C PRACTICAL QUESTION BANK

1. Write a program to find the largest two numbers using if and conditional operator.
2. Write a program to calculate arithmetic operations of two numbers using switch.
3. Write a program to print the reverse of a given number.
4. Write a program to print whether the given number is a prime or not.
5. Write a program to find largest and smallest elements in a given list of numbers.
6. Write a program to find the sum of two matrices.
7. Write a program to find the product of two matrices.
8. Write a program to print the reverse of a given string.
9. Write a program to find the factorial of a positive integer using iteration and recursion.
10. Write a program to find the GCD of two positive integers using iteration and recursion.
11. Write a program to demonstrate the call by value and the call by reference concepts.
12. Write a program to illustrate the use of Enumeration data type.
13. Write a program to illustrate the use of structure concept.
14. Write a program to illustrate the use of union concept.
15. Write a program to write content into a file and display contents of a file
16. Write a program to copy content of one file into another file and display the content of new file.

Note

Write the Pseudo Code and draw Flow Chart for the above programs.

Recommended to use Open Source Software: GCC on Linux; DevC++ (or) CodeBlocks on Windows 10.

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B.SC I Year Examination
Semester – II
Subject: Computer Science

Theory	**4 Hours/Week**	**4credits**
Practical	**3Hours/Week**	**1 credit**

Course Outcomes:

1. To understand how C++ improves C with object-oriented features.
2. To learn how to write inline functions for efficiency and performance.
3. To learn the syntax and semantics of the C++ programming language.
4. To learn how to design C++ classes for code reuse.
5. To learn how to implement copy constructors and class member functions.
6. To understand the concept of data abstraction and encapsulation.
7. To learn how to overload functions and operators in C++.
8. To learn how containment and inheritance promote code reuse in C++.
9. To learn how inheritance and virtual functions implement dynamic binding with polymorphism.
10. To learn how to design and implement generic classes with C++ templates.
11. To learn how to use exception handling in C++ programs.

SYLLABUS

Unit – I

Introduction to C++: Applications, Example Programs, Tokens, Data Types, Operators, Expressions, Control Structures, Arrays, Strings, Pointers.

Functions: Introduction, Prototype, Passing Data by Value, Passing data by reference, Inline Functions, Default Arguments, Overloading Functions, Passing Arrays to Functions.

Object Oriented Programming: Procedural Programming verses Object-Oriented Programming, Benefits, OOP Languages, and OOP Applications.

Unit – II

Classes: Introduction, Defining an Instance of a Class, Private Members, Class Specification, Inline Member Functions, Constructors, Passing Arguments to Constructors, Destructors, Overloading Constructors, Private Member Functions, Arrays of Objects, Instance and Static Members, Friend function, Copy Constructors, Operator Overloading, Aggregation.

Unit – III

Inheritance: Introduction, Access Specifiers, Base Class ,Derived Class, Types of Inheritance Constructors and Destructors in Base and Derived Classes, Polymorphism,Virtual Member Functions, Abstract Base Classes , Pure Virtual Functions, Multiple Inheritance.

C++ Streams: Stream Classes, Unformatted I/O Operations, Formatted I/O Operations.

Unit – IV

Exceptions: Introduction, Throwing an Exception, Handling an Exception, Object-Oriented Exception Handling with Classes, Multiple Exceptions, Re-throwing an Exception.

Templates: Function Templates–Introduction, Function Templates with Multiple Type, Overloading with Function Templates, Class Templates – Introduction, Defining Objects of the Class Template.

Text Tony Gaddis, Starting out with C++: from control structures through objects (7e)

References

B. Lippman, C++ Primer
Bruce Eckel, Thinking in C++
K.R. Venugopal, Mastering C++
Herbert Schildt, C++: The Complete Reference
Bjarne Stroustrup, The C++ Programming Language
Sourav Sahay, Object Oriented Programming with C++

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B.SC I Year Examination
Semester – II
Subject: Computer Science
Paper- II–Programming in C++

Practical **3Hours/Week** **1 credit**

Course Outcomes:

1. Creating simple programs using classes and objects in C++.
2. Implement Object Oriented Programming Concepts in C++.
3. Develop applications using stream I/O and file I/O.
4. Implement simple graphical user interfaces.
5. Implement Object Oriented Programs using templates and exceptional handling concepts.

PROGRAMMING IN C++ QUESTION BANK

1. Write a program to print the sum of digits of a given number
2. Write a program to check whether the given number is Armstrong or not
3. Write a program to check whether the given string is Palindrome or not
4. Write a program to read student name, roll no, marks and display the same using class .
5. Write a program to find area of a rectangle, circle, and square using class and object.
6. Write a program to implement inline function inside and outside of a class for

a. Finding the area of a square

b. Finding the area of a cube

7. Write a program to implement friend function and friend class
8. Write a program to implement constructor and destructor with in a class.
9. Write a program to demonstrate hierarchical inheritance.
10. Write a program to demonstrate multiple inheritances.
11. Write a program to demonstrate the constructor overloading.
12. Write a program to demonstrate static polymorphism.
13. Write a program to demonstrate dynamic polymorphism.

14. Write a program to implement polymorphism using pure virtual functions.

15. Write a program to demonstrate the function templates and class templates.

16. Write a program to demonstrate exception handling using try, catch, and finally.

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GradeB.Sc II Year
Semester-III
Subject: Computer Science
Paper- III Data Structures using C++

Theory	**4 Hours/Week**	**4 credits**
Practical	**3 Hours/Week**	**1 credit**

Course Outcomes:

1. To impart the basic concepts of data structures and algorithms
2. To understand concepts about searching and sorting techniques
3. To Understand basic concepts about stacks,queues,lists,trees and graphs
4. To understanding about writing algorithms and step by step approach in solving problems with the help of fundamental data structures

SYLLABUS

Unit – I

Fundamental Concepts: Introduction to Data Structures, Types of Data Structures, Introduction to Algorithm, Pseudo-code, Flow Chart, Analysis of Algorithms.

Linear Data Structure Using Arrays: 1-D Arrays, 2-D Arrays, N-D Arrays, Concept of Ordered List, String Manipulation, Pros and Cons of Arrays.

Stacks: Concept, Primitive Operations, Abstract Data Type, Representation Stacks Using Arrays, Prefix, Infix, Postfix Notations for Arithmetic Expression, Applications of Stacks– Converting Infix Expression to Postfix Expression, Evaluating the Postfix Expression, Processing of Function Calls, Reversing a String.

Unit – II

Recursion: Introduction, Recurrence, Use of Stack in Recursion, Variants of Recursion, Execution of Recursive Calls, Recursive Functions, Iteration versus Recursion.

Queues: Concept, Primitive Operations, Abstract Data Type, Representation Queues Using Arrays, Circular Queue, Double-Ended Queue, Applications of Queues.

Linked Lists: Introduction, Concept, Terminology, Primitive Operations-creating, inserting, deleting, traversing, Representation of Linked Lists, Linked List Abstract Data Type, Linked List Variants - Singly Linked List, Doubly Linked List, Linear and Circular Linked List.

Unit – III

Trees: Introduction, Representation of a General Tree, Binary Tree Introduction, Binary Tree Abstract Data Type, Implementation of Binary Trees, Binary Tree Traversals – Preorder, In order, Post order Traversals, Applications of Binary Trees Briefly.

Graphs: Introduction, Graph Abstract Data Type, Representation of Graphs, Graph Traversal – Depth-First Search, Breadth-First Search, Spanning Tree – Prim's Algorithm, Kruskal's Algorithm.

Hashing: Introduction, Hash Functions.

Unit – IV

Searching and Sorting: Sequential (Linear) Search, Binary Search, Bubble Sort, Insertion Sort, Selection Sort, Quick Sort, Merge Sort, and Comparison of Sorting Techniques.

Heaps: Concept, Implementation, Abstract Data Type, Heap Sort.

Text Varsha H. Patil, Data Structures Using C++

References

Nell Dale, C++ Plus Data Structures

Seymor Lipschutz, Data Structures (Revised 1e)

Adam Drozdek, Data Structures and Algorithms in C++

Mark Allen Weiss, Data structures and Algorithm Analysis in C++ (4e)

D.S. Malik, C++ Programming: Program Design Including Data Structures (6e)

Michael Main, Walter Savitch, Data Structures and Other Objects Using C++ (4e)

Michael T. Goodrich, R. Tamassia, David M. Mount, Data Structures and Algorithms in C++

Yonghui Wu, Jiande Wang, Data Structure Practice for Collegiate Programming Contests and Education

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B.Sc II Year Examination
Semester – III
Subject: Computer Science
Data Structures Using C++ Lab

Practical **3 Hours/Week** **1 credit**

Course Outcomes:

1 To impart the basic concepts of data structures and algorithms
2 To understand concepts about searching and sorting techniques
3 To Understand basic concepts about stacks,queues,lists,trees and graph
4 To understanding about writing algorithms and step by step approach in solving problems with the help of fundamental data structures

DATA STRUCTURES USING C++ PRACTICAL QUESTION BANK

1 Write programs to implement the following using an array: a) Stack ADT b) Queue ADT.
2 Write a program to convert the given infix expression to postfix expression using stack.
3 Write a program to evaluate a postfix expression using stack.
4 Write a program to ensure the parentheses are nested correctly in an arithmetic expression.
5 Write a program to find following using Recursion
   a) Factorial of +ve Integer b) nth term of the FiboNAACi Sequence c) GCD of two +ve integers
6 Write a program to create a single linked list and write functions to implement the following operations.
a) Insert an element at a specified position
b) Delete a specified element in the list
c) Search for an element and find its position in the list
d) Sort the elements in the list ascending order
7 Write a program to create a double linked list and write functions to implement the following operations.
   a) Insert an element at a specified position
   b) Delete a specified element in the list
   c) Search for an element and find its position in the list
   d) Sort the elements in the list ascending order
8 Write a program to create singular circular linked lists and function to implement the following operations.
   a) Insert an element at a specified position
   b) Delete a specified element in the list
   c) Search for an element and find its position in the list
9 Write programs to implement the following using a single linked list:
   a) Stack ADT b) Queue ADT.
10 Write a program to implement Binary search technique using Iterative method and Recursive methods.
11 Write a program for sorting the given list numbers in ascending order using the following technique: Bubble sort and Selection sort

12 Write a program for sorting the given list numbers in ascending order using the following technique: Insertion sort and Quick sort

13 Write a program for sorting the given list numbers in ascending order using the following technique: Merge sort and Heap sort

14 Write a program to traverse a binary tree in following way.

a) Pre-order b) In-order c) Post-order

15 Write a program to the implementation graph traversals – BFS and DFS.

16 Write a program to find the minimum spanning tree for a weighted graph using

a) Prim's Algorithm b) Kruskal's Algorithm.

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B.Sc II Year Examination
Semester – III
Subject: Computer Science
Paper- Python – 1 (SEC-I)

Theory **2 Hours/Week** **2 credits**

Course Outcomes:

1. To acquire programming skills in core Python.
2. To acquire Object Oriented Skills in Python
3. To develop the skill of designing Graphical user Interfaces in Python
4. To develop the ability to write database applications in Python

SYLLABUS

Unit – I

Introduction to Python Programming: How a Program Works, Using Python, Program Development Cycle, Input, Processing, and Output, Displaying Output with the Print Function, Comments, Variables, Reading Input from the Keyboard, Operators, Type conversions, Expressions.

Decision Structures and Boolean Logic: if, if-else, if-elif-else Statements, Nested Decision Structures, Comparing Strings, Logical Operators, Boolean Variables.

Repetition Structures: Introduction, while loop, for loop, Nested Loops.

Unit – II

Functions: Introduction, Defining and Calling a Void Function, Designing a Program to Use Functions, Local Variables, Passing Arguments to Functions, Global Variables and Global Constants, Value-Returning Functions- Generating Random Numbers, Writing Our Own Value-Returning Functions, The math Module, Storing Functions inModules.

File and Exceptions: Introduction to File Input and Output, Using Loops to Process Files, Processing Records, Exceptions.

Text Tony Gaddis, Starting Out With Python(3e)

References

1. Kenneth A. Lambert, Fundamentals ofPython
2. Clinton W. Brownley, Foundations for Analytics withPython
3. JamesPayne,BeginningPythonusingPython2.6andPython3
4. Charles Dierach, Introduction to Computer Science usingPython
5. PaulGries,PracticalProgramming:AnIntroductiontoComputerScienceusingPython3

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Re-Accredited by NAAC with 'A+' Grade
B.Sc II Year Examination
Semester – IV
Subject: Computer Science
Paper- Database Management Systems

Theory	**4 Hours/Week**	**4credits**
Practical	**3 Hours/Week**	**1credit**

Course Outcomes:

1. Explain the basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL.
2. Design ER-models to represent simple database application scenarios
3. Convert the ER-model to relational tables, populate relational database and formulate SQL queries on data.
4. Improve the database design by normalization.
5. Familiar with basic database storage structures and access techniques: file and page organizations, indexing methods including B tree, and hashing.

SYLLABUS

Unit – I

Introduction to Databases: Introduction, Traditional File-Based Systems, Database Approach, Roles in the Database Environment, Advantages and Disadvantages of DBMSs, The Three-Level ANSI-SPARC Architecture, Database Languages, Data Models, Functions of a DBMS, Components of a DBMS.

Relational Model: Introduction, Terminology, Integrity Constraints, Views.

The Relational Algebra: Unary Operations, Set Operations, Join Operations, Division Operation, Aggregation and Grouping Operations.

Unit – II

SQL: Introduction SQL Commands- DDL, DML, DCL, TCL, Simple Queries, Sorting Results, Using the SQL Aggregate Functions, Grouping Results, Sub-queries, ANY and ALL, EXISTS and NOT EXIST, Database Updates.

SQL: The ISO SQL Data Types, Integrity Enhancement Feature–Domain Constraints, Entity Integrity, Referential Integrity, General Constraints, Creating an Index, Removing an Index, Views–Creating a View, Removing a View, View Updatability, WITH CHECK OPTION, Advantages and Disadvantages of Views, Transactions.

Advanced SQL: The SQL Programming Language–Declarations, Assignments, Control Statements, Exceptions, Cursors, Subprograms, Stored Procedures, Functions, and Packages, Triggers, Recursion.

Unit – III

Entity–Relationship Modeling: Entity Types, Relationship Types, Attributes, Keys, Strong and Weak Entity Types, Attributes on Relationships, Structural Constraints, Problems with ER Models–Fan Traps, Chasm Traps.

Enhanced Entity–Relationship Modeling: Specialization/Generalization, Aggregation, Composition. Functional–Dependencies: Anomalies, Partial Functional Dependency, Transitive Functional Dependency, Multi Valued Dependency, Join Dependency.

Normalization: The Purpose of Normalization, Data Redundancy and Update Anomalies, Functional Dependencies in brief, The Process of Normalization,1NF, 2NF, 3NF, BCNF.

Unit – IV

Transaction Management: Transaction ,Acid–Properties,Database Architecture, Concurrency Control–The Need for Concurrency Control, Serializability and Recoverability, Locking Methods, Deadlock, Time Stamping Methods, Multi-version Timestamp Ordering, Optimistic Techniques, Granularity of Data Items, Database Recovery–The Need for Recovery, Transactions and Recovery, Recovery Facilities, Recovery Techniques.

Security: Database Security–Threats, Computer-Based Controls–Authorization, Access Controls, Views, Backup and Recovery, Integrity, Encryption, RAID.

Text

Thomas M. Connolly, Carolyn E. Begg, Database Systems–A Practical Approach to Design, Implementation, and Management (6e)

References

Sharon Allen, Evan Terry, Beginning Relational Data Modeling

Jeffrey A. Hoffer, V. Ramesh, Heikki Topi, Modern Database Management Raghu Ramakrishnan, Johannes Gehrke, Database Management Systems Ramez Elmasri, Shamkant B. Navathe, Fundamentals of Database Systems

Abraham Silberschatz, Henry F. Korth, S. Sudarshan, Database System Concepts

C Coronel, S Morris, Peter Rob, Database Systems: Design, Implementation, and Management

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Re-Accredited by NAAC with 'A+' Grade
B.Sc II Year Examination
Semester – IV
Subject: Computer Science
Database Management Systems Lab

Practical **3 Hours/Week** **1 Credit**

Course Outcomes:

1. To explain basic database concepts, applications, data models, schemas and instances.
2. To demonstrate the use of constraints and relational algebra operations. IV. Describe the basics of SQL and construct queries using SQL.
3. To emphasize the importance of normalization in databases.
4. To facilitate students in Database design
5. To familiarize issues of concurrency control and transaction management.

DATABASE MANAGEMENT SYSTEMS QUESTION BANK

credit Consider the relational schema for part of the Dream Home case study is:
Branch (branchNo, street, city, postcode)
Staff (staffNo, fName, IName, position, sex, DOB, salary, branchNo)
Property For Rent (propertyNo, street, city, postcode, type, rooms, rent, ownerNo, staffNo, branchNo)
Client (clientNo, fName, IName, telNo, prefType, maxRent, eMail)
Private Owner (ownerNo, fName, IName, address, telNo, eMail, password)
Viewing (clientNo, propertyNo, viewDate, comment)
Registration (clientNo, branchNo, staffNo, dateJoined)

1. Create a database with name "DreamHome" and now create all the tables listed above with constraints.
2. Insert a new row into the table supplying data for all columns.
3. Modify data in the database using UPDAT.
4. Delete data from the database using DELETE
5. Changing a table definition using ALTER
6. Removing a table using DROP
7. Removing rows in table using TRUNCATE
8. Create an index and removing an index
9. Practice other standard SQL commands for creating, modifying, displaying data of tables.
10. List full details of all staff.
11. List all staff with a salary greater than £10000.
12. List the property numbers of all properties that have been viewed.
13. Produce a list of salaries for all staff, showing only the staffNo, fName, IName, and salary details.
14. List all cities where there is either a branch office or a property for rent.
15. List all cities where there is a branch office but no properties for rent.
16. List all cities where there is both a branch office and at least one property for rent.

17. List the names and comments of all clients who have viewed a property for rent.
18. Produce a status report on property viewings.
19. List complete details of all staff who work at the branch in Glasgow.
20. List the addresses of all branch offices in London or Glasgow
21. List all staff with a salary between £20,000 and £30,000.
22. Identify all clients who have viewed all properties with three rooms.
23. How many properties cost more than £350 per month to rent?
24. How many different properties were viewed in May 2013?
25. Find the total number of Managers and the sum of their salaries.
26. Find the minimum, maximum, and average staff salary.
27. Find the number of staff working in each branch and the sum of their salaries.
28. List all managers and supervisors.
29. Find all owners with the string 'Glasgow' in their address.
30. List the details of all viewings on property PG4 where a comment has not been supplied.
31. Produce a list of salaries for all staff, arranged in descending order of salary.
32. Produce an abbreviated list of properties arranged in order of property type.
33. Find the number of staff working in each branch and the sum of their salaries.
34. For each branch office with more than one member of staff, find the number of staff working in each branch and the sum of their salaries.
35. List the staff who work in the branch at '163 Main St'.
36. List all staff whose salary is greater than the average salary, and show by how much their salary is greater than the average.
37. List the properties that are handled by staff who work in the branch at '163 Main St'.
38. Find all staff whose salary is larger than the salary of at least one member of staff at branch B003.
39. Find all staff whose salary is larger than the salary of every member of staff at branch B003
40. List the names of all clients who have viewed a property, along with any comments supplied.
41. For each branch office, list the staff numbers and names of staff who manage properties and the properties that they manage.
42. For each branch, list the staff numbers and names of staff who manage properties, including the city in which the branch is located and the properties that the staff manage.
43. Find the number of properties handled by each staff member, along with the branch number of the member of staff.
44. List all branch offices and any properties that are in the same city.
45. List all properties and any branch offices that are in the same city.
46. List the branch offices and properties that are in the same city along with any unmatched branches or properties.
47. Find all staff who work in a London branch office.
48. Construct a list of all cities where there is either a branch office or a property.
49. Construct a list of all cities where there is both a branch office and a property.
50. Create a view so that the manager at branch B003 can see the details only for staff who work in his or her branch office.
51. Create a view of the staff details at branch B003 that excludes salary information, so that only managers can access the salary details for staff who work at their branch.
52. Create a view of staff who manage properties for rent, which includes the branch number they work at, their staff number, and the number of properties they manage.
53. Removing a view using DROP VIEW
54. Give the user with authorization identifier Manager all privileges on the Staff table.
55. Give users Personnel and Director the privileges SELECT and UPDATE on column salary of the Staff table.

56. Revoke the privilege SELECT on the Branch table from all users.
57. Revoke all privileges you have given to Director on the Staff table.
58. Demonstrate exceptions in PL/SQL
59. Demonstrate cursors in PL/SQL
60. Write PL/SQL queries to create procedures.
61. Write PL/SQL queries to create functions.
62. Write PL/SQL queries to create package.
63. Write PL/SQL queries to create triggers.
64. Write PL/SQL queries using recursion.

Consider the relational schema for part of the Hotel case study is:

Hotel (hotelNo, hotelName, city)
Room (roomNo, hotelNo, type, price)
Booking (hotelNo, guestNo, dateFrom, dateTo, roomNo)
Guest (guestNo, guestName, guestAddress)

65. Create a database with name "Hotel" and now create all the tables listed above with constraints.
66. Insert a new row into the table supplying data for all columns.
67. Modify data in the database using UPDATE
68. Delete data from the database using DELETE
69. Changing a table definition using ALTER
70. Removing a table using DROP
71. Removing rows in table using TRUNCATE
72. Practice other standard SQL commands for creating, modifying, displaying data of tables.
73. List full details of all hotels.
74. List full details of all hotels in London.
75. List the names and addresses of all guests living in London, alphabetically ordered by name.
76. List all double or family rooms with a price below £40.00 per night, in ascending order of price.
77. List the bookings for which no dateTo has been specified.
78. How many hotels are there?
79. What is the average price of a room?
80. What is the total revenue per night from all double rooms?
81. How many different guests have made bookings for August?
82. List the price and type of all rooms at the Grosvenor Hotel.
83. List all guests currently staying at the Grosvenor Hotel.
84. List the details of all rooms at the Grosvenor Hotel, including the name of the guest staying in the room.
85. What is the total income from bookings for the Grosvenor Hotel today?
86. List the rooms that are currently unoccupied at the Grosvenor Hotel.
87. What is the lost income from unoccupied rooms at the Grosvenor Hotel?
88. List the number of rooms in each hotel.
89. List the number of rooms in each hotel in London.
90. What is the average number of bookings for each hotel in August?
91. What is the most commonly booked room type for each hotel in London?
92. What is the lost income from unoccupied rooms at each hotel today?
93. Insert rows into each of these tables.
94. Update the price of all rooms by 5%.
95. Demonstrate that queries written using the UNION operator and same can be rewritten using the OR.
96. Apply the syntax for inserting data into a table.

97. Create a view containing the cheapest hotels in the world.
98. Create the Hotel table using the integrity enhancement features of SQL.
99. Create a database trigger for the following situations:
    (a) The price of all double rooms must be greater than £100.
    (b) The price of double rooms must be greater than the price of the highest single room.
    (c) A booking cannot be for a hotel room that is already booked for any of the specified dates.
    (d) A guest cannot make two bookings with overlapping dates.
    (e) Maintain an audit table with the names and addresses of all guests who make bookings for hotels in London (do not store duplicate guest details).

Given relation schemas are

Sailors (sid : **integer**, sname : string, rating : integer, age : real)
Boats (bid : integer, bname : string, color : string)
Reserves (sid : integer , bid : integer, day : date)

100. Find the names and ages of all sailors.
101. Find all sailors with a rating above 7.
102. Find the names of sailors who have reserved boat 103.
103. Find the sids of sailors who have reserved a red boat.
104. Find the names of sailors who have reserved a red boat.
105. Find the colors of boats reserved by Lubber.
106. Find the names of sailors who have reserved at least one boat.
107. Find the names of sailors who have reserved at least two boats.
108. Compute increments for the ratings of persons who have sailed two different boats on the same day.
109. Find the ages of sailors whose name begins and ends with B and has at least three characters.
110. Find the names of sailors who have reserved a red or a green boat.
111. Find the names of sailors who have reserved a red and a green boat.
112. Find the sids of all sailors who have reserved red boats but not green boats.
113. Find all sids of sailors who have a rating of 10 or have reserved boat 104.
114. Find the names of sailors who have not reserved a red boat.
115. Find sailors whose rating is better than some sailor called Horatio.
116. Find sailors whose rating is better than every sailor called Horatio.
117. Find the names of sailors who have reserved all boats.
118. Find the names of sailors who have reserved at least two boats.
119. Find the names of sailors who have reserved all boats called Interlake.
120. Find sailors who have reserved all red boats.
121. Find the sailor name, boat id, and reservation date for each reservation.
122. Find the sids of sailors with age over 20 who have not reserved a red boat.
123. Find the average age of all sailors.
124. Find the average age of sailors with a rating of 10.
125. Find the name and age of the oldest sailor.
126. Count the number of different sailor names.
127. Find the names of sailors who are older than the oldest sailor with a rating of 10.
128. Find the sailors with the highest rating.
129. Find the age of the youngest sailor for each rating level.
130. Find age of the youngest sailor who is eligible to vote for each rating level with at least 2 such sailors.

131. Find the average age of sailors for each rating level that has at least two sailors.
132. For each red boat, find the number of reservations for this boat.
133. Find the average age of sailors who are of voting age (i.e., at least 18 years old) for each level that has at least two sailors.
134. Delete the records of sailors who have rating 8 (deleting some rows in a table).
135. Loading data which is present in the text into the table.

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B.Sc II Year Examination
Semester – IV
Subject: Computer Science
Paper- Python – 2 (SEC-3)

Theory **2 Hours/Week** **2 credits**

Course Outcomes:

1. To acquire programming skills in core Python.
2. To acquire Object Oriented Skills in Python
3. To develop the skill of designing Graphical user Interfaces in Python
4. To develop the ability to write database applications in Python

SYLLABUS

Unit – I

Lists and Tuples: Sequences, Introduction to Lists, List slicing, Finding Items in Lists with the in Operator, List Methods and Useful Built-in Functions, Copying Lists, Processing Lists, Two-Dimensional Lists, Tuples.
Strings: Basic String Operations, String Slicing, Testing, Searching, and Manipulating Strings.
Dictionaries and Sets: Dictionaries, Sets, Serializing Objects.
Recursion: Introduction, Problem Solving with Recursion, Examples of Recursive Algorithms.

Unit – II

Object-Oriented Programming: Procedural and Object-Oriented Programming, Classes, Working with Instances, Techniques for Designing Classes, Inheritance, Polymorphism.
GUI Programming: Graphical User Interfaces, Using the tkinter Module, Display text with Label Widgets, Organizing
Widgets with Frames, Button Widgets and Info Dialog Boxes, Getting Input with Entry Widget, Using Labels as Output Fields, Radio Buttons, Check Buttons.

Text Tony Gaddis, Starting Out With Python(3e)

References

1. Kenneth A. Lambert, Fundamentals ofPython
2. Clinton W. Brownley, Foundations for Analytics withPython
3. JamesPayne,BeginningPythonusingPython2.6andPython3
4. Charles Dierach, Introduction to Computer Science usingPython
5. PaulGries,PracticalProgramming:AnIntroductiontoComputerScienceusingPython3

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B.Sc (MSCS/MPCS) III Year
Semester-V
Subject: Computer Science
Paper- V Programming in JAVA

Theory	**3 Hours/Week**	**3 credits**
Practical	**2 Hours/Week**	**1 credit**

Course Outcomes:

1. Gain knowledge about basic Java language syntax and semantics to write Java programs and use concepts such as variables, conditional and iterative execution methods etc.
2. Understand the fundamentals of object-oriented programming in Java, including defining classes, objects, invoking methods etc and exception handling mechanisms.
3. Understand the principles of inheritance, packages and interfaces.

SYLLABUS

Unit – I

Introduction: Java Essentials, JVM, Java Features, Creation and Execution of Programs, Data Types, Type Conversion, Casting, Conditional Statements, Loops, Branching Mechanism, Classes, Objects, Class Declaration, Creating Objects, Method Declaration and Invocation, Method Overloading.

Unit- II

Constructors– Parameterized Constructors, Constructor Overloading, Cleaning-up unused Objects, Class Variables & Methods-static Keyword, this Keyword, One-Dimensional Arrays, Two-Dimensional Arrays, Command-Line Arguments, Inner Class.

Inheritance: Introduction, Types of Inheritance, extends Keyword, Examples, Method Overriding, super, final Keywords, Abstract classes, Interfaces, Abstract Classes Verses Interfaces.

Packages–Creating and Using Packages, Access Protection, Wrapper Classes, String Class, String Buffer Class.

Unit - III

Exception: Introduction, Types, Exception Handling Techniques, User-Defined Exception.

Multithreading: Introduction, Main Thread, Creation of New Threads – By Inheriting the Thread Class or Implementing the Runnable Interface, Thread Lifecycle, Thread Priority, Synchronization.

Input/ Output: Introduction, java.io Package, File Class, FileInputStream Class, FileOutputStream Class, Scanner Class, BufferedInputStream Class, BufferedOutputStream Class, RandomAccessFile Class.

Unit - IV

Applets: Introduction, Example, Life Cycle, Applet Class, Common Methods Used in Displaying the Output.

Event Handling: Introduction, Types of Events

AWT: Introduction, Button, Label, Checkbox, choice, list, panel, dialog.

Swing: Introduction, Differences between Swing and AWT, Jframe, Japplet, Jpanel, Layout Managers, Jtable, Dialog Box.

Database Handling Using JDBC: Introduction, Types of JDBC Drivers, Load the Driver, Establish Connection, Create Statement, Execute Query, Iterate Resultset, Scrollable Resultset, Developing a JDBS Application.

Text Sachin Malhotra, Saurabh Choudhary, Programming in Java (2e)

References

Bruce Eckel, Thinking in Java (4e)
Herbert Schildt, Java: The Complete Reference (9e)
Y. Daniel Liang, Introduction to Java Programming (10e)
Paul Deitel, Harvey Deitel, Java: How To Program (10e)
Cay S. Horsttnann, Core Java Volume I – Fundamentals (10e)
C. Thomas Wu, An introduction to object-oriented programming with Java (5e)
Tony Gaddis, Starting Out with Java From Control Structures Through Objects (6e)
Jeanne Boyarsky, Scott Selikoff, OCA: Oracle Certified Associate Java SE 8 Programmer–I Study Guide

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B.Sc (MSCS/MPCS) III Year Examination
Semester – V
Subject: Computer Science
Paper- V–PROGRAMMING IN JAVA LAB

Practical **2 Hours/Week** **1 credit**

Course Outcomes:

1. Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs.
2. Read and make elementary modifications to Java programs that solve real-world problems.
3. Validate input in a Java program.
4. Identify and fix defects and common security issues in code.
5. Document a Java program using Javadoc.
6. Use a version control system to track source code in a project.

PROGRAMMING IN JAVA QUESTION BANK

1. Write java programs to find the following
   a) largest of given three numbers b) reverses the digits of a number
   c) given number is prime or not d) GCD of given two integers
2. Write java programs that implement the following
   a) default constructor b) parameterized constructor c) constructor overloading
3. Write a java program to find the smallest of given list integers using array and scanner class.
4. Write a java program for multiplication of two matrices.
5. Write a java program for demonstrating an inner classes or nested classes.
6. Write a java program to implement method overloading, method overriding, dynamic method dispatch
7. Write a java program to implement single, multilevel, hierarchal, multiple, hybrid inheritances.
8. Write java programs that demonstrate the use of abstract, this, super, static, final keywords
9. a) Write a java program for creating a package and using a package.

b) Write a java program to demonstrate the use of wrapper classes.

10. a) Write a java program using all five keywords of exception handling mechanism.
    b) Write a java program for creating customized (user) exception
11. a) Write a java program that checks whether a given string is a palindrome or not.
    b) Write a java program for sorting a given list of names in ascending order.
12. a) Write a java program to create a file, write the data and display the data.
    b) Write a java program that reads a file name from user and displays its information.
13. a) Write a java program for controlling main thread.
    b) Write a java program for creating new thread by extending Thread class.
14. a) Write a java program for creating new thread by implementing Runnable interface.
    b) Write a java program for thread synchronization.
15. a) Write a java program to create following AWT components: Button, Checkbox and List.
    b) Write java programs to create AWT application using containers and layouts.
16. a) Write java programs to create a simple Applet and create swing based Applet.
    b) Write a java program to handle different types of events in a swing application.

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B.Sc (MSCS/MPCS) III Year Examination
Semester – V
Subject: Computer Science
Paper- VI–Operating System

Theory	**3 Hours/Week**	**3 credits**
Practical	**2 Hours/Week**	**1 credits**

Course Outcomes:

1. Identify the role of Operating System. To understand the design of control unit.
2. Understanding CPU Scheduling, Synchronization, Deadlock Handling and Comparing CPU Scheduling Algorithms. Solve Deadlock Detection Problems.
3. Describe the role of paging, segmentation and virtual memory in operating systems.
4. Description of protection and security and also the Comparison of UNIX and Windows based OS.
5. Defining I/O systems, Device Management Policies and Secondary Storage Structure and Evaluation of various Disk Scheduling

SYLLABUS

Unit – I
Introduction: Computer-System Architecture, Computing Environments.
Operating-System Structures: Operating-System Services, User Interface for Operating-System, System Calls, Types of System Calls, Operating System Structure.
Process Management: Process Concept, Process Scheduling, Operations on Processes, Inter process Communication, Examples–Producer-Consumer Problem.

Unit - II
Process Synchronization: Critical-Section Problem, Peterson's Solution, Synchronization, Semaphores, Monitors.
CPU Scheduling: Concepts, Scheduling Criteria, Scheduling Algorithms.

Unit - III
Deadlocks: System Model, Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection, Recovery from Deadlock.
Main Memory: Introduction, Swapping, Contiguous Memory Allocation, Segmentation, Paging. Virtual

Unit - IV
Memory: Introduction, Demand Paging, Page Replacement, Allocation of Frames, Thrashing. Mass-Storage Structure: Overview, Disk Scheduling, RAID Structure.
File Systems: File Concept, Access Methods, Directory and Disk Structure, File-System Mounting, Protection. File System Implementation, Directory Implementation, Allocation Methods, Free-Space Management.

Text Abraham Silberschatz, Peter Baer Galvin, Greg Gagne, Operating System Concepts (9e)

References

Naresh Chauhan, Principles of Operating Systems Thomas W. Doeppner, Operating Systems in Depth Andrew S. Tanenbaum, Modern Operating Systems
William Stallings, Operating Systems – Internals and Design Principles
Dhananjay M. Dhandhere, Operating Systems – A Concept Based Approach

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B.Sc (MSCS/MPCS) III Year Examination
Semester – V
Subject: Computer Science
Paper- VI–Operating System Lab

Practical **2 Hours/Week** **1 credit**

Course Outcomes:

1. Know how data is transmitted and checking of errors.,
2. Inter process communication including shared memory, pipes and messages Simulation of CPU Scheduling Algorithms. (FCFS, RR, SJF, Priority, Multilevel Queuing)
3. Simulation of Banker's Algorithm for Deadlock Avoidance, Prevention Program for FIFO, LRU, and OPTIMAL page replacement algorithm.
4. Pre requisite: Knowledge on Operating system principles and network principles.

OPERATING SYSTEM QUESTION BANK

1 a)Use vi editor to create different files, writing data into files, modifying data in files.

b) Use different types of Unix commands on the files created in first program.

2 Write shell programs using 'case', 'then' and 'if' & 'else' statements.

3 Write shell programs using while, do-while and for loop statements.

4 a) Write a shell script that accepts two integers as its arguments and computers the value of first number raised to the power of the second number.

b) Write a shell script that takes a command –line argument and reports on whether it is directory, afile, or something else.

5. a)Write a shell script that accepts a file name, starting and ending line numbers as arguments and displays all the lines between the given line numbers..

b) Write a shell script that deletes all lines containing a specified word in one or more files supplied as arguments to it.

6. a)Write a shell script that displays a list of all the files in the current directory to which the User has read, write and execute permissions.

b)Develop an interactive script that ask for a word and a file name and then tells how many times that word occurred in the file.

7. Write a program that simulate the following Unix commands like ls, mv, cp.

8 Write a program to convert upper case to lower case letters of a given ASCII file.

9 Write a program to program to search the given pattern in a file.

10 Write a program to demonstrate FCFS process schedules on the given data.

11 Write a program to demonstrate SJF process schedules on the given data.
12 Write a program to demonstrate Priority Scheduling on the given burst time and arrival times.
13 Write a program to demonstrate Round Robin Scheduling on the given burst time and arrival times.
14 Write a program to implementing Producer and Consumer problem using Semaphores.
15 Write a program to simulate FIFO, LRU, LFU Page replacement algorithms.
16 Write a program to simulate Sequential, Indexed, and Linked file allocation strategies.

Note:
Recommended to use Open Source Software like Fedora, Ubuntu, CentOS, etc...

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B.Sc (MSCS/MPCS) III Year Examination
Semester – V
GE: Information Technologies – 1

Theory **2 Hours/Week** **2 credits**

Course Outcomes:

(1) To keep track of the latest developments in information technologies

(2) To use modern technologies to access, organize, store, manipulate, interpret and present information, and thus to empower them to be more ready for problem solving and creative applications in their respective disciplines using computer-aided means.

SYLLABUS

Unit – I

Introduction to Computers: What is a Computer? Characteristics of Computers, Generations of Computers, Classification of Computers, Basic Computer Organization, Applications of Computers.

Input and Output Devices: Input Devices, Output Devices, Soft Copy Devices, Hard Copy Devices.

Computer Memory and Processors: introduction, Memory Hierarchy, Processor Registers, Cache Memory, Primary Memory, Secondary Storage Devices, Hard Disks, Optical Drives, USB Flash Drives, Memory Cards.

Unit – II

Computer Software: Introduction, Classification of Computer Software, System Software, Applications Software, Firmware, Middleware, Acquiring Computer Software.

Operating Systems: Introduction, Evolution of OS, Process Management, Memory Management, File Management, Device Management, Security Management, Command Interpreter, Windows, Linux.

Text

Reema Thareja, Fundamentals of Computers

References

P. K. sinha, Computer Fundamentals
Anita Goel, Computer Fundamentals
V. Rajaraman, Fundamentals of Computers
E. Balagurusamy, Fundamentals of Computers
J. Glenn Brookshear, Dennis Brylow, Computer Science An Overview

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B.Sc (MSCS/MPCS) III Year Examination
Semester – V
SEC: Python – 1

Theory **2 Hours/Week** **2 credits**

Course Outcomes:

1. To acquire programming skills in core Python.
2. To acquire Object Oriented Skills in Python
3. To develop the skill of designing Graphical user Interfaces in Python
4. To develop the ability to write database applications in Python

SYLLABUS

Unit - I

Introduction to Python: Python, Features of Python, Execution of a Python Program, Viewing the Byte Code, Flavors of Python, Python Virtual Machine, Frozen Binaries, Memory Management in Python, Garbage Collection in Python, Comparisons between C and Python, Comparisons between Java and Python.

Writing Our First Python Program: Installing Python for Windows, Installing numpy, Setting the Path to Python, Writing Our First Python Program, Executing a Python Program, Getting Help in Python, Getting Python Documentation Help, Reopening the Python Program in IDLE.

Data types in Python: Comments in Python, Doc strings, How Python Sees Variables, Data types in Python, Built-in data types, bool Data type, Sequences in Python, Sets, Literals in Python, Determining the Data type of a Variable, What about Characters, User-defined Data types, Constants in Python, Identifiers and Reserved words, Naming Conventions in Python.

Unit – II

Operators in Python: Arithmetic Operators, Assignment Operators, Unary Minus Operator, Relational Operators, Logical Operators, Boolean Operators, Bitwise Operators, Membership Operators, Identity Operators, Operator Precedence and Associativity, Mathematical Functions.

Input and Output: Output statements, Input Statements, Command Line Arguments.

Control Statements: Control Statements, The if Statement, A Word on Indentation, The if … else Statement, The if … elif … else Statement, The while Loop, The for Loop, Infinite Loops, Nested Loops, The else Suite, The break Statement, The continue Statement, The pass Statement, The assert Statement, The return Statement.

Text

R. Nageswara Rao, Corer Python Programming, Dreamtech Press

Reference s

Mark Lutz, Learning Python

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B.Sc (MSCS/MPCS) III Year Examination
Semester – VI
Subject: Computer Science
Paper- VII–COMPUTER NETWORKS

Theory	**3 Hours/Week**	**3 credits**
Practical	**2 Hours/Week**	**1 credit**

Course Outcomes:

1. Describe the general principles of data communication.
2. Describe how computer networks are organized with the concept of layered approach.
3. Describe how signals are used to transfer data between nodes.
4. Implement a simple LAN with hubs, bridges and switches.
5. Describe how packets in the Internet are delivered.
6. Analyze the contents in a given data link layer packet, based on the layer con¬cept.
7. Design logical sub-address blocks with a given address block.
8. Decide routing entries given a simple example of network topology
9. Describe what classless addressing scheme is.
10. Describe how routing protocols work.
11. Use C programming language to implement network programs.
12. Design and implement a network protocol.

SYLLABUS

Unit – I

Introduction: Data Communication Components, Line Configuration, Topologies, Transmission Mode, Categories of Networks, ISO Reference Model–Layered Architecture, Functions of Layers, TCP/IP Reference Model.

Transmission Media: Guided Media–Twisted Pair Cable, Coaxial Cable, Optical Fiber, Unguided Media– Satellite Communication, and Cellular Telephony.

Unit - II

Multiplexing: Frequency –Division Multiplexing, Time–Division Multiplexing.

Data Link Layer: Error Detection –VRC, LRC, CRC, Checksum, Error Correction–Hamming Code, Burst Error Correction, Line Discipline–ENQ/ACK, Poll/Select, Flow Control–Stop-and-Wait, Sliding Window, Error Control–Stop-and-Wait ARQ, Sliding Window ARQ Go-Back-n ARQ, Selective-Reject ARQ.

Unit - III

Local Area Networks: Introduction to IEEE 802, Ethernet-CSMA/CD, Implementation, Token Ring,-Token Passing, Implementation.

Switching: Circuit Switching, Packet Switching, Message Switching.

Unit - IV

Networking and Internetworking Devices: Repeaters, Bridges, Routers, Gateways, Brouters, Switches, Distance Vector Routing Algorithm, Link State Routing Algorithm.

Transport Layer: Duties of Transport Layer, Connection.

Upper OSI Layers; Session Layer, Presentation Layer, Application Layer.

Text

Behrouz A. Forouzan, Data Communication and Networking (2e Update)

References

S.S. Shinde, Computer Networks
William Stallings, Data and Computer Communications
Andrew S. Tanenbaum, David J Wetherall, Computer Networks
Behrouz A Forouzan, Firouz Mosharraf, Computer Networks A Top-Down Approach

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Semester – VI
Subject: Computer Science
Paper- VII–COMPUTER NETWORKS LAB

Practical **2 Hours/Week** **1 credit**

Course Outcomes:

1. Understand the structure and organization of computer networks;
2. Including the division into network layers, role of each layer, and relationships between the layers.
    a. Understand the basic concepts of application layer protocol design; including client/server models, peer to peer models, and network naming.
    b. In depth understanding of transport layer concepts and protocol design;
3. Including connection oriented and connection-less models, techniques to provide reliable data delivery and algorithms for congestion control and flow control.

COMPUTER NETWORKS QUESTION BANK

1 Write a program to create a socket and implement connect function.

2 Write a program to get MAC address.

3 Write a program to display hello world using signals.

4 Write a program for socket pair system call using IPC.

5 Write a program to implement the sliding window protocol.

6 Write a program to identify the category of IP address for a given IP address.

7 Write a program to print details of DNS host.

8 Write a program to implement listener and talker.

9 Write a program to implement TCP echo using client–server program.

10 Write a program to implement UDP echo using client–server program.

11 Write a UDP client–server program to convert lowercase letters to uppercase letters.

12 Write a TCP client–server program to convert a given string into reverse.

13 Write a UDP client–server program to convert a given string into reverse.

14 Write a program to implement TCP iterative client–server program.

15 Write a program to implement time service using TCP client–server program.

16 Write a program to implement time service using UDP client–server program.

Note:
Write above program using C language on Unix/Linux systems.

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B.Sc (MSCS/MPCS) III Year Examination
Semester – VI
Subject: Computer Science
Paper: VIII PHP with MySQL

Theory	**3 Hours/Week**	**3 credits**
Practical	**2 Hours/Week**	**1 credit**

Course Outcomes:

1. List the major elements of the PHP & MySQL work and explain why PHP is good for web development
2. Learn how to take a static website and turn it into a dynamic website run from a database using PHP and MySQL.
3. Analyze the basic structure of a PHP web application and be able to install and maintain the web server, compile, and run a simple web application.
4. Learn how databases work and how to design one, as well as how to use php MyAdmin to work with MySQL.
5. Learn different ways of connecting to MySQL through PHP, and how to create tables, enter data, select data, change data, and delete data. Connect to SQL Server and other data sources

SYLLABUS

Unit – I

Introducing PHP – What is PHP? Why use PHP? Evolution of PHP, Installing PHP, Other ways to run PHP, Creating your first script. PHP Language Basics – Using variables, Understanding Data Types, Operators and Expressions, Constants. Decisions and Loops – Making Decisions, Doing Repetitive Tasks with Looping, Mixing Decisions and Looping with HTML.

Unit - II

Strings – Creating and Accessing Strings, Searching Strings, Replacing Text with Strings, Dealing with Upper and Lowercase, Formatting Strings.

Arrays – Creating Arrays, Accessing Array Elements, Looping Through Arrays with for-each, Working with Multidimensional Arrays, Manipulating Arrays.

Functions – What is a Function? Why Functions are useful? Calling Functions, Working with Variable Functions, Writing your own Functions, Working with References, Writing Recursive Functions.

Unit - III

Objects – Introduction OOP Concepts, Creating Classes and Objects in PHP, Creating and using Properties, Working with Methods, Object Overloading with _get(), _set() and _call(), Using Inheritance to Extend Power of Objects, Constructors and Destructors, Automatically Loading Class Files, Storing as Strings.

Handling HTML Forms with PHP – How HTML form works, Capturing Form Data with PHP, Dealing with Multi-Value Fields, Generating Web Forms with PHP, Storing PHP Variables in Forms, Creating File Upload Forms, Redirecting After a Form Submission.

Unit – IV

Working with Files and Directories - Getting Information on Files, Opening and Closing Files, Reading and Writing to Files, Copying, Renaming, and Deleting Files, Working with Directories. **Introducing Databases and SQL** – Deciding How to Store Data, Understanding Relational Databases, Setting Up MySQL, A Quick Play with MySQL, Connecting MySQL from PHP. **Retrieving Data from MySQL with PHP** – Setting Up the Book Club Database, Retrieving Data with SELECT, Creating a Member Record Viewer. Manipulating MySQL Data with PHP – Inserting, Updating, and Deleting Records, Building a Member Registration Application.

Text

Matt Doyle, Beginning PHP 5.3 (Wrox – Wiley Publishing)

References

Ellie Quigley, PHP and MySQL by Example
Joel Murach, Ray Harris, Murach's PHP and MySQL
Brett McLaughlin, PHP & MySQL: The Missing Manual
Luke Welling, Laura Thomson, PHP and MySQL Web Development
W. Jason Gilmore, Beginning PHP and MySQL From Novice to Professional
Andrew Curioso, Ronald Bradford, Patrick Galbraith, Expert PHP and MySQL

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B.Sc (MSCS/MPCS) III Year Examination
Semester – VI
Subject: Computer Science
Paper VIII PHP with MySQL Lab

Practical **2 Hours/Week** **1 credit**

Course Outcomes:

1. The objective of this course is to provide the necessary knowledge to design and develop dynamic
2. Database-driven web applications using PHP version 5.
3. Students will learn how to connect to any ODBC-compliant database, and perform hands on practice with a MySQL database to create database-driven HTML forms and reports etc.
4. Students also learn how to configure PHP and Apache Web Server. Comprehensive lab exercises provide facilitated hands on practice crucial to develop competence web sites.

PHP WITH MYSQL QUESTION BANK

1 a) Write a PHP script to find the factorial of a given number.

b) Write a PHP script to find the sum of digits of a given number.

2 a) Write a PHP script to find whether the given number is a prime or not.

b) Write a PHP script to demonstrate the use of break, continue statements using nested loops.

3 a) Write a PHP script to display the FiboNAACi sequence with HTML page.

b) Write a PHP script to create a chess board.

4 a) Write a PHP script using built-in string function like strstr (), strops(), substr_count(), etc...

b) Write a PHP script to transform a string to uppercase, lowercase letters, make a string's first character uppercase.

5 a)Write a PHP script that inserts a new item in an array in any position.

b)Write a PHP function to check whether all array values are strings or not.

6 a)Write a PHP script to count number of elements in an array and display a range of array elements.

b) Write a PHP script to sort a multi-dimensional array set by a specific key.

7 a) Write a PHP script using a function to display the entered string in reverse.

b) Write a PHP script using function for sorting words in a block of text by length.

8 a) Write a PHP script for creating the FiboNAACi sequence with recursive function.

b) Write a PHP script using pass by value and pass by reference mechanisms in passing arguments to functions.

9 a) Write a PHP script to demonstrate the defining and using object properties.

b) Write a PHP script to demonstrate the inheritance.

10 a) Write a PHP script to demonstrate the object overloading with _get (), _set(), and _call().

b) Write a PHP script to demonstrate the overloading property accesses with _get () and _set().

11 a) Write a PHP script to demonstrate the method overloading and method overriding mechanisms.

b) Write a PHP script to demonstrate the use of final classes and final methods.

12 a) Write a PHP script to demonstrate the use interfaces.

b) Write a PHP script using constructors and destructors.

13 Write a PHP application to handling HTML forms with PHP script.

14 a) Write a PHP script to create a file, write data into file and display the file's data.

b) Write a PHP script to check and change file permissions, copying, renaming and deleting files.

15 a) Write a PHP application for connecting to MySQL and reading data from database table.

b) Write a PHP application for inserting, updating, deleting records in the database table.

16 Write a PHP application for student registration form.

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B.Sc (MSCS/MPCS) III Year Examination
Semester – VI
Subject: Computer Science
Paper: GE: Information Technologies – 2

Theory **2 Hours/Week** **2 credits**

Course Outcomes:

1. competently use professional skills and knowledge in the systematic development of complex information systems
2. apply their skills and knowledge in a professionally responsible manner
3. communicate effectively with other computer scientists and the wider global community using a wide range of communication technologies
4. undertake research in information technology

SYLLABUS

Unit – I

Introduction to Algorithms and Programming Languages: Algorithm, Control Structures, Flowcharts, Pseudo code, Programming Languages, Generations of Programming Languages.
Database Systems: File Oriented Approach; Database Oriented Approach, Database Views, Three-Schema Architecture, Database Models, Components of DBMS, Introduction of SQL Queries.

Unit – II

Computer Networks: Introduction, Connection Media, Data Transmission Mode, Data Multiplexing, Data Switching, Network Topologies, Types of Networks, Networking Devices, OSI Model.
The Internet: Internet Services, Types of Internet Connections, Internet Security.
Emerging Computer Technologies: Distributed Networking, Peer-to-peer Computing, Grid Computing, Cloud Computing, Utility Computing, On0demand Computing, Wireless Network, Bluetooth, Artificial Intelligence.

Text

Reema Thareja, Fundamentals of Computers

References

P. K. sinha, Computer Fundamentals
Anita Goel, Computer Fundamentals
V. Rajaraman, Fundamentals of Computers
E. Balagurusamy, Fundamentals of Computers
J. Glenn Brookshear, Dennis Brylow, Computer Science an Overview

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B.Sc (MSCS/MPCS) III Year Examination
Semester – VI
Subject: Computer Science
Paper: SEC: Python - 2

Theory **2 Hours/Week** **2 credits**

Course Outcomes:

1. To acquire programming skills in core Python.
2. To acquire Object Oriented Skills in Python
3. To develop the skill of designing Graphical user Interfaces in Python
4. To develop the ability to write database applications in Python

SYLLABUS

Unit - I

Arrays in Python: Array, Advantages of Arrays, Creating an Array, Importing the Array Module, Indexing and Slicing on Arrays, Processing the Arrays, Types of Arrays, Working with Arrays using numpy, Creating Arrays using array(), linspace, logspace, arange(), zeros() and ones() Functions, Mathematical Operations on Arrays, Comparing Arrays, Aliasing the Arrays, Viewing and Copying Arrays, Slicing and Indexing in numpy Arrays, Dimensions of Arrays, Attributes of an Array, The reshape() Method, The flatten() Method, Working with Multi-dimensional Arrays, Indexing in Multi-dimensional Arrays, Slicing the Multi-dimensional Arrays, Matrices in numpy, Getting Diagonal Elements of a Matrix, Finding Maximum and Minimum Elements, Finding Sum and Average of Elements, Products of Elements, Sorting the Matrix, Transpose of a Matrix, Matrix Addition and Multiplication, Random Numbers.

Strings and Characters: Creating Strings, Length of a String, Indexing in Strings, Slicing the Strings, Repeating the Strings, Concatenation of Strings, Checking Membership, Comparing Strings, Removing Spaces from a String, Finding Sub Strings, Counting Substrings in a String, Strings are Immutable, Replacing a String with another String, Splitting and Joining Strings, Changing Case of a String, Checking Starting and Ending of a String, String Testing Methods, Formatting the Strings, Working with Characters, Sorting Strings, Searching in the Strings, Finding Number of Characters and Words, Inserting Sub String into a String.

Unit – II

Functions: Difference between a Function and a Method, Defining a Function, Calling a Function, Returning Results from a Function, Returning Multiple Values from a Function, Functions are First Class Objects, Pass by Object Reference, Formal and Actual Arguments, Positional Arguments, Keyword Arguments, Default Arguments, Variable Length Arguments, Local and Global Variables.

Lists and Tuples: List, Creating Lists using range() Function, Updating the Elements of a List, Concatenation of Two Lists, Repetition of Lists, Membership in Lists, Aliasing and Cloning Lists, Methods to Process Lists, Finding Biggest and Smallest Elements in a List, Sorting the List

Elements, Number of Occurrences of an Element in the List, Finding Common Elements in Two Lists, Storing Different Types of Data in a List, Nested Lists, Nested Lists as Matrices, List Comprehensions, Tuples, Creating Tuples, Accessing the Tuple Elements, Basic Operations on Tuples, Functions to Process Tuples, Nested Tuples, Inserting Elements in a Tuple, Modifying Elements of a Tuple, Deleting Elements from a Tuple.

Dictionaries: Operations on Dictionaries, Dictionary Methods, Using for Loop with Dictionaries, Sorting the Elements of a Dictionary using Lambdas, Converting Lists into Dictionary, Converting Strings into Dictionary.

Text

R. Nageswara Rao, Corer Python Programming, Dreamtech Press

References

Mark Lutz, Learning Python
Tony Gaddis, Starting Out With Python
Kenneth A. Lambert, Fundamentals of Python
James Payne, Beginning Python using Python 2.6 and Python 3
Paul Gries, Practical Programming: An Introduction to Computer Science using Python 3

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MODEL PAPER

Time: 2 1/2hr **Max Marks: 60**

SECTION-A

I Short Answer Questions
Answer any Five of the following questions **5x4=20marks**

1. **Question from unit -1.**
2. **Question from unit -1.**
3. **Question from unit -2.**
4. **Question from unit -2.**
5. **Question from unit -3.**
6. **Question from unit -3.**
7. **Question from unit -4.**
8. **Question from unit -4.**

SECTION-B

II Essay Questions
Answer all questions choosing any one bit from each question **4x10=40marks**

9. a) Question from unit-1.
(Or)

b) Question from unit-1

10. a) Question from unit-2.
(Or)

b)Question from unit-2

11. a) Question from unit-3.
(Or)

b) Question from unit-3.

12. a) Question from unit-4.
(Or)

b) Question from unit-4.

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GradeSEC

MODEL PAPER

Time:1hrs **Max Marks: 40**

SECTION-A

I. Answer any 4 out of 6 questions. **4*4=16**

9. **Question from unit -1.**
10. **Question from unit -1.**
11. **Question from unit -1.**
12. **Question from unit -2.**
13. **Question from unit -2.**
14. **Question from unit -2.**

SECTION-B

II. Answer the following questions. **2x12=24**

1. a) Question from unit-1.
(Or)

b) Question from unit-1

2. a) Question from unit-2.
(Or)

b) Question from unit-2.

Practical Examinations

1. Practical examinations will be held at the end of each Semester.
2. 50 marks are allotted for the Practical examination consisting of External and Internal Evaluation.
3. Practical Question Bank is prepared & provided to the students from which practicals will be conducted.
4. Practicals shall be conducted in each Semester as per the Syllabus and Time table.
   Resolved to accept the above pattern of examination

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET (AUTONOMOUS)

CHOICE BASED CREDIT SYSTEM (CBCS)

SYLLABUS
For
B.Sc.(Data Science)
Under Graduate Programme

DEPARTMENT OF COMPUTERS

(w.e.f. 2020 - 21)Session

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERABAD
DEPARTMENT OF COMPUTERS
ALLOCATION OF CREDITS FOR B.Sc.(Data Science)

Course Title	Course Type	Hours per Week	Credits
SEMESTER – I			
Fundamentals of Information Technology	DSC-A	4T+2P	4+1=5
SEMESTER – II			
Problem solving and Python Programming	DSC-B	4T+2P	4+1=5
AECC			
Fundamentals of Computers	AECC	2T	2
SEMESTER – III			
Communication Skills(or) Professional Skills–I)	SEC-1	2T	2
Operating Systems – 1	SEC – 2	2T	2
Data Engineering with Python	DSC-C	4T+2P	4+1=5
SEMESTER – IV			
Leadership & Management Skill (or)Universal Human Values	SEC - 3	2T	2
Operating Systems – 2	SEC – 4	2T	2
Machine Learning	DSC-D	4T+2P	4+1=5
SEMESTER – V			
Data Structures and Algorithms	GE	4T	4
Natural Language Processing	DSE- A	4T+2P	4+1=5
No SQL Data Bases	DSE- A	4T+2P	4+1=5
SEMESTER – VI			
Big Data	DSE–B	4T+2P	4+1=5
Deep Learning	DSE–B	4T+2P	4+1=5
Project			
Project	Project	4	4
	Total Number of Credits		**48**

GOVERNMENT DEGREE COLLEGE FOR WOMEN

(AUTONOMOUS)

BEGUMPET, HYDERABAD

DEPARTMENT OF COMPUTER SCIENCE

Programme Outcomes

PO 1 Domain Expertise:

- Acquire comprehensive knowledge and skills.
- Make use of the knowledge in an innovative manner.
- Effectively apply the knowledge and skills to address various issues.

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PO 2 Modern equipment Usage

- Use ICT effectively.
- Access, retrieve and use authenticated information.
- Access, retrieve and use authenticated information. Have knowledge of software applications to analyze data.

PO 3 Computing Skills and Ethics

- Develop rationale and scientific thinking process.
- Use technology intelligently for communication, entertainment and for the benefit of mankind.
- Ensure ethical practices throughout ones endeavors for the wellbeing of human race.

PO 4 Complex problem Investigation & Solving

- Predict and analyze problems.
- Frame hypotheses.
- Investigate and interpret empirical data.
- Plan and execute action.

PO 5 Perform effectively as Individuals and in Teams

- Work efficiently as an individual
- Cooperate, coordinate and perform effectively in diverse teams/groups.
- Prioritize common interest to individual interest.

PO 6 Efficient Communication & Life Skills

- Express thoughts in an effective manner
- Listen, understand and project views in a convincing manner.
- Decide appropriate media to share information
- Develop skills to present significant information clearly and concisely to interested groups.

PO 7 Environmental Sustainability

- Understand sensibly the Environmental challenges.
- Think critically on environment sustainability measures.
- Propagate and follow environment friendly practices.

PO 8 Societal contribution

- Render service for the general good of the society.
- Involve voluntarily in social development activities at Regional, National, global levels.
- Have own pride in volunteering to address societal issues viz: calamities, disasters, poverty, epidemics.
- Be a patriotic citizen to uphold the values of the nation

PO 9 Effective Project Management

- Identify the goals, objectives and components of a project and decide the appropriate time of completion.
- Plan, organize and direct the endeavors of teams to achieve the set targets in time.
- Be competent in identifying opportunities and develop strategies for contingencies.

DEPARTMENT OF COMPUTERS
BOARD OF STUDIES MEETING FOR THE YEAR 2021-2022

The 11nthmeeting of the Board of studies of the Department of Computers Government Degree College for Women, Begumpet, Hyderabad was held on _____in the Department of Computers, Govt. Degree College for Women, Begumpet, Hyderabad.

The following members were present:

SL.No	NAME	ADDRESS
1.	University Nominee Dr.C. Goverdhan M.Sc, Ph.D.	Chairman, Board of Studies, Department of Mathematics, Osmania University, Hyderabad. Mobile No:9440130036
2.	Subject Expert Mr.A.Inna Reddy MCA,UGC NET,(Ph.D)	Associate Professor Department of Computer Application GDC Chanchalguda Mobile no:9949197994 innareddyallam@gmail.com
4.	Subject Expert Dr. T.R.Srinivas B.E,M.Tech,M.B.A,PhD	Associate Professor Department of Computer Science and Engineering ARR Mahaveer Engineering College Mobile no:8142241367 cshod@aarm.ac.in
5.	Industralist Mr.C.Chinna Swamy Team Leader	Company Name:Pantech e Learning Mobile: 8925533482
6.	In charge of the Department – Chairman, BOS – Computers Dr.D.Sarada Devi	Associate Professor in Mathematics Department of Mathematics, Government Degree college for women, Begumpet, Hyderabad. Mobile:9848190810
7.	Faculty – Member Smt.P.Kalpana M.Sc (Computer Science)	Lecturer in Computer Applications, Government Degree College for Women, Begumpet, Hyderabad. Mobile: 9030122738
8.	Faculty – Member Ms.G.T.Jayalaxmi M.C.A	Lecturer in Computer Applications, Government Degree College for Women, Begumpet, Hyderabad. Mobile: 7396923294
9.	Faculty – Member Ms.A.Laxmi Prasanna M.Tech(CSE)	Lecturer in Computer Science, Government Degree College for Women, Begumpet, Hyderabad. Mobile: 9160848766
10.	Faculty – Member K.Ankitha M.Tech(CSE)	Lecturer in Computer Science, Government Degree College for Women, Begumpet, Hyderabad. Mobile: 9381453216
11.	Faculty – Member Ms.M.Sandhya M.Tech(CSE)	Lecturer in Computer Science, Government Degree College for Women, Begumpet, Hyderabad. Mobile: 8712180180

12.	Faculty-Members Ms.R.Swapna M.Sc (Computer Science)	Lecturer in Computer Science, Government Degree College for Women, Begumpet, Hyderabad. Mobile:9985509476
13.	Faculty – Member Ms.P.Vamshipriyadarshini M.Tech	Lecturer in Computer Science, Government Degree College for Women, Begumpet, Hyderabad. Mobile: 9391812746

Program Specific Outcomes:

1. Students will obtain the fundamental and technical concepts.
2. Students will apply design and development principles in the construction of software engineering and systems.
3. Acquire ability to use current techniques, skills and tools for programming practically.
4. Student will develop IT skills though minor projects, major projects and seminars.
5. Student acquires interests in building their career in the field of IT.

SYLLABUS

B.Sc (Data Science) I YEAR

(With effect from batch of students admitted from the academic year 2020-2021 onwards under semester system)

GOVERNMENT DEGREE COLLEGE FOR WOMEN,
BEGUMPET, HYDERABAD

(Autonomous)
Affiliated to Osmania University

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD – 16
(An Autonomous college of Osmania University)
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DEPARTMENT OF COMPUTERS
PATTERN OF EXAMINATION

Question Paper pattern for Internal, Theory and Practical Examinations of B.Sc (Data Science) I Year, Semester I & II.

Internal Assessment

1. 40 marks are allotted for the Internal Assessment.
2. Two Internals of 20 marks each.
3. Internals shall be held at the end of every 9th week and 14th week of the Semesters.
4. The Time duration for the Internal Assessment shall be 1 hour.
5. Internals consists of
   Section – A: 2 out of 4 questions –each question carries 10marks 2x5=10 marks.
   B: 1 out of 2 questions – carries 10marks 1x10=10 marks.
   Total=20 marks
6. 5 marks will be allotted for the Assignment.
7. 5marks will be allotted for Seminar.
8. 10 marks will be allotted for multiple choices.

Semester Examination

1. 60 marks are allotted for the main Exam for each Semester
2. To be held in the month of October and March/April months.
3. The Time duration for the External Assessment shall be 2 ½ hours.
4. Section – A : 5 out of 8 questions –each question carries 5marks 5x4=20 marks
   Section – B : 4 out of 8 questions –each question carries 10marks 4x10=40 marks
   Total=60 marks

Practical Examinations

1. Practical examinations will be held at the end of each Semester.
2. 50 marks are allotted for the Practical examination consisting of External and Internal Evaluation.
3. Practical Question Bank is prepared & provided to the students from which practicals will be conducted.
4. Practicals shall be conducted in each Semester as per the Syllabus and Time table.
   Resolved to accept the above pattern of examination

Chairman BOS University Nominee Members

1.
2.
3.
4.

PRINCIPAL

B.Sc. I Year I Semester (CBCS) : Data Science Syllabus

Paper – I : **Fundamentals of Information Technology**

[4 HPW :: 4 Credits :: 100 Marks (External:60, Internal:40)]

Objectives:

1. **To deal with the basic concepts of computers.**
2. **To discuss about the computer hardware, its components and basic computer architecture.**
3. **To understand the basic computer software including the operating system and its concepts.**
4. **To introduce the software development process**
5. **To introduce the basic concept of programming**

Outcomes:

Students should be able to

1. Identify the components of a computer and their functions.
2. Understand the concept of networking, LAN, Internet, and working of www.
3. Understand the notion of problem solving using computer by programming
4. Understand the notion of Software Project and the Process of software development

Unit-I

Data and Information: Introduction, Types of Data, Simple Model of a Computer, Data Processing Using a Computer, Desktop Computer [Reference 1]

Acquisition of Numbers and Textual Data: Introduction, Input Units, Internal Representation of Numeric Data, Representation of Characters in Computers, Error-Detecting Codes [Reference 1]

Unit-II

Data Storage: Introduction, Storage Cell, Physical Devices Used as Storage Cells, Random Access Memory, Read Only Memory, Secondary Storage, Compact Disk Read Only Memory (CDROM), Archival Store [Reference 1]

Central Processing Unit: Introduction, Structure of a Central Processing Unit, Specifications of a CPU, Interconnection of CPU with Memory and I/O Units, Embedded Processors [Reference 1]

Unit-III

Computer Networks: Introduction, Local Area Network (LAN), Applications of LAN, Wide Area Network (WAN), Internet, Naming Computers Connected to Internet, Future of Internet Technology [Reference 1]

Input Output Devices: Introduction, Keyboard, Video Display Devices, Touch Screen Display, E-Ink Display, Printers, Audio Output [Reference 1]

Computer Software: Introduction, Operating System, Programming Languages, Classification of Programming Languages, Classification of Programming Languages Based on Applications [Reference 1]

Unit-IV

The Software Problem: Cost, Schedule, and Quality, Scale and Change [Reference 2]
Software Processes: Process and Project, Component Software Processes, Software Development Process Models [Reference 2]
Programming Principles and Guidelines: Structured Programming, Information Hiding, Some Programming Practices, Coding Standards [Reference 2]

References

1. V Rajaraman. Introduction to Information Technology, 3rd Edition, PHI Learning Private Limited, 2018
2. Pankaj Jalote. Concise Introduction toSoftware Engineering, Springer, 2011

B.Sc. I Year I Semester (CBCS) : Data Science Syllabus

Practical - 1 : Fundamentals of Information Technology (Lab)

[2 HPW :: 1 Credit :: 50 Marks]

Objective

The main objective of this laboratory is to familiarize the students with the basic hardware and software in computers

Exercises

1. Assembly and disassembly of a system box and identifying various parts inside the system box to recognize various parts of a typical computer system
2. Assembly and disassembly of peripheral devices- keyboard and mouse and study of their interface cables, connectors and ports.
3. Installation of Operating Systems-Windows and Linux
4. Disk defragmentation using system tool.
5. Procedure of disk partition and its operation (Shrinking, Extending, Delete, Format).
6. Installing and uninstalling of device drivers using control panel.
7. Working practice on windows operating system and Linux operating system: creating file, folder. Copying, moving, deleting file, folder
8. User Account creation and its feature on Windows Operating System and Changing resolution, color, appearances, and Changing System Date and Time.
9. Installation and using various wireless input devices (Keyboard/Mouse/Scanners etc.,)under Windows/Linux.
10. Study of various types of memory chips and various types of hard disk drives, partition and formatting of hard disk.
11. Installation of scanner, modem and network cards in Windows/Linux.
12. Assembly and disassembly of printer, installing a printer, taking test page, and using printer under Windows/Linux.

13. Installation of application software's – Office Automation, Anti-Virus.
14. Demonstrate the usage of Word and Power point in Windows and Linux
15. Configure Internet connection, Email Account creation, reading, writing and sending emails with attachment.

B.Sc. I Year II Semester (CBCS) : Data Science Syllabus

Paper – II : Problem Solving and Python Programming

[4 HPW :: 4 Credits :: 100 Marks (External:60, Internal:40)]

Objectives

The main objective is to teach Computational thinking using Python.

- To know the basics of Programming
- To convert an algorithm into a Python program
- To construct Python programs with control structures.
- To structure a Python Program as a set of functions
- To use Python data structures-lists, tuples, dictionaries.
- To do input/output with files in Python.
- To construct Python programs as a set of objects.

Outcomes:

On completion of the course, students will be able to:

1. Develop algorithmic solutions to simple computational problems.
2. Develop and execute simple Python programs.
3. Develop simple Python programs for solving problems.
4. Structure a Python program into functions.
5. Represent compound data using Python lists, tuples, dictionaries.
6. Read and write data from/to files in Python Programs

Unit-I

Introduction to Computing and Problem Solving: Fundamentals of Computing – Computing Devices – Identification of ComputationalProblems – Pseudo Code and Flowcharts – Instructions – Algorithms – Building Blocks of Algorithms.

Introduction to Python Programming: Python Interpreter and InteractiveMode– Variables and Identifiers – Arithmetic Operators – Values and Types – Statements,Reading Input, Print Output, Type Conversions, The type() Function and Is Operator, Dynamic and Strongly Typed Language.

Control Flow Statements: The if, The if…else,The if…elif…else Decision Control Statements, Nested if Statement, The while Loop, The for Loop, The continue and break Statements.

Unit-II

Functions: Built-In Functions, Commonly Used Modules, Function Definition and Calling the Function, The return Statement and void Function, Scope and Lifetime of Variables, Default Parameters, Keyword Arguments, *args and **kwargs, Command Line Arguments.

Strings: Creating and Storing Strings, Basic String Operations, Accessing Characters in String by Index Number, String Slicing and Joining, String Methods, Formatting Strings.

Unit-III

Lists: list operations, list slices, list methods, list loop, mutability, aliasing, cloning lists, list parameters; Tuples: tuple assignment, tuple as return value; Dictionaries: operations andmethods; advanced list processing - list comprehension; Illustrative programs: selection sort,
insertion sort, mergesort, histogram.

Files and exception: text files, reading and writing files, format operator; command line arguments,errors and exceptions, handling exceptions, modules, packages; Illustrative programs: word count, copy file.

Unit-IV

Object-Oriented Programming: Classes and Objects, Creating Classes in Python, Creating Objects in Python, The Constructor Method, Classes with Multiple Objects, Class Attributes versus Data Attributes, Encapsulation, Inheritance The Polymorphism.

Functional Programming: Lambda. Iterators, Generators, List Comprehensions.

References:

1. Introduction to Python Programming. Gowrishankar S., Veena A. CRC Press, Taylor & Francis Group, 2019
2. Allen B. Downey, ``Think Python: How to Think Like a Computer Scientist'', 2nd edition,Updated for Python 3, Shroff/O'Reilly Publishers, 2016 (http://greenteapress.com/wp/think- python/)

Suggested Reading:

1. Learning To Program With Python. Richard L. Halterman. Copyright © 2011
2. Python for Everybody, Exploring Data Using Python 3. Dr. Charles R. Severance. 2016

B.Sc. I Year II Semester (CBCS) : Data Science Syllabus

Practical - 2 : **Problem Solving and Python Programming (Lab)**

[2 HPW :: 1 Credit :: 50 Marks]

Objective

The main objective of this laboratory is to put into practice computational thinking. The students will be expected to write, compile, run and debug Python programs to demonstrate the usage of

- variables, conditionals and control structures
- functions (both recursive and iterative)
- basic data types as well as compound data structures such as strings, lists, sets, tuples, dictionaries
- object-oriented programming

Installing Python and Setting up the Environment

Python interpreter can be downloaded for Windows/Linux platform using the link below:
https://www.python.org/downloads/windows/

Exercises

I. Programs to demonstrate the usage of operators and conditional statements

1. Write a program that takes two integers as command line arguments and prints the sum of two integers.
2. Program to display the information:
   Your name, Full Address, Mobile Number, College Name, Course Subjects
3. Program to find the largest number among 'n' given numbers.
4. Program that reads the URL of a website as input and displays contents of a webpage.

II. Programs to demonstrate usage of control structures

5. Program to find the sum of all prime numbers between 1 and 1000.
6. Program that reads set of integers and displays first and second largest numbers.
7. Program to print the sum of first 'n' natural numbers.
8. Program to find the product of two matrices.
9. Program to find the roots of a quadratic equation

III. Programs to demonstrate the usage of Functions and Recursion

10. Write both recursive and non-recursive functions for the following:
    a. To find GCD of two integers
    b. To find the factorial of positive integer
    c. To print FiboNAACi Sequence up to given number 'n'
    d. To convert decimal number to Binary equivalent

11. Program with a function that accepts two arguments: a list and a number 'n'. It should display all the numbers in the list that are greater than the given number 'n'.
12. Program with a function to find how many numbers are divisible by 2, 3,4,5,6 and 7 between 1 to 1000

IV. Programs to demonstrate the usage of String functions

13. Program that accept a string as an argument and return the number of vowels and consonants the string contains.
14. Program that accepts two strings S1, S2, and finds whether they are equal are not.
15. Program to count the number of occurrences of characters in a given string.
16. Program to find whether a given string is palindrome or not

V. Programs to demonstrate the usage of lists, sets, dictionaries, tuples and files.

17. Program with a function that takes two lists L1 and L2 containing integer numbers as parameters. The return value is a single list containing the pair wise sums of the numbers in L1 and L2.
18. Program to read the lists of numbers as L1, print the lists in reverse order without using reverse function.

22. Write a program that combine lists L1 and L2 into a dictionary.

19. Program to find mean, median, mode for the given set of numbers in a list.
20. Program to find all duplicates in the list.
21. Program to o find all the unique elements of a list.
22. Program to find max and min of a given tuple of integers.
23. Program to find union, intersection, difference, symmetric difference of given two sets.
24. Program to display a list of all unique words in a text file
25. Program to read the content of a text file and display it on the screen line wise with a line number followed by a colon
26. Program to analyze the two text files using set operations
27. Write a program to print each line of a file in reverse order.

VI. Programs to demonstrate the usage of Object Oriented Programming

28. Program to implement the inheritance
29. Program to implement the polymorphism

VII. Programs to search and sort the numbers

30. Programs to implement Linear search and Binary search
31. Programs to implement Selection sort, Insertion sort

SYLLABUS

B.Sc. (Data Science) II YEAR

(With effect from batch of students admitted from the academic year
2021 -2022 onwards under semester system)

GOVERNMENTDEGREECOLLEGE FOR WOMEN,
BEGUMPET, HYDERABAD

(Autonomous)
Affiliated to OsmaniaUniversity

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD – 16
(An Autonomous college of Osmania University)
Re-Accredited by NAAC with 'A+' Grade

DEPARTMENT OF COMPUTERS
PATTERN OF EXAMINATION

Question Paper pattern for Internal, Theory and Practical Examinations of B.Sc (CS) I Year, Semester I & II

Internal Assessment

9. 40 marks are allotted for the Internal Assessment.
10. Two Internals of 20 marks each.
11. Internals shall be held at the end of every 9th week and 14th week of the Semesters.
12. The Time duration for the Internal Assessment shall be 1 hour.
13. Internals consists of
    Section – A: 2 out of 4 questions –each question carries 5marks 2x5=10 marks.
    B: 1 out of 2 questions – carries 10marks 1x10=10 marks.
    Total=20 marks
14. 5 marks will be allotted for the Assignment.
15. 5marks will be allotted for Seminar.
16. 10 marks will be allotted for Multiple Choice Questions(MCQS)
    4 MCQS will be conducted from 4 units . An average of 4 MCQs will be calculated as MCQS Marks

Semester Examination

5. 60 marks are allotted for the main Exam for each Semester to be held in the month of October and March/April months.
6. The Time duration for the External Assessment shall be 2 ½ hours.
7. Section – A : 5 out of 8 questions –each question carries 4marks 5x4=20 marks
   Section – B : 4 out of 8 questions –each question carries 10marks 4x10=40 marks
   Total=60 marks

Practical Examinations

5. Practical examinations will be held at the end of each Semester.
6. 50 marks are allotted for the Practical examination consisting of External and Internal Evaluation.
7. Practical Question Bank is prepared & provided to the students from which practicals will be conducted.
8. Practicals shall be conducted in each Semester as per the Syllabus and Time table.
   Resolved to accept the above pattern of examination .
9. Question I – 15 M , Question II – 15 M ,Record – 10 M, Viva – 10 M

Chairman BOS University Nominee Members

1.
2.
3.
4.

PRINCIPAL

Government College for Women Begumpet, Hyderabad-500016
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B.Sc. (Data Science) II Year
Semester-III
Subject: Data Science
Paper–III:Data Engineering with Python

Theory	**4 Hours/Week**	**4 credits**
Practical	**2 Hours/Week**	**1 credit**

Course Objectives: The main objective of this course is to teach how to extract raw data, clean the data, perform transformations on data, load data and visualize the data.

Course Outcome**:**

At the end ofthe course the student will be able to:

- Handle different typesof files and work with text data
- Use regular expressionoperations
- Use relational databases via SQL
- Usetabular numeric data
- Use the datastructures:data series and frames
- Use PyPlot for visualization

SYLLABUS

Unit–I

Data Science: Data Analysis Sequence, Data Acquisition Pipeline, Report Structure

Files and Working with Text Data: Types of Files, Creating and Reading Text Data, FileMethods to Read and Write Data, Reading and Writing Binary Files, The Pickle Module,Reading and Writing CSV Files, Python os and os.pathModules. **Workingwith TextData:** JSONandXML in Python

Unit–II

Working with Text Data: Processing HTML Files, Processing Texts in Natural Languages

Regular Expression Operations: Using Special Characters, Regular Expression Methods,Named Groups in Python Regular Expressions, Regular Expression with *glob* Module

Unit–III

Working with Databases: Setting Up a MySQL Database, Using a MySQL Database:Command Line, Using a MySQL Database, Taming Document Stores: MongoDB

Working with Tabular Numeric Data(Numpy with Python): NumPy Arrays CreationUsing *array()* Function, Array Attributes, NumPy Arrays Creation with Initial PlaceholderContent, Integer Indexing, Array Indexing, Boolean ArrayIndexing, Slicing and Iterating inArrays, Basic Arithmetic Operations on NumPy Arrays, Mathematical Functions in NumPy,Changing the Shape of an Array, Stacking and Splitting of Arrays, Broadcasting in Arrays.

Unit–IV

WorkingwithDataSeriesandFrames:

PandasDataStructures,ReshapingData,HandlingMissing Data, Combining Data, Ordering and Describing Data, Transforming Data, TamingPandasFileI/O

Plotting: Basic Plotting with PyPlot, Getting to Know Other Plot Types, MasteringEmbellishments,PlottingwithPandas

References:

1. DataScienceEssentialsinPython:Collect,Organize,Explore,Predict,Value.DmitryZinoriev, ThePragmaticProgrammers LLC, 2016
2. Introduction to Python Programming**.** Gowrishankar S., Veena A. CRC Press, Taylor &FrancisGroup,2019

SuggestedReading

3. PythonforEverybody:ExploringDataUsing Python3.CharlesRSeverance,2016
4. Python Data Analytics – Data Analysis and Science using Pandas, matplotlib and thePythonProgramming Language. Fabio Nelli, Apress, 2015
5. Website Scraping with Python. Using BeautifulSoup and Scrapy. GáborLászlóHajba,Apress,2018
6. Machine Learning with Python Cookbook:.Practical Solutions from Preprocessing toDeepLearning. Chris Albon, O'Reilly 2018

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B.Sc. (Data Science) II Year
Semester-III
Subject: Data Science
Paper–III:DataEngineering withPython

MODEL PAPER

Time: 2 1/2hrs **Max Marks: 60**

SECTION-A

I. Answer any 5 questions. **5X4=20**

1) Question from Unit-I.
2) Question from Unit-I.
3) Question from Unit-II.
4) Question from Unit-II.
5) Question from Unit-III.
6) Question from Unit-III.
7) Question from Unit-IV
8) Question from Unit-IV.

SECTION-B

II. Answer all the questions. **4X10=40**

1. a) Question from Unit-I.
(OR)
b) Question from Unit-II.
2. a) Question from Unit-II.
(OR)
b) Question from Unit-III.
3. a) Question from Unit-III.
(OR)
b) Question from Unit-IV.
4. a) Question from Unit-I.
(OR)
b) Question from Unit-IV.

Government College for Women Begumpet, Hyderabad-500016
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B.Sc. (Data Science) II Year
Semester-III
Subject: Data Science
Paper :DataEngineeringwithPython(Lab)

Practical **2 Hours/Week** **1 credit**

Course Objective:

The main objective of this laboratory is to put into practice the ETL (extract, transform, load)pipeline which will extract raw data, clean the data, perform transformations on data, loaddataand visualizethedata.ThisrequiresmentoringbyTCS.

DataEngineeringwithPython(Lab)

Libraries

In this course students are expected to extract, transform and load input data that can be textfiles, CSV files, XML files, JSON, HTML files, SQL databases, NoSQL databases etc.,. Fordoingthis, they should learn the following Python libraries/modules: pandas,numpy, BeautifulSoup, pymysql, pymongo, nltk, matplotlib

Datasets

For this laboratory, appropriate publicly available datasets, can be studied and used.Example:
MNIST(http://yann.lecun.com/exdb/mnist/),
UCI Machine Learning Repository(https://archive.ics.uci.edu/ml/datasets.html),Kaggle(https://www.kaggle.com/datasets)TwitterData

Exercises

1. Write programs to parse text files, CSV, HTML, XML and JSON documents and extract relevant data. After retrieving data check any anomalies in the data,missing values etc.
2. Write programs for reading and writing binary files
3. Write programs for searching, splitting, and replacing strings based on pattern matchingusingregularexpressions
4. Design a relational database for a small application and populate the database. Using SQLdothe CRUD(create, read, update and delete)operations.
5. Create a Python MongoDB client using the Python module pymongo. Using a collection object practice functions for inserting, searching, removing, updating, replacing, and aggregating documents, as well as forcreating indexes
6. Write programs to create numpy arrays of different shapes and from different sources,reshape and slice arrays, add array indexes, and apply arithmetic, logic, and aggregationfunctionsto someor all array elements
7. Write programs to use the pandas datastructures: Frames and series as storage containers and for a variety of data-wrangling operations, such as:
    - Single-level and hierarchical indexing
    - Handling missing data
    - Arithmetic and Boolean operations on entire columns and tables
    - Database-type operations(such as merging and aggregation)
    - Plottingindividualcolumnsandwholetables
    - Readingdatafromfilesandwritingdatato files

Government Degree College for Women Begumpet, Hyderabad-500016

(An Autonomous college of Osmania University)
Re-Accredited by NAAC with 'A+' Grade
B.SC II (Data Science)Year Examination
Semester – III
Subject: Data Science
Paper- Operating Systems – 1 (SEC-2)
Syllabus

Theory **2Hours/Week** **2 credits**

Course Objectives:

A successful student will be able to understand the basic components of a computer operating system, and the interactions among the various components. The course will cover an introduction on the policies for scheduling, deadlocks, memory management, synchronization, system calls, and file systems.

Course Outcome:

- Understands the use of different process scheduling algorithm and synchronization techniques to avoid deadlock.
- They will learn different memory management techniques like paging, segmentation and demand paging etc.

Unit – I

Introduction: Computer-System Architecture, Computing Environments.
Operating-System Structures: Operating-System Services, User Interface for Operating-System, System Calls, Types of System Calls, Operating System Structure.
Process Management: Process Concept, Process Scheduling, Operations on Processes, Inter process Communication, Examples–Producer-Consumer Problem.
Process Synchronization: Critical-Section Problem, Peterson's Solution, Synchronization, Semaphores, Monitors.

Unit – II

CPU Scheduling: Concepts, Scheduling Criteria, Scheduling Algorithms.
Deadlocks: System Model, Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection, Recovery from Deadlock.

Text AbrahamSilberschatz,PeterBaerGalvin,GregGagne,OperatingSystemConcepts(9e)

Reference s

NareshChauhan, Principles of Operating Systems
Thomas W. Doeppner, Operating Systems in Depth
Andrew S. Tanenbaum, Modern Operating Systems
William Stallings, Operating Systems – Internals and Design Principles
Dhananjay M. Dhandhere, Operating Systems – A Concept Based Approach

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B.SC II(Data Science)Year Examination
Semester – III
Subject: Data Science
Paper- Operating Systems – 1 (SEC-2)
MODEL PAPER

Time: 1 hr **Max Marks: 40**

SECTION-A

I Answer Any 4 Questions. **4X4=16**

1) Question from Unit-I.
2) Question from Unit-I.
3) Question from Unit-I.
4) Question from Unit-II.
5) Question from Unit-II.
6) Question from Unit-II.

SECTION-B

II. Answer All Questions. **2X12=24**

7. a) Question from Unit-I.
(OR)
b) Question from Unit-I.

8. a) Question from Unit-II.
(OR)
b) Question from Unit-II.

Government College for Women Begumpet, Hyderabad-500016
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Re-Accredited by NAAC with 'A+' Grade
B.Sc. (Data Science) II Year
Semester-IV
Subject: Computer Science
Paper–IV:MachineLearning

Theory	**4 Hours/Week**	**4 credits**
Practical	**3 Hours/Week**	**1 credit**

CourseObjectives: The main objective of this course is to teach the principles and foundations of machine learning algorithms.

CourseOutcome:

Atthe end ofthecoursethestudentwillbeable tounderstand

- BasicsofMachine Learningand its limitations
- MachineLearningAlgorithms:supervised,unsupervised,bio-inspired
- ProbabilisticModelingandAssociationRuleMining

SYLLABUS

Unit-I

Introduction: What does it mean to learn, Some canonical Learning Problems, The DecisionTree Model of Learning, Formalizing the Learning Problem, ID3 Algorithm

Limits of Learning: Data Generating Distributions, Inductive Bias, Not Everything islearnable, Underfitting and Overfitting, Separation of training and test Data, Models,parameters and Hyperparameters, Real World Applications of Machine Learning

Geometry and Nearest Neighbors: From Data to Feature Vectors, k-Nearest Neighbors,DecisionBoundaries,k-means Clustering,High Dimensions

Unit-II

The Perceptron: Bio-inspired Learning, The Perceptron Algorithm, GeometricInterpretation, Interpreting Perceptron Weights, Perceptron Convergence and LinearSeparability,Improved Generalization,Limitations of the Perceptron

Practical Issues: Importance of Good Features, Irrelevant and Redundant Features, FeaturePruning and Normalization, Combinatorial Feature Explosion, Evaluating ModelPerformance,CrossValidation,HypothesisTestingandStatisticalSignificance,Debuggin gLearningAlgorithms, Bias Variancetradeoff

Linear Models: The Optimization Framework for Linear Models,Convex Surrogate LossFunctions, Weight Regularization, Optimization and Gradient Descent,Support VectorMachines

Unit-III

Probabilistic Modeling: Classification by Density Estimation, Statistical Estimation,NaïveBayesModels, Prediction

Neural Networks: Bio-inspired Multi-Layer Networks, The Back-propagation Algorithm,Initialization and Convergence of Neural Networks, Beyondtwo layers,Breadth vs Depth,BasisFunctions

UnitIV

Unsupervised Learning: Clustering Introduction, Similarity and Distance Measures,AgglomerativeAlgorithms,DivisiveClustering,MinmumSpanningTree

AssociationRules: Introduction,large Itemsets,AprioriAlgorithm

References:

1. A Course in Machine Learning (CIML). Hal Daume III, 2017 (freely available online)http://ciml.info/
2. DataMining:IntroductoryandAdvancedTopics.MargaretHDunham,PearsonEducation,2003

SuggestedReading:

3. Hands on Machine Learning with SciKit-Learn, Keras and Tensor Flow. AurélienGéron.O'Reily,2019
4. MachineLearning with Python Cookbook. ChrisAlbo,O'Reily,2018
5. Introduction to MachineLearning with Python: A guide. AndreasCMiller, SarahGuido.O'Reily,2017

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B.Sc. (Data Science) II Year
Semester-IV
Subject: Data Science

Paper–IV:MachineLearning

MODEL PAPER

Time: 2 1/2hrs **Max Marks: 60**

SECTION-A

I. Answer any 5 questions. **5X4=20**

1) Question from Unit-I.
2) Question from Unit-I.
3) Question from Unit-II.
4) Question from Unit-II.
5) Question from Unit-III.
6) Question from Unit-III.
7) Question from Unit-IV
8) Question from Unit-IV.

SECTION-B

II. Answer all the questions. **4X10=40**

1. a) Question from Unit-I.
(OR)
b) Question from Unit-II.
2. a) Question from Unit-II.
(OR)
b) Question from Unit-III.
3. a) Question from Unit-III.
(OR)
b) Question from Unit-IV.
4. a) Question from Unit-I.
(OR)
b) Question from Unit-IV.

Government College for Women Begumpet, Hyderabad-500016
(An Autonomous college of Osmania University)
Re-Accredited by NAAC with 'A+' Grade
B.Sc. (Data Science) II Year
Semester-IV
Subject: Data Science
Paper:MachineLearning(Lab)

Practical **2 Hours/Week** **1 credit**

CourseObjective:

The main objective of this laboratory is to put into practice the various machine learningalgorithmsfordata analysis using Python and Weka.

MachineLearning(Lab)

MLToolkits

Studentsareexpectedtolearn

1. Scikit-learn(https://scikit-learn.org/) an open source machine learning Python library thatsupports supervised and unsupervised learning. It also provides various tools for modelfitting,datapreprocessing, modelselection andevaluation, andmany otherutilities.
2. Weka(http://www.cs.waikato.ac.nz/ml/weka/)isanotherwidely usedMLtoolkit.

Datasets

1. The sklearn.datasets package embeds small toy datasets. It includes utilities to loadthese datasets. It also includes methods to load and fetch popular reference datasetsand features some artificial data generators. Students are expected to study and makeuseof thesedatasets
2. Weka alsohasprovides variousdatasets.

References:

1. scikit-learnuserguide.https://scikit-learn.org/stable//_downloads/scikit-learn-docs.pdf
2. Ian Witten,Eibe Frank, andMark Hall,Chris Pal. DATA MINING: Practical MachineLearningToolsandTechniques,4th Edition.MorganKaufmann.

Exercises

8. Write a Python program using Scikit-learn to split the iris dataset into 70% train data and30% test data. Out of total 150 records, the training set will contain 120 records and thetestset contains 30 of thoserecords. Print both datasets
9. Write Python program to use sklearn'sDecisionTreeClassifier to build a decision tree forthe sklearn's datasets. Implement functions to find the importance of a split (entropy,informationgain, gini measure)
10. Write a Python program to implement your own version of the K-means algorithm. Thenapplyit to different datasets andevaluatetheperformance.
11. Design a perceptron classifier to classify handwritten numerical digits (0-9). Implementusingscikit or Weka.
12. Write a Python program to classify text as spam or not spam using the Naïve BayesClassifier
13. Use WEKA and experiment with the following classifiers: Association Rule Mining(Apriori),Agglomerativeand Divisive Clustering

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B.Sc II (Data Science)Year Examination
Semester – III
Subject: Data Science
Paper- Operating Systems – 2 (SEC-4)
Syllabus

Theory **2 Hours/Week** **2 credits**

Course Objectives:

- Students will learn how Operating System is Important for Computer System.
- To make aware of different types of Operating System and their services
- To learn different process scheduling algorithms and synchronization techniques to achieve better performance of a computer system.
- To know virtual memory concepts.
- To learn secondary memory management.

Course Outcome:

- Understands the different services provided by Operating System at different level.
- They learn real life applications of Operating System in every field.

Unit – I

Main Memory: Introduction, Swapping, Contiguous Memory Allocation, Segmentation, Paging.
Virtual Memory: Introduction, Demand Paging, Page Replacement, Allocation of Frames, Thrashing.
Mass-Storage Structure: Overview, Disk Scheduling, RAID Structure.
File Systems: File Concept, Access Methods, Directory and Disk Structure, File-System Mounting, Protection
.

Unit – II

File System Implementation, Directory Implementation, Allocation Methods, Free-Space Management. Recovery, Network File System.
Protection and Security: Goals of Protection, Principles of Protection, Domain of Protection, Access Matrix, Access Control, Revocation of Access Rights, The Security Problem, Program Threats, System and Network Threats, Cryptography as a Security Tool, User Authentication, Implementing Security Defenses, Firewalling to Protect Systems and Networks, Computer-Security Classifications.

Text AbrahamSilberschatz, PeterBaerGalvin,GregGagne,OperatingSystemConcepts(9e)

References

NareshChauhan, Principles of Operating Systems
Thomas W. Doeppner, Operating Systems in Depth
Andrew S. Tanenbaum, Modern Operating Systems
William Stallings, Operating Systems – Internals and Design Principles
Dhananjay M. Dhandhere, Operating Systems – A Concept Based Approach

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Re-Accredited by NAAC with 'A+' Grade
B.Sc II(Data Science) Year Examination
Semester – III
Subject: Data Science
Paper- Operating Systems – 2 (SEC-4)
MODEL PAPER

Time: 1 hr **Max Marks: 40**

SECTION-A

I Answer Any 4 Questions. **4X4=16**

1) Question from Unit-I.
2) Question from Unit-I.
3) Question from Unit-I.
4) Question from Unit-II.
5) Question from Unit-II.
6) Question from Unit-II.

SECTION-B

II. Answer All Questions. **2X12=24**

7. a) Question from Unit-I.
(OR)
b) Question from Unit-I.

8. a) Question from Unit-II.
(OR)
b) Question from Unit-II.

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD – 16
(An Autonomous college of Osmania University)
Department of Computers

Panel of Examiners for B.Sc. (Data Science) II Year

S. No	Name & Details	Teaching Experience	Phone Number
1.	B.SarithaM.Sc, IPGDC(w),Nampally, Hyd.	16Yrs	9985408390
2.	Smt.B.Ramani M.C.A, Andhra Mahila Sabha Arts and Science College , OU road ,HYD.	15 Yrs	9441214888
3.	Ch.N Saranya M.Sc(cs),(PhD),(PGDDS) Assistant Professor Email-id:nagasaranya@gmail.com	12Yrs	9849555856

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16

(An Autonomous College of Osmania University)

DEPARTMENT OF COMMERCE

B.Com (COMPUTER APPLICATIONS / TAX PROCEDURES & PRACTICE)

(With effect from batch of students Admitted from the Academic year 2020-21 onwards under semester system of CBCS)

COURSE STRUCTURE, SYLLABUS, POs, PSOs & COs

PROGRAMME OUTCOMES

PO1. Domain Expertise:

- Gain thorough knowledge in the chosen domain and be able to apply it wherever necessary in an innovative manner.

PO2. Modern equipment Usage:

- Equip the students with modern technological skills, so that they are able to use software applications in their careers.

PO3. Computing Skills and Ethics:

- Students learn critical thinking and are able to analyse and solve problems rationally and ethically for communication, entertainment and for the benefit of mankind throughout ones endeavours for the wellbeing of human race.

PO4. Complex Problem Investigation & Solving

- Learn to analyse the problem, frame hypotheses, interpret empirical data and execute action

PO5. Perform effectively as Individuals and in Teams

- Be able to contribute at individual level and as team member and prioritize institutional interest over individual

PO6. Efficient Communication & Life skills

- Learn efficient communication to express, listen, understand and project views in a convincing manner clearly and concisely

PO7. Environmental Sustainability

- Understand current environmental challenges faced by the country & propagate and follow environment friendly practices.

PO8. Societal contribution

- Develop the pride in volunteering to address societal issues *viz:* calamities, disasters, poverty, epidemics and involve voluntarily in social development activities at Regional , National, global levels.

PO9. Effective Project Management

- Identify the goals, objectives and components of a project and then implementation so that deadlines are achieved, even when there are setbacks.

PROGRAMME SPECIFIC OUTCOMES

PROGRAMME		SPECIFIC OUTCOMES
B.COM(GEN) E/M,T/M	**PSO 1**	To understand the nature, scope and concepts of Accounting, Business Operations and Management
	PSO 2	The Analysis the relationship between, Accounting, Auditing and taxation
	PSO 3	To understand the application of Corporate Accounting Principle and Practice in real time business situation
	PSO 4	To equip the students with leadership skills and knowledge in computing skills
	PSO 5	To make them learn the latest techniques and their application in modern business operation
B.COM (CA) E/M,T/M	**PSO 1**	To understand the nature, scope and concepts of Accounting, Business Operations and Management
	PSO2	To understand to enable the students to understand to concepts of computer software and its application in business operation
	PSO 3	To equip the students with business Analysis and E-commerce Skills
	PSO 4	To develop the students with Communication, leadership and environmental skills
	PSO 5	To make them learn the latest technologies and their application in modern business operation
B.COM (TAXATION AND ADVERTISING)	**PSO 1**	File income tax return and compute the tax liability of individuals
	PSO 2	To develop proficiency in the management of an organization
	PSO 3	Attain skills in conducting in Business transaction in online
	PSO 4	Students will understand the concepts of creativity in acts of depth with the knowing of growing of creativity in Ads in today's competitive world
	PSO5	The courses enables the students to develop skills required for jobs in Advertising, Personal selling and salesmanship
B.B.A	**PSO1**	Understand the functional areas in business , accounting, marketing, finance, Economics, Law and Management
	PSO 2	Understand the Process of identifying business, opportunities and threats
	PSO 3	Ability to address business problems and address ethical issues in the business environment
	PSO 4	Ability to predict the changes in business environment and their impact on global markets
	PSO 5	Employ effective communicative skills

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET,

HYD-16

FIRST YEAR
SEMESTER: I

(An autonomous college of Osmania University)
Re-Accredited by NAAC with "B" Grade

Faculty of Commerce

STRUCTURE OF B.COM Course w.e.f the academic year 2020-2021

B.COM (COMPUTER APPLICATIONS) PROGRAMME

SL.NO	CODE NO	TITLE OF THE PAPER	HPW	CREDITS	EXAM DURATION	MAX MARKS
1	AECC1	a)Environmental Science	2	2	1 ½ hours	50 marks
2	DSC101	Financial Accounting-I	5	5	2 ½ hours	60 E+40 I=100
3	DSC102	Business Organization and Management	5	5	2 ½ hours	60 E+40 I=100
4	DSC103	Fundamentals of Information Technology	3T+4P	5	2 ½ hours	60 E+40 I=100
		Total	19	17		

SEMESTER:II

SL.NO	CODE NO	TITLE OF THE PAPER	HPW	CREDITS	EXAM DURATION	MAX MARKS
1	DSC201	Financial Accounting-II	5	5	2 ½ hours	60 E+40I=100
2	DSC202	Business Laws	5	5	2 ½ hours	60 E+40I=100
3	DSC203	Programming with C & C++	3T+4P	5	2 ½ hours	60 E+40I=100
4	AECC2	a)Basic Computer Skills	2	2	1 ½ hours	50 marks
5		Total	19	17		

SECOND YEAR

SEMESTER:III

S. NO	CODE NO	TITLE OF THE PAPER	HPW	CREDITS	EXAM DURATION	MAX MARKS
1	DSC301	Advanced Accounting	5	5	2 ½ hours	60 E+40I=100
2	DSC302	Business Statistics I	5	5	2 ½ hours	60 E+40I=100
3	DSC303	Relational Database Management System	3T+4P	5	2 ½ hours	60 E+40I=100
4	SEC1 UGC Specified Course	Communication Skills	2	2	1½ hours	40 E +10I=50
5	SEC2 Dept. Specified Course	a)Principles of Insurance	2	2	1½ hours	40 E +10I=50

SEMESTER:IV

S. NO	CODE NO	TITLE OF THE PAPER	HPW	CREDITS	EXAM DURATION	MAX MARKS
1	DSC401	Income Tax	5	5	2 ½ hours	60 E+40I=100
2	DSC402	Business Statistics II	5	5	2 ½ hours	60 E+40I=100
3	DSC403	Web Technologies	3T+4P	5	2 ½ hours	60 E+40I=100
4	SEC3 UGC Specified Course	Leadership and management skills	2	2	1½ hours	40 E +10I=50
5	SEC4 Dept. Specified Course	a)Practice of Life and General Insurance	2	2	1½ hours	40 E +10I=50

THIRD YEAR

SEMESTER:V

S. NO	CODE NO	TITLE OF THE PAPER	HPW	CREDITS	EXAM DURATION	MAX MARKS
1	DSE501	a) Cost Accounting	5	5	2 ½ hours	60 E+40I=100
2	DSE502	a) Computerized Accounting	3T+4p	5	3 hours	50 E+35p+15I=100
3	DSE503	a)Management Information System	3T+4P	5	2 ½ hours	60 E+40I=100
4	GE	a)Business Economics	4	4	3 hours	100

SEMESTER:VI

S. NO	CODE NO	TITLE OF THE PAPER	HPW	EXAM DURATION	MAX MARKS	CREDITS
1	DSE601	a)Cost control and management accounting	5	5	2 ½ hours	60 E+40I=100
2	DSE602	a) Theory and Practice of GST	5	5	3 hours	50 E+35p+15I=100
3	DSE603	a) Multimedia Systems	3T+4P	5	2 ½ hours	60 E+40I=100
4	PR	Research Methodology and Project Report	2T+4R	4	1 ½ hours	40E+10I+35R+15V.V

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DEPARTMENT OF COMMERCE

B.COM I YEAR (COMPUTER APPLICATIONS / TAX PROCEDURES & PRACTICE)CBCS

SEMESTER – I

FINANCIAL ACCOUNTING - I

Applicable from the academic year 2020-21 onwards

MAX MARKS : 60 E+40 I=100 **HPW :** 5 **NO. Of Credits:** 5

COURSE OUTCOMES

After completion of the course the student is able to:

1. Acquire conceptual knowledge of basics of accounting.
2. Develop the skill of recording financial transactions and preparation of reports in accordance with GAAP.
3. Describe the role of accounting information and its limitations.
4. Equip with the knowledge of accounting process and preparation of final accounts of sole trader.
5. Identify and analyze the reasons for the difference between cash book and pass book balances.
6. Recognize circumstances providing for increased exposure to errors and frauds.

Objective: To acquire conceptual knowledge of basics of accounting and preparation of final accounts of sole trader.

UNIT-I: ACCOUNTING PROCESS: Financial Accounting: Introduction – Definition – Evolution – Functions- Advantages and Limitations –Users of Accounting Information- Branches of Accounting – Accounting Principles: Concepts and Conventions- Accounting Standards– Meaning – Importance – List of Accounting Standards issued by ASB -– Accounting System- Types of Accounts – Accounting Cycle- Journal- Ledger and Trial Balance. (Including problems)

UNIT-II: SUBSIDIARY BOOKS: Meaning –Types - Purchases Book - Purchases Returns Book - Sales Book - - Sales Returns Book - Bills Receivable Book - Bills Payable Book – Cash Book - Single Column, Two Column, Three Column and Petty Cash Book - Journal Proper.(Including problems)

UNIT-III: BANK RECONCILIATION STATEMENT: Meaning – Need - Reasons for differences between cash book and pass book balances – Favourable and over draft balances – Ascertainment of correct cash book balance (Amended Cash Book) - Preparation of Bank Reconciliation Statement. (Including problems)

UNIT-IV: RECTIFICATION OF ERRORS AND DEPRECIATION: Capital and Revenue Expenditure – Capital and Revenue Receipts: Meaning and Differences - Differed Revenue Expenditure. Errors and their Rectification: Types of Errors - Suspense Account – Effect of Errors on Profit. (Including problems) Depreciation (AS-6): Meaning – Causes – Difference between Depreciation, Amortization and Depletion - Objectives of providing for depreciation – Factors affecting depreciation – Accounting Treatment – Methods of depreciation: Straight Line Method - Diminishing Balance Method (Including problems)

UNIT-V: FINAL ACCOUNTS: Final Accounts of Sole Trader: Meaning -Uses -Preparation of Manufacturing, Trading and Profit & Loss Account and Balance Sheet – Adjustments – Closing Entries.(Including problems)

SUGGESTED READINGS: 1. Accountancy-I: Haneef and Mukherjee, Tata McGraw Hill Company.

2. Principles & Practice of Accounting: R.L.Gupta&V.K.Gupta, Sultan Chand.
3. Accountancy-I: S.P. Jain & K.L Narang, Kalyani Publishers.
4. Accountancy–I: Tulasian, Tata McGraw Hill Co.
5. Introduction to Accountancy: T.S.Grewal, S.Chand and Co.
6. Advanced Accountancy-I: S.N.Maheshwari&V.L.Maheswari, Vikas.

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DEPARTMENT OF COMMERCE

B.COM I YEAR (COMPUTER APPLICATIONS / TAX PROCEDURES & PRACTICE)CBCS

SEMESTER – I

BUSINESS ORGANISATION AND MANAGEMENT

Applicable from the academic year 2020-21 onwards

MAX MARKS : 60 E+40 I=100 **PPW :** 5 **NO. Of Credits:** 5

COURSE OUTCOMES

After completion of the course the student is able to:

1. Understand the scope of Business, and its importance.
2. Describe the Social Responsibility and Ethics of Business
3. Analyse different forms of business organizations
4. Identify various vital documents of a company
5. Learn various sources Industrial Financial resources
6. Explain the functioning of Stock Exchanges & Mutual funds.

Objective: To acquaint the students with the basics of Commerce and Business concepts and functions, forms of Business Organization and functions of Management.

UNIT-I: INTRODUCTION AND FORMS OF BUSINESS ORGANISATIONS: Concepts of Business, Trade, Industry and Commerce - Objectives and functions of Business –Social Responsibility of a business - Forms of Business Organization - Meaning, Characteristics, Advantages and Disadvantages of Sole Proprietorship – Meaning, Characteristics, Advantages and Disadvantages of Partnership - Kinds of Partners - Partnership Deed -Concept of Limited liability partnership – Meaning, Characteristics, Advantages and Disadvantages of Hindu Undivided Family – Meaning, Advantages and Disadvantages of Co-Operative Organization.

UNIT-II: JOINT STOCK COMPANY: Joint Stock Company - Meaning - Definition - Characteristics - Advantages and Disadvantages - Kinds of Companies - Promotion - Stages of Promotion - Promoter - Characteristics - Kinds - Preparation of Important Documents - Memorandum of Association - Clauses - Articles of Association - Contents – Prospectus - Contents – Red herring Prospectus- Statement in lieu of Prospectus (As per Companies Act. 2013).

UNIT-III: INTRODUCTION TO FUNCTIONS OF MANAGEMENT: Management - Meaning - Characteristics - Functions of Management - Levels of Management – Skills of Management- Scientific Management - Meaning - Definition - Objectives - Criticism – Fayol's 14 Principles of Management .

UNIT-IV: PLANNING AND ORGANISING: Meaning - Definition - Characteristics - Types of Plans - Advantages and Disadvantages – Approaches to Planning - Management by Objectives (MBO) - Steps in MBO - Benefits – Weaknesses—Definition of Organizing-Organization-Process of Organizing - Principles of Organization - Formal and Informal Organizations - Line, Staff Organizations - Line and Staff Conflicts - Functional Organization - Span of Management - Meaning - Determining Span - Factors influencing the Span of Supervision.

UNIT-V: AUTHORITY, COORDINATION AND CONTROL: Meaning of Authority, Power, responsibility and accountability - Delegation of Authority - Decentralization of Authority - Definition, importance, process, and principles of Coordinationtechniques of Effective Coordination - Control - Meaning - Definition – Relationship between planning and control -Steps in Control – Types (post, current and pre-control) - Requirements for effective control.

SUGGESTED READINGS: 1.Business Organization & Management: Sharma Shashi K. Gupta, Kalyani Publishers 2.Business Organisation& Management: Patrick Anthony, Himalaya Publishing House 3.Business Organization & Management: Dr. Manish Gupta, PBP. 4.Organization & Management: R. D. Agarwal, McGraw Hill. 5.Modern Business Organization: S.A. Sherlekar, V.S. Sherlekar, Himalaya Publishing House 6.Business Organization & Management: C.R. Basu, Tata McGraw Hill 7.Business Organization & Management: M.C. Shukla S. Chand,

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DEPARTMENT OF COMMERCE

B.COM I YEAR (COMPUTER APPLICATIONS /TAX PROCEDURES & PRACTICE)CBCS

SEMESTER – II

FINANCIAL ACCOUNTING-II

Applicable from the academic year 2020-21 onwards

MAX MARKS : 60 E+40I=100 **HPW :** 5 **NO. Of Credits:**5

COURSE OUTCOMES

After completion of the course the student is able to:

1. Appreciate the need for negotiable instruments and procedure of accounting for them
2. Evaluate the concept of Consignment and learn its accounting treatment
3. Distinguish Joint Venture and Partnership and to learn the methods of maintaining records under Joint Venture.
4. Determine the ascertainment of profit under Single Entry system.
5. Understand the meaning and features of Non-Profit Organizations
6. Prepare Receipts & Payment Account, Income & Expenditure Account and Balance Sheet for Non-Profit Organizations.

Objective: To acquire accounting knowledge of bills of exchange and other business accounting methods.

UNIT-I: BILLS OF EXCHANGE: Bills of Exchange - Definition- Distinction between Promissory note and Bills of exchange Accounting treatment of Trade bills: Books of Drawer and Acceptor- Honour and Dishonour of Bills- Renewal of bills- Retiring of bills under rebate- Accommodation bills.(Including problems)

UNIT-II: CONSIGNMENT ACCOUNTS: Consignment – Meaning – Features– Proforma invoice - Account sales – Del credere commission-Accounting treatment in the books of the consignor and the consignee - Valuation of consignment stock –Treatment of Normal and abnormal Loss - Invoice of goods at a price higher than the cost price. (Including problems)

UNIT-III: JOINT VENTURE ACCOUNTS: Joint Venture – Meaning –Features-Difference between Joint Venture and Consignment Accounting Procedure-Methods of Keeping Records for Joint Venture Accounts-Method of Recording in co-ventures books-Separate Set of Books Method- Joint Bank Account Memorandum Joint Venture Account (Including problems)

UNIT-IV: ACCOUNTS FROM INCOMPLETE RECORDS: Single Entry System – Meaning -Features–Difference between Single Entry and Double Entry systems -Defects in Single Entry System - Books and accounts maintained - Ascertainment of Profit - Statement of Affairs and Conversion method (Including problems)

UNIT-V: ACCOUNTING FOR NON-PROFIT ORGANIZATIONS: Non- Profit Organization – Meaning – Features – Receipts and Payments Account – Income and Expenditure Account – Balance Sheet(Including problems)

SUGGESTED READINGS: 1. Accountancy-I: Haneef and Mukherjee, Tata McGraw Hill Co.

2. Principles and Practice of Accounting: R.L. Gupta & V.K. Gupta,Sultan Chand & Sons.
3. Accountancy–I: Tulasian, Tata McGraw Hill Co.
4. Accountancy–I: S.P. Jain & K.L Narang, Kalyani.
5. Advanced Accountancy-I: S.N.Maheshwari&V.L.Maheswari, Vikas.
6. Advanced Accountancy: M Shrinivas& K Sreelatha Reddy, Himalaya Publishers.
7. Financial Accounting: M.N Arora, Tax Mann Publications.

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B.COM I YEAR (COMPUTER APPLICATIONS/TAX PROCEDURES & PRACTICE)CBCS

SEMESTER – II

BUSINESS LAWS

Applicable from the academic year 2020-21 onwards

MAX MARKS : 60 E+40I=100 **HPW :** 5 **NO. Of Credits:** 5

COURSE OUTCOMES

After completion of the course the student is able to:

1. Demonstrate, understand and communicate all the Legal Terminology of Business.
2. Understanding Development of Business Law in India.
3. Outline Essentials of a valid Contract and agreements expressly declared to be void.
4. Wagering Agreements from Contingent contracts and classify different modes of Discharge.
5. Acquire knowledge about Sale of Goods Act 1930 and Consumer Protection Act 1986.
6. Explain Intellectuals Property Rights , Information Technology Act & Environmental Protection Act.

Objective: To understand basics of contract act, sales of goods act, IPRs and legal provisions applicable for establishment, management and winding up of companies in India.

UNIT–I: INDIAN CONTRACT ACT: Agreement and contract - Essentials of a valid contract - Types of contracts - Offer and Acceptance - Essentials of valid offer and acceptance - Communication and revocation of offer and acceptance – Consideration definition - Essentials of valid consideration -Modes of Discharge of a contract - Performance of Contracts - Breach of Contract - Remedies for Breach - Significance of Information Technology Act.

UNIT–II: SALE OF GOODS ACT AND CONSUMER PROTECTION ACT: Contract of Sale: Essentials of Valid Sale - Sale and Agreement to Sell – Definition and Types of Goods - Conditions and Warranties - Caveat Emptor - Exceptions - - Unpaid Seller - Rights of Unpaid Seller. Consumer Protection Act 1986: Definitions of Consumer – Person – Goods - Service -Consumer Dispute - Consumer Protection Councils - Consumer Dispute Redressal Agencies - Appeals.

UNIT–III: INTELLECTUAL PROPERTY RIGHTS: Trade Marks: Definition - Registration of Trade Marks - Patents: Definition - Kinds of Patents - Transfer of the Patent Rights - Rights of the Patentee - Copy Rights: Definition -- Rights of the Copyright Owner - Terms of Copy Right - Copy Rights Infringement - Other Intellectual Property Rights: Trade Secrets - Geographical Indications.

UNIT–IV: MANAGEMENT OF COMPANIES AND MEETINGS: Director: Qualification - Disqualification - Position - Appointment - Removal – Duties and Liabilities – Loans – Remuneration – Managing Director – Corporate Social Responsibility – Corporate Governance. Meeting: Meaning – Requisites - Notice – Proxy - Agenda – Quorum – Resolutions – Minutes – Kinds – Shareholder Meetings - Statutory Meeting - Annual General Body Meeting – Extraordinary General Body Meeting – Board Meetings.

UNIT–V: WINDING UP: Meaning – Modes of Winding Up –Winding Up by tribunal – Voluntary Winding Up – Compulsory Winding Up – Consequences of Winding Up – Removal of name of the company from Registrar of Companies – Insolvency and Bankruptcy code - 2016.

SUGGESTED READINGS: 1) Company Law: ND Kapoor, Sultan Chand and Co.
2) Company Law: Rajashree. – HPH
3) Business Law - Kavitha Krishna, Himalaya Publishing House
4) Business Laws – Dr. B. K. Hussain, Nagalakshmi – PBP
5) Company Law: Prof. G. Krishna Murthy, G. Kavitha, PBP
6) Company Law and Practice: GK Kapoor& Sanjay Dhamija, Taxmann Publication.
7) Company Law: Revised as per Companies Act- 2013: KC Garg et al, Kalyani Publication.
8) Corporate Law: PPS Gogna, S Chand.
9) Business Law: D.S. Vital, S Chand 10) Company Law: Bagrial AK, Vikas Publishing House.

SEMESTER - III

(2020-2021)

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DEPARTMENT OF COMMERCE

B.COM II YEAR (COMPUTER APPLICATION/TAX PROCEDURES & PRACTICE S)CBCS

SEMESTER – III SKILL ENHANCEMENT COURSE (SEC-2)

PRINCIPLES OF INSURANCE

Applicable from the academic year 2020-21onwards

MAX MARKS :50(40E+10I) **HPW :2** **NO. Of Credits:2**

COURSE OUTCOMES

After completion of the course the student is able to:

1. Identify and categories the various risks faced by an organization & individuals.
2. Relate to the role of Insurance in economic development of society and social security.
3. Understand the basic terminology and Principles of Insurance.
4. Describe the difference between Life & Non –Life insurance Products.
5. Able to understand the various policies of Insurance.

Objectives: To make Students to learn Principles of Insurance.

UNIT I: RISK MANAGEMENT AND INSURANCE & INSURANCE TERMINOLOGY: Risk Management -Types of Risks - Actual and Consequential Losses - Management of Risks - Risk of Dying Early - Risk of Living too Long - Different Classes of Insurance - Importance of Insurance - Management of Risk by Individuals and Insurers - Fixing of Premiums – Reinsurance - Role of Insurance in Economic Development and Social Security - Constituents of Insurance Market - Operations of Insurance Companies - Operations of Intermediaries - Specialist Insurance Companies - Role of Regulators - Common and specific terms in Life and Non-Life Insurance - Understanding Insurance Customers - Customer Behavior at Purchase Point - Customer Behavior when Claim Occurs - Importance of Ethical Behavior

UNIT II: INSURANCE CONTRACT AND INSURANCE PRODUCTS: Insurance Contract Terms - Principles of Insurance: Principle of Insurable Interest, Principle of Indemnity, Principle of Subrogation, Principle of Contribution, Relevant Information Disclosure, Principle of utmost Good Faith, Relevance of Proximate Cause - Life Insurance Products: Term Plans - Pure Endowment Plans - Combinations of Plans - Traditional Products - Linked Policies - Features of Annuities and Group Policies - General Insurance Products: Risks faced by Owner of Assets - Exposure to Perils - Features of Products Covering Fire and Allied Perils - Products covering Marine and Transit Risks - Products covering Financial Losses due to Accidents - Products covering Financial Losses due to Hospitalization - Products Covering Miscellaneous Risks

SUGGESTED READINGS: 1. Principles of Risk Management and Insurance: George E Rejda (13th Edition) 2. Risk Management and Insurance: Trieschman ,Gustavson and Hoyt . South Western College Publishing, 3. Principles of Insurance: A Publication of the Insurance Institute of India 4. Principles of Insurance: Telugu Academy, Hyderabad 5. Guide to Risk Management: SagarSanyal6. Principles of Insurance: Dr V Padmavathi,Dr V Jayalakshmi - PBP 7. Insurance and Risk Management : P.K. Gupta 8. Insurance Theory and Practice :Tripathi PHI 9. Principles of Insurance Management: Neelam C Gulati, Excel Books 10. Life and Health Insurance: Black, JR KENNETH & Harold Skipper, Pearson, Cincinnati,Ohio Suggested Websites: 1) www.irda.gov.in 2) www.polocyholder.gov.in

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DEPARTMENT OF COMMERCE

B.COM II YEAR (COMPUTER APPLICATIONS/TAX PROCEDURES & PRACTICE)CBCS

SEMESTER – III

ADVANCED ACCOUNTING

Applicable from the academic year 2020-21 onwards

MAX MARKS : 60 E+40I=100 **PPW :** 5 **NO. Of Credits:** 5

COURSE OUTCOMES

After completion of the course the student is able to:

1. Prepare financial accounts for partnership firms in different situations .
2. Prepare financial statements for partnership firm on dissolution of the firm.
3. Apply the New Companies Act provisions regarding Company accounts.
4. Evaluate the different ways for a company to raise finances from public .
5. Understand Profits prior to incorporation of a Company.
6. Understand the need and methods of valuation of shares and goodwill.

Objective: To acquire accounting knowledge of partnership firms and joint stock companies

UNIT-I: PARTNERSHIP ACCOUNTS-I: Meaning – Partnership Deed - Capital Accounts (Fixed and Fluctuating) – Admission of a Partner – Retirement and Death of a Partner (Excluding Joint Life Policy)(Including problems)

UNIT-II: PARTNERSHIP ACCOUNTS–II: Dissolution of Partnership – Insolvency of a Partner (excluding Insolvency of all partners) – Sale to a Company (Including problems)

UNIT-III: ISSUE OF SHARES, DEBENTURES, UNDERWRITING AND BONUS SHARES: Issue of Shares at par, premium and discount – Pro-rata allotment – Forfeiture and Re-issue of Shares – Issue of Debentures with Conditions of Redemption – Underwriting: Meaning – Conditions- Bonus Shares: Meaning – SEBI Guidelines for Issue of Bonus Shares – Accounting of Bonus Shares(Including problems)

UNIT-IV: COMPANY FINAL ACCOUNTS AND PROFIT PRIOR TO INCORPORATION: Companies Act 2013: Structure – General Instructions for preparation of Balance Sheet and Statement of Profit and Loss – Part-I: Form of Balance Sheet – Part-II: Statement of Profit and Loss – Preparation of Final Accounts of Companies - Profits Prior to Incorporation- Accounting treatment. (Including problems)

UNIT-V: VALUATION OF GOODWILL AND SHARES: Valuation of Goodwill: Need – Methods: Average Profits, Super Profits and Capitalization Methods -Valuation of Shares: Need –Net Assets, Yield and Fair Value Methods. (Including problems)

SUGGESTED READINGS: 1. Principles and Practice of Accounting: R.L. Gupta & V.K. Gupta,Sultan Chand & Sons. 2. Advanced Accountancy: Shukla and Grewal, S.Chand& Co. 3. Advanced Accountancy: R.L.Gupta&Radhaswamy, Sultan Chand & Sons. 4. Advanced Accountancy (Vol-II): S.N.Maheshwari&V.L.Maheswari, Vikas. 5. Advanced Accountancy: Dr. G. Yogeshwaran, Julia Allen - PBP 6. Accountancy–III: Tulasian, Tata McGraw Hill Co. 7. Advanced Accountancy: Arulanandam; Himalaya. 8. Accountancy–III: S.P. Jain & K.L Narang, Kalyani Publishers. 9. Guidance Note on the Revised Schedule VI to the Companies Act, 1956, The Institute of Chartered Accounts of India. 10. Advanced Accounting (IPCC): D. G. Sharma, Tax Mann Publications.

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DEPARTMENT OF COMMERCE

B.COM II YEAR (COMPUTER APPLICATIONS/TAX PROCEDURES & PRACTICE)CBCS

SEMESTER – III

BUSINESS STATISTICS –I

Applicable from the academic year 2020-21 onwards

MAX MARKS : 60 E+40I=100 **HPW :** 5 **NO. Of Credits:** 5

COURSE OUTCOMES

After completion of the course the student is able to:

1. Express the fundamentals of Statistics.
2. Understand basic statistical concepts such as statistical collection, statistical series, tabular and graphical representation of data.
3. Calculate measures of central tendency, dispersion and asymmetry
4. Interpret the meaning of the calculated statistical indicators.
5. Choose a statistical method for solving practical problems.
6. Predict values of strategic variables using regression and correlation analysis.

Objective: to inculcate analytical and computational ability among the students.

UNIT-I: INTRODUCTION: Origin and Development of Statistics – Definition - Importance and Scope - Limitations of Statistics - Distrust of Statistics. Statistical Investigation: Planning of statistical investigation - Census and Sampling methods - Collection of primary and secondary data - Statistical errors and approximation - classification and Tabulation of data - Frequency distribution.

UNIT – II: DIAGRAMMATIC AND GRAPHIC PRESENTATION: Diagrammatic presentation: One Dimensional and Two Dimensional Diagrams – Pictograms – Cartograms Graphic presentation: Technique of Construction of Graphs - Graphs of Frequency Distribution - Graphs of Time Series or Histograms.

UNIT-III: MEASURES OF CENTRAL TENDENCY: Introduction –Significance -Arithmetic Mean- Geometric Mean - Harmonic Mean - Mode – Median - Quartiles and Percentiles - Simple and Weighted Averages - Uses and Limitations of different Averages.

UNIT-IV: MEASURES OF DISPERSION, SKEWNESS AND KURTOSIS: Measures of Dispersion: Significance - Characteristics - Absolute and Relative Measures - Range - Quartile Deviation - Mean Deviation- Standard Deviation - Coefficient of Variation. Measures of Skewness - Karl Pearson's Coefficient of Skewness - Bowley's Coefficient of Skewness - Kelly's Measure of Skewness – Kurtosis: Mesokurtosis, Platy kurtosis and Leptokurtosis.

UNIT-V: CORRELATION: Meaning -Types - Correlation and Causation – Methods: Scatter Diagram - Karl Person's Coefficient of Correlation - Probable Error and Interpretation of Coefficient of Correlation - Rank Correlation - Concurrent Deviation Method.

SUGGESTED READINGS: 1. Statistics for Management: Levin & Rubin, Pearson 2. Fundamentals of Statistics: Gupta S.C, Himalaya 3. Statistics: E. Narayanan Nadar, PHI Learning 4. Business Statstics –I: Dr. Obul Reddy, Dr. D. Shridevi - PBP 5. Business Statistics: Dr. J. K. Thukral, Taxmann Publications 6. Business Statistics: K. Alagar, Tata McGraw Hill 7. Fundamentals of Statistical: S. P Gupta, Sultan Chand 8. Business Statistics: J. K. Sharma, Vikas Publishers.

COMPUTER APPLICATION

SEMESTER - IV

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16

(An Autonomous College of Osmania University)

DEPARTMENT OF COMMERCE

B.COM II YEAR (COMPUTER APPLICATIONS/TAX PROCEDURES & PRACTICE)CBCS

SEMESTER – IV SKILL ENHANCEMENT COURSE (SEC-4)

PRACTICE OF LIFE AND GENERAL INSURANCE

Applicable from the academic year 2020-21 onwards

MAX MARKS :50 **PPW : 2** **NO. Of Credits:2**

COURSE OUTCOMES

After completion of the course the student is able to:

1. Analyse the growth of insurance business in India.
2. Explain the Organizational structure of LIC & various types of Policies.
3. Understand the meaning of various insurance policies offered to Organizations.
4. Apply the meaning of assignment & Nomination.
5. Describe about Policy claim procedure.
6. Evaluate survival benefits & various kinds of claims.

Objective: To make students to learn Practice of Life and General Insurance

UNIT-I: PREMIUM CALCULATION AND POLICY DOCUMENTS: Meaning of Premium, its calculation- Rebates – Mode of Rebates – Large sum assured Rebates – Premium Loading – Rider Premiums – Computation of Benefits – Surrender value – Paid up value -General Insurance Policy Documents and Forms - Rating and Premiums - concept of soft and hard markets

UNIT-II: SETTLEMENT OF CLAIMS RISK & UNDERWRITTINGS AND FINANCIAL PLANNING & TAX SAVING: Life Insurance: Settlement of claims: Intimation Procedure, documents and settlement procedures - Underwriting: The need for underwriting – Guiding principles of Underwriting – Factors affecting Insurability – Methods of Life Classification – Laws affecting Underwriting - Financial Planning and taxation: Savings – Insurance vis-à-vis-Investment in the Units Mutual Funds, Capital Markets – Life Insurance in Individual Financial Planning – Implications in IT treatment. General Insurance: Concept of Underwriting—Underwriting Process—Risk sharing and its methods—risk management and steps involved in it——Concept of Claim-understanding the process of claim management—claims fraud and fraud prevention—Insurance reserves and accounting—different types of reserves of insurance companies—reserving process followed by insurance companies—Insurance accounting.

SUGGESTED READINGS: 1. Practice of Life Insurance&General Insurance: Insurance Institute of India, Mumbai. 2. Insurance and Risk Management: P.K.Gupta, Himalaya Publishing House, Mumbai. 3. Fundamentals of Life Insurance Theories and Applications: Kanika Mishra, Prentice Hall 4. Principles of Life Insurance & Practice of General Insurance– Dr. V. Padmavathi, Dr. V. Jayalakshmi - PBP 5. Managing Life Insurance: Kutty, S.K., Prentice Hall of India: New Delhi 6. Life and Health Insurance: Black, Jr. Kenneth and Harold Skipper Jr., Prentice Hall, Inc., England. 7. Life Insurance: Principles and Practice: K.C. Mishra and C.S. Kumar, Cengage Learning, New Delhi. 8. Life Insurance in India: Sadhak, Respose Books, New Delhi. 9. Practice of General Insurance – D.S. Vittal-HPH, 10.Principles & Practice of Insurance- Dr. P. Periasamy – HPH. 11. Risk Management: A Publication of the Insurance Institute of India. 12.Insurance Theory and Practice: Tripathi PHI 13. Risk Management and Insurance: Trieschman, Gustavson and Hoyt 9. South Western College Publishing Cincinnati, Ohio.

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16

(An Autonomous College of Osmania University)

DEPARTMENT OF COMMERCE

B.COM II YEAR (COMPUTER APPLICATIONS/TAX PROCEDURES & PRACTICE)CBCS

SEMESTER – IV

INCOME TAX

Applicable from the academic year 2020-21onwards

MAX MARKS : 60 E+40I=100 **HPW : 5** **NO. Of Credits: 5**

COURSE OUTCOMES

After completion of the course the student is able to:

1. Acquire the complete knowledge of basic concepts of income tax
2. Illustrate the concept of exempted incomes.
3. Calculate Residential status of a person.
4. Compute the income under the head" Income from Salary"
5. Compute income under the head "Income from House Property"
6. Compute income under the head "Income from Business or Profession"
7. Apply the conceptual and legal knowledge about Income Tax provisions .
8. Computation of Income from different heads with reference to an Individual Assessee.
9. Identify intra and inter head set of losses and carry forward of losses.
10. Understand clubbing of income and the term aggregation of income.
11. Identify various deductions under section u/s80 C to 80 U 6. Assessing income, calculate tax liability and file E-returns.

Objective: To acquire conceptual and legal knowledge about Income Tax provisions relating to computation of Income from different heads with reference to an Individual Assessee.

UNIT–I: INTRODUCTION: Direct and Indirect Taxes – Canons of Taxation - Features and History of Income Tax in India – Definitions and Basic Concepts of Income Tax: Assessee – Deemed Assessee – Assessee-in-default – Assessment Year – Previous Year - Person – Agricultural Income – Heads of Income – Gross Total Income – Total Income –– Incomes Exempt from Tax. Residential Status and Scope of Total Income: Meaning of Residential Status – Conditions applicable to an Individual Assessee – Incidence of Tax – Types of Incomes. (Theory only)

UNIT–II: INCOME FROM SALARIES: Definition of 'Salary' – Characteristics of Salary – Computation of Salary Income: Salary u/s 17(1) – Annual Accretion – Allowances – Perquisites – Profits in lieu of Salary – Deductions u/s. 16 – Problems on computation of Income from Salary.

UNIT–III: INCOME FROM HOUSE PROPERTY: Definition of 'House Property' – Exempted House Property incomes– Annual Value – Determination of Annual Value for Let-out House and Self-occupied House – Deductions u/s.24 – Problems on computation of Income from House Property.

UNIT–IV: PROFITS AND GAINS OF BUSINESS OR PROFESSION: Definition of 'Business and Profession' – Procedure for computation of Income from Business – Revenue and Capital nature of Incomes and Expenses – Allowable Expenses u/s. 30 to 37 – Expenses expressly disallowed – Deemed Profits – Miscellaneous provisions u/s 44. Depreciation: Meaning – Conditions for charge of depreciation – Problems on computation of Income from Business.Income from Profession: Rules– procedure – problems on computation of Income from Profession.

UNIT-V: CAPITAL GAINS AND INCOME FROM OTHER SOURCES: Introduction - Meaning – Scope of charge – Basis of charge – Short term and Long term Capital Assets – Transfer of Capital Asset – Deemed Transfer –Determination of Cost of Acquisition – Procedure for computation of Long-term and Short-term Capital Gains/Losses – Exemptions in respect of certain Capital Gains u/s. 54 – Problems on computation of capital gains - General Incomes u/s. 56(1) – Specific Incomes u/s. 56(2) – Dividends u/s. 2(22) – Winnings from lotteries Puzzles, crown world puzzles, Races – Interest on Securities – Gifts received by an Individual – Casual Income – Family Pension – Rent received on let out of Furniture- Plant and Machinery with/without Building – Deductions u/s. 57. (Theory only)

SUGGESTED READINGS: 1. Income Tax Law and Practice: V.P. Gaur & D.B Narang, Kalyani Publishers. 2. Taxation: Dr. M.N. Ravi, PBP. 3. Direct Taxes Law & Practice: Dr.Vinod K. Singhania&Dr.KapilSinghania, Taxmann 4. Income Tax: B.B. Lal, Pearson Education. 5. Taxation: R.G. Saha, Himalaya Publishing House Pvt. Ltd. 6. Income Tax: Johar, McGrawHill Education. 7. Taxation Law and Practice: Balachandran&Thothadri, PHI Learning. 8. Direct Tax Law and Practice : AhujaGirish

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(An Autonomous College of Osmania University)

DEPARTMENT OF COMMERCE

B.COM II YEAR (COMPUTER APPLICATIONS/TAX PROCEDURES & PRACTICE)CBCS

SEMESTER – IV

BUSINESS STATISTICS – II

Applicable from the academic year 2020-21 onwards

MAX MARKS : 60 E+40I=100 **PPW :** 5 **NO. Of Credits:** 5

COURSE OUTCOMES

After completion of the course the student is able to:

1. Describe the various techniques of Advanced Statistics in the field of commerce.
2. Select appropriate statistical techniques for summarizing and displaying business data.
3. Analyze and draw inferences from business data using appropriate statistical methods.
4. Interpret and communicate the results of a statistical analysis in the context of a business problem.
5. Understand and use simple forecasting techniques.
6. Understand the concept of Index Numbers , Probability and theoretical distribution.

Objective: To inculcate analytical and computational ability among the students.

UNIT-I: REGRESSION: Introduction - Linear and Non Linear Regression – Correlation Vs. Regression - Lines of Regression - Derivation of Line of Regression of Y on X - Line of Regression of X on Y - Using Regression Lines for Prediction.

UNIT-II: INDEX NUMBERS: Introduction - Uses - Types - Problems in the Construction of Index Numbers - Methods of Constructing Index Numbers - Simple and Weighted Index Number (Laspeyre - Paasche, Marshall – Edgeworth) - Tests of Consistency of Index Number: Unit Test - Time Reversal Test - Factor Reversal Test - Circular Test - Base Shifting - Splicing and Deflating of Index Numbers.

UNIT-III: TIME SERIES: Introduction - Components – Methods-Semi Averages - Moving Averages – Least Square Method - Deseasonalisation of Data – Uses and Limitations of Time Series.

UNIT-IV: PROBABILITY: Probability – Meaning - Experiment – Event - Mutually Exclusive Events - Collectively Exhaustive Events - Independent Events - Simple and Compound Events - Basics of Set Theory – Permutation – Combination - Approaches to Probability: Classical – Empirical – Subjective - Axiomatic - Theorems of Probability: Addition – Multiplication - Baye's Theorem.

UNIT-V: THEORITECAL DISTRIBUTIONS: Binomial Distribution: Importance – Conditions – Constants - Fitting of Binomial Distribution. Poisson Distribution: – Importance – Conditions – Constants - Fitting of Poisson Distribution. Normal Distribution: – Importance - Central Limit Theorem - Characteristics – Fitting a Normal Distribution (Areas Method Only).

SUGGESTED READINGS: 1. Statistics for Management: Levin & Rubin, Pearson, 2. Fundamentals of Statistics: Gupta S.C, Himalaya 3. Business Statistics: Theory & Application, P. N. Jani, PHI Learning 4. Business Statics – II: Dr. OBul Reddy, Dr. D. Shridevi - PBP 5. Business Statistics: Dr. J. K. Thukral, Taxmann Publications 6. Business Statistics: K. Alagar, Tata McGraw Hill 7. Fundamentals of Statistical: S. P Gupta , Sultan Chand 8. Business Statistics: J. K. Sharma,Vikas Publishers 9. Business Statistics: Vora, Tata McGraw Hill 10. Statistics-Problems and Solutions: Kapoor V.K, S. Chand 11. Statistics-Teory, Methods and Applications: SanchetiD.C. &Kapoor V.K 12. Business Statistics: S. K. Chakravarty, New Age International Publishers 13. Business Statistics-G.Laxman,Vasudeva Reddy, K.Goud, TaxmannPublications,Hyderabad.

COMPUTER APPLICATION

SEMESTER - V

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16

(An Autonomous College of Osmania University)

DEPARTMENT OF COMMERCE

B.COM III YEAR (COMPUTER APPLICATIONS/TAX PROCEDURES & PRACTICE)CBCS

SEMESTER – V

COST ACCOUNTING

Applicable from the academic year 2020-21onwards

MAX MARKS : 60 E+40I=100 **HPW :5** **NO. Of Credits:5**

COURSE OUTCOMES

After completion of the course the student is able to:

1. Imbibe conceptual knowledge of cost accounting.
2. Select the costs according to their impact on business.
3. Differentiate methods of schedule costs per unit of production and calculating stock consumption.
4. Identify the specifics of different costing methods and interpret the impact of the selected costs method.
5. Apply cost accounting methods to evaluate and project business performance.
6. Demonstrate mastery of costing systems, cost management systems, budgeting systems and performance measurement system.

Objective: To make the students acquire the knowledge of cost accounting methods.

UNIT-I: INTRODUCTION: Cost Accounting: Definition – Features – Objectives – Functions – Scope – Advantages and Limitations - Essentials of a good cost accounting system- Difference between Cost Accounting and Financial Accounting – Cost concepts – Cost Classification.

UNIT-II: MATERIAL: Direct and Indirect Material cost – Inventory Control Techniques – Stock Levels – EOQ – ABC Analysis – JIT - VED - FSND - Issue of Materials to Production – Pricing methods: FIFO - LIFO with Base Stock and Simple and Weighted Average methods.

UNIT-III: LABOUR AND OVERHEADS: Labour: Direct and Indirect Labour Cost – Methods of Payment of Wages (only Incentive Plans): Halsey, Rowan, Taylor Piece Rate and Merrick Multiple Piece Rate Methods. Overheads: Classification - Methods of Allocation - Apportionment and Absorption of overheads.

UNIT-IV: UNIT AND JOB COSTING: Unit Costing: Features - Cost Sheet – Tender and Estimated Cost Sheet. Job Costing: Features - Objectives – Procedure - Preparation of Job Cost Sheet.

UNIT-V: CONTRACT AND PROCESS COSTING: Contract Costing: Features – Advantages - Procedure of Contract Costing – Guidelines to Assess profit on incomplete Contracts. Process Costing: Meaning – Features – Preparation of Process Account – Normal and Abnormal Losses.

SUGGESTED READINGS: 1. Cost Accounting: Jain and Narang, Kalyani 2. Cost Accounting: Srihari Krishna Rao, Himalaya 3. Cost and Management Accounting: PrashantaAthma, Himalaya 4. Cost Accounting: Dr. G. Yogeshweran, PBP. 4. Cost Accounting: Jawaharlal, Tata Mcgraw Hill 5. Cost Accounting: Theory and Practice: Banerjee, PHI 6. Introduction to Cost Accounting: Tulsian, S.Chand 7. Cost Accounting: Horngren, Pearson 8. Cost Accounting: Ravi M. Kishore, Tax Mann Publications.

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16

(An Autonomous College of Osmania University)

DEPARTMENT OF COMMERCE

B.COM III YEAR (COMPUTER APPLICATIONS/TAX PROCEDURES & PRACTICE)CBCS

SEMESTER – V

COMPUTERIZED ACCOUNTING

Applicable from the academic year 2020-21 onwards

MAX MARKS : 50 E+35P+15I=100 **PPW :3T+4P** **NO. Of Credits:5**

COURSE OUTCOMES

After completion of the course the student is able to:

1. Acquire the knowledge of computer software.
2. Understand the limitations of manual accounting and advantages of computerized accounting.
3. Integrate technical skills with financial accounting procedures.
4. Explain the process of maintaining inventory and day-to-day transactions in Tally accounting software.
5. Manage account receivables and payables in ERP.
6. Able to generate MIS reports.

Objective: To make the students to acquire the knowledge of computer software

UNIT I: MAINTAINING CHART OF ACCOUNTS IN ERP: Introduction-Getting Started with ERP - Mouse/Keyboard Conventions-Company Creation-Shut a Company-Select a Company-Alter Company Details-Company Features and ConfigurationsF11: Company Features-F12: Configuration-Chart of Accounts-Ledger-Group-Ledger CreationSingle Ledger Creation-Multi Ledger Creation-Altering and Displaying Ledgers-Group Creation-Single Group Creation-Multiple Group Creation-Displaying Groups and LedgersDisplaying Groups-Display of Ledgers-Deletion of Groups and Ledgers – P2P procure to page. **UNIT II: MAINTAINING STOCK KEEPING UNITS (SKU):** Introduction-Inventory Masters in ERP - Creating Inventory Masters-Creation of Stock GroupCreation of Units of Measure-Creation of Stock Item-Creation of Godown-Defining of Stock Opening Balance in ERP Stock Category-Reports.

UNIT III: RECORDING DAY-TO-DAY TRANSACTIONS IN ERP: Introduction-Business Transactions-Source Document for Voucher-Recording Transactions in ERP - Accounting Vouchers-Receipt Voucher (F6)-Contra Voucher (F4)-Payment Voucher (F5)-Purchase Voucher (F9)-Sales Voucher (F8)-Debit Note Voucher-Credit Note (Ctrl+F8)- Journal Voucher (F7).

UNIT IV: ACCOUNTS RECEIVABLE AND PAYABLE MANAGEMENT: Introduction-Accounts Payables and Receivables-Maintaining Bill-wise Details-Activation of Maintain Bill-wise Details Feature-New Reference-Against Reference-Advance-On AccountStock Category Report-Changing the Financial Year in ERP.

UNIT V: MIS REPORTS: Introduction-Advantages of Management Information Systems-MIS Reports in ERP - Trial Balance - Balance Sheet-Profit and Loss Account-Cash Flow Statement-Ratio Analysis-Books and Reports - Day Book-Receipts and Payments-Purchase Register-Sales Register-Bills Receivable and Bills Payable.

SUGGESTED READINGS: 1. Computerised Accounting: GarimaAgarwal, Himalaya 2. Computerised Accounting: A. Murali Krishna, Vaagdevi publications 3. Computerised Accounting: Dr. G. Yogeshweran, PBP. 4. Aakash Business Tools: Spoken Tutorial Project IIT Bombay 5. Mastering Tally: Dinesh Maidasani, Firewal Media 6. Implementing Tally ERP 9: A.K Nadhani and K.K Nadhani, BPB Publications 7. Computerised Accounting and Business Systems: Kalyani Publications 8. Manuals of Respective Accounting Packages 9. Tally ERP 9: J.S. Arora, Kalyani Publications.

COMPUTER APPLICATION

SEMESTER - VI

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16

(An Autonomous College of Osmania University)

DEPARTMENT OF COMMERCE

B.COM III YEAR (COMPUTER APPLICATIONS/TAX PROCEDURES & PRACTICE)CBCS

SEMESTER – VI

PR : RESEARCH METHODOLOGY & PROJECT REPORT

Applicable from the academic year 2020-21 onwards

MAX MARKS : 50 T + (35R + 15V=50 P) =100 marks HPW : 2T+4R NO. Of Credits:4

COURSE OUTCOMES

After completion of the course the student is able to:

1. understand some basic concepts of research and its methodologies .
2. identify appropriate research topics.
3. select and define appropriate research problem and parameters.
4. prepare a project proposal (to undertake a project).
5. organize and conduct research (advanced project) in a more appropriate manner.
6. write a research report and thesis.
7. write a research proposal (grants)

Objective: To introduce the basics of conducting research in social sciences.

UNIT-I: INTRODUCTION, MEASUREMENT AND HYPOTHESIS TESTING: Meaning of Research-Steps involved-Identification of Problem- Steps involved in the selection of problem-Research Design-Meaning and Types-Measurement Levels/Scales - Scaling Techniques-Hypothesis-Meaning - Types – Testing Procedure.

UNIT-II:PARAMETRIC AND NON PARAMETRIC TESTS AND RESEARCH REPORT: Introduction - t-Test - F-Test - Chi Square Test - Anova (One-Way Anova, Two-Way Anova).concepts only Contents of a Research Report.

SUGGESTED READINGS: 1. Research Methodology: Himalaya Publications. 2. Methodology of Research in Social Sciences: Krishna Swamy, 3. Research Methodology: Kothari &Garg, New Age Publication 4. Research Methodology: Paneerselvam R, PHI 5. Research Methodology: Dr Vijay Upagade& Dr ArvindShende, S. Chand Publications 6. Research Methodology: Ranjit Kumar, Pearson Publication 7. Reading in Research Methodology in Commerce & Business Management: Achalapathi KV, 8. Research Methodology: Sashi.K Gupta, PraneethRangi, Kalyani Publishers.

GUIDELINES FOR PROJECT WORK

1) Project work is a part of the prescribed curriculum to B. Com students. 2) Project work is allotted to a group of 4 students. 3) During the IV semester, students are expected to undergo internship at a business firm/ Government Department /Software organization/Voluntary organization as per the guidance of teacher concerned. 4) Students should get a certificate from the organization. 5) At the end of Semester-VI, the project reports would be evaluated by the external examiner designated by the Controller of Examinations, from the panel submitted by the Board of Studies in Commerce. The Examiner would evaluate the project reports for a maximum of 35 marks and conduct Viva-Voce examination for 15 marks. The award lists duly signed would be sent the Controller of Examinations. 6) Examiners will examine the following in the project report: i) Survey/Analysis on the topic chosen; ii) Method of data collection; iii) Presentation: Style, Comprehensiveness, graphs, charts etc.; iv) Analysis and inference and implications of the study; v) Bibliography. 7) Students must ensure that they maintain regular contact with their supervisor and also that they provide the supervisor with drafts of their work at regular intervals. 8) Students are required to submit a project report on a topic related/connected with trade, industry & commerce. Project can be done by taking the information from the select organization focusing on areas like marketing, finance, human resource, operations, general management etc. Faculty of Commerce OU 34 9) Project should be a practical, in-depth study of a problem, issue, opportunity, technique or procedure or some combination of these aspects of business. The Students are required to define an area of investigation, assemble relevant data, analyse the data, draw conclusions and make recommendations.

ORGANISATION OF PROJECT REPORT

Project report should be presented in the following sequence: i) Title page; ii) Student's declaration; iii) Supervisor's certificate; iv) Internship certificate; v) Abstract; vi) Acknowledgements; vii) Table of contents; viii) List of tables; ix) List of figures; x) List of appendices. 2) Chapter Design should be as follows:

Chapter-I: Introduction: this chapter includes the research problem, need for study/significance of the project, objectives, methodology (hypotheses, statistical tools, data source, scope, sample, chapter design).

Chapter-II:Company Profile: this chapter should contain a brief historical retrospect about the entity of your study.

Chapter-III: Data Analysis and interpretation: this chapter should present the data analysis and inferences.

Chapter-IV: Summary and Conclusions: This Chapter should give an overview of the project, conclusions, implications, recommendations and scope for further research. Bibliography: lists the books, articles, and websites that are referred and used for research on the topic of the specific project. Follow Harvard style of referencing. Appendices: the data, used to prepare the tables for analysis, may not be feasible to incorporate as part of chapters, may given as appendices.

TECHNICAL SPECIFICATIONS OF THE PROJECT

1) Project should be typed on A4 white paper, and be 1.5 spaced.

2) All pages should be numbered, and numbers should be placed at the centre of the bottom of the page.

3) All tables, figures and appendices should be consecutively numbered or lettered, and suitably labeled.

4) 3 bound copies&a soft-copy should be handed in to the principal/director of your college/institute at the time of submission.

5) bibliography and referencing: Referencing is necessary to avoid plagiarism, to verify quotations and to enable readers to follow-up and read more fully the cited author's arguments. Reference is given within the text of the project as well as at the end of the project. The basic difference between citation and a reference list (bibliography) is that the latter contains full details of all the in-text citations. Citation provides brief details of the author and date of publication for referencing the• work in the body of the text. Reference list is given at the end of the text and is a list of all references used with• additional details provided to help identify each source. Proper referencing is as crucial aspect of your project. You are therefore strongly advised to talk to your supervisor about this, in order to make sure that your project report follows the appropriate referencing system.

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16

(An Autonomous College of Osmania University)

DEPARTMENT OF COMMERCE

B.COM III YEAR (COMPUTER APPLICATIONS/TAX PROCEDURES & PRACTICE)CBCS

SEMESTER – VI

COST CONTROL AND MANAGEMENT ACCOUNTING

Applicable from the academic year 2020-21 onwards

MAX MARKS : 60 E+40I=100 **PPW : 5** **NO. Of Credits: 5**

COURSE OUTCOMES

After completion of the course the student is able to:

1. Understand various costing systems and management systems.
2. Analyse and provide recommendations to improve the operations of organisations through the application of Cost and Management accounting techniques.
3. Evaluate the costs and benefits of different conventional and contemporary costing systems.
4. Differentiate methods of schedule costs as per unit of production.
5. • Differentiate methods of calculating stock consumption.
6. Identify the specifics of different costing methods.
7. Analyze cost-volume-profit techniques to determine optimal managerial decisions.
8. Apply cost accounting methods for both manufacturing and service industry.

Objective: Tobe acquaint with Cost Control techniques, Managerial Accounting decision-making techniques and reporting methods.

UNIT-I: INTRODUCTION TO MANAGEMENT ACCOUNTING &MARGINAL COSTING: Meaning and Importance of Management Accounting – Marginal Cost Equation – Difference between Marginal Costing and Absorption Costing – Application of Marginal Costing – CVP Analysis – Break Even Analysis: Meaning – Assumptions – Importance - Limitations. Marginal Costing for Decision Making-Make or Buy – Add or Drop Products – Sell or Process Further – Operate or Shut-down – Special Order Pricing – Replace or Retain.

UNIT-II: BUDGETARY CONTROL AND STANDARD COSTING: Budget: Meaning – Objectives – Advantages and Limitations – Essentials of Budgets - Budgetary Control - Classification of Budgets - Preparation of Fixed and Flexible Budgets. Standard Costing: Meaning – Importance – Standard Costing and Historical Costing - Steps involved in Standard Costing. Variance Analysis: Material variance - Labour variance - Overhead variance .

UNIT-III: TECHNIQUES OF FINANICAL STATEMENT ANALYSIS: Meaning – Objectives - Techniques: Comparative Statement, Common Size Statement, Trend Analysis. Ratios- Meaning , Objectives and Classification—Computation of Activity, Liquidity, Solvency and Profitability Ratios.

UNIT-IV: FUNDS FLOW ANANLYSIS: Concept of Funds – Meaning and Importance – Limitations – Statement of Changes in Working Capital – Statement of Sources and Application of Funds.

UNIT-V: CASH FLOW ANALYSIS (AS-3): Meaning – Importance – Differences between Funds Flow and Cash Flow Statements – Procedure for preparation of Cash Flow Statement.

SUGGESTED READINGS: 1. Management Accounting- Principles & Practice: Sharma RK &Shashi K. Gupta, Kalyani 2. Advanced Managerial Accounting: Srihari Krishna Rao, Himalaya 3. Advanced Managerial Accounting: Dr. Sundaram, PBP 3. Advanced Management Accounting: Robert S. Kaplan & Anthony A. Atkinson, Prentice-Hall 4. Management Accounting: Rustagi R.P, Galgotia 5. Managerial Accounting: Ronald W. Hilton, TM

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16

(An Autonomous College of Osmania University)

DEPARTMENT OF COMMERCE

B.COM III YEAR (COMPUTER APPLICATIONS/TAX PROCEDURES & PRACTICE)CBCS

SEMESTER – VI

THEORY AND PRACTICE OF GST

Applicable from the academic year 2020-21 onwards

MAX MARKS : 50 E+35P+15I=100 **PPW :3T+4P** **NO. Of Credits:5**

COURSE OUTCOMES

After completion of the course the student is able to:

1 . Know the various provisions of GST Act 2017.
2. Practice various provisions of GST in Tally ERP 9.1.
3. Learn and compare various tax rates for goods and services under GST .
4. Practice the advance entries and adjustments relating to various transactions.
5. Generate the various reports and upload in the GST portal .

Objective: To equip the students with the knowledge regarding Theory and Practice of GST.

UNIT I: INTRODUCTION TO GST: Introduction – GST - Taxes Subsumed under GST -Determination of Tax - Registration -Process of Registration - Cancellation and renovation of registration - Supply of Goods and Services - Transition to GST - Registered Business -Availed Input Tax Credit -Unavailed CENVAT credit and Input VAT on capital goods-Availing the input credit held in closing stock -Invoicing -Tax Invoice -Bill of Supply - Credit Note, Debit Note and Supplementary Invoice-Transportation of goods without issue of Invoice - Input Credit Mechanism - Input Tax - GST Returns - Payment of Tax.

UNIT II: GETTING STARTED WITH GST: Introduction - Enabling GST and Defining Tax Details-Transferring Input Tax credit to GST -Intrastate Supply of Goods-Intrastate Inward Supply -Intrastate Outward Supply -Interstate - Interstate Outward Supply - Return of Goods -Purchase Returns -Sales Returns -Supplies Inclusive of Tax -Defining Tax Rates at Master and Transaction Levels - Defining GST Rates at Stock Group Level-Defining GST Rate at Transaction Level -Hierarchy of Applying Tax Rate Details –Reports.

UNIT III: RECORDING ADVANCED ENTRIES, GST ADJUSTMENT AND RETURN FILING: Introduction -Accounting of GST Transactions -Purchases from Composition Dealer -Purchases from Unregistered Dealers-Exports -Imports - Exempted Goods -SEZ Sales -Advance Receipts and payments - Mixed Supply and Composite Supply under GST - Mixed Supply of Goods -Composite Supply of Goods -GST Reports - Generating GSTR- Report in ERP -Input Tax Credit Set Off -GST Tax Payment -Time line for payment of GST tax -Modes of Payment -Challan Reconciliation - Exporting GSTR- return and uploading in GST portal. **UNIT IV: GETTING STARTED WITH GST (SERVICES):** Introduction -Determination of supply of services -Determining the Place of Supply of Services -Enabling GST and Defining Tax Details-Transferring Input Tax credit to GST -Intrastate Supply of Goods - Intrastate Inward Supply- Intrastate Outward Supply -Interstate Supply -Interstate Outward Supply - Interstate Inward Supply -Interstate Outward Supply of Services -Cancellation of Services -Cancellation of Inward Supplies -Cancellation of Outward Supply of Services -Defining Tax Rates at Master and Transaction Levels.

UNIT V: RECORDING ADVANCED ENTRIES AND MIGRATION TO ERP: Introduction - Accounting Multiple Services in a Single Supply - Recording Partial Payment to Suppliers -Outward Supplies - Recording Outward Supply with Additional Expenses - Supply of services -Business to consumers - Time of Supply of Services - Place of Supply of Services - Determining place of supply of services - Exempt Supply of Services under GST -Export Supply of Services - Reverse Charge on Services under GST - Advance Receipts from Customers under GST - Advance Receipt and issuing Invoice on same month -Advance Receipt and issuing Invoice on different month - Reversal of GST on account of cancellation of advance receipt - Generating GSTR- Report in ERP - Input Tax Credit Set Off - Migration to ERP - Activate Goods and Services Tax (GST) in ERP - Set up GST rates - Update Masters - Update party GSTIN/UIN - Creation of GST Duty ledgers.

SUGGESTED READINGS: 1. Taxmann's Basics of GST 2. Taxmann's GST: A practical Approach 3. Theory & Practice of GST, Srivathsala, HPH 4. Theory & Practice of GST: Dr. Ravi M.N, PBP

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)

BEGUMPET, HYDERABAD

Affiliated to Osmania University

Bachelor of Business Administration(BBA)

COURSE STRUCTURE, SYLLABUS, POs, PSOs & COs

CHOICE BASED CREDIT SYSTEM 2020-21

PROGRAMME OUTCOMES

PO1. Domain Expertise:

- Gain thorough knowledge in the chosen domain and be able to apply it wherever necessary in an innovative manner.

PO2. Modern equipment Usage:

- Equip the students with modern technological skills, so that they are able to use software applications in their careers.

PO3. Computing Skills and Ethics:

- Students learn critical thinking and are able to analyse and solve problems rationally and ethically for communication, entertainment and for the benefit of mankind throughout ones endeavours for the wellbeing of human race.

PO4. Complex Problem Investigation & Solving

- Learn to analyse the problem, frame hypotheses, interpret empirical data and execute action

PO5. Perform effectively as Individuals and in Teams

- Be able to contribute at individual level and as team member and prioritize institutional interest over individual

PO6. Efficient Communication & Life skills

- Learn efficient communication to express, listen, understand and project views in a convincing manner clearly and concisely

PO7. Environmental Sustainability

- Understand current environmental challenges faced by the country & propagate and follow environment friendly practices.

PO8. Societal contribution

- Develop the pride in volunteering to address societal issues *viz:* calamities, disasters, poverty, epidemics and involve voluntarily in social development activities at Regional, National, global levels.

PO9. Effective Project Management

- Identify the goals, objectives and components of a project and then implementation so that deadlines are achieved, even when there are setbacks.

PROGRAMME SPECIFIC OUTCOMES

PSO1	Ability to define analyse the solutions for different business problems And using logical reasoning patterns for evaluating information, materials and data for practical implementation
PSO2	Provides verbal ,reasoning ,data interpretation, Quantitative and communication skill to solve specific business problems and decision making
PSO3	Apply ethical principles and commitment towards professional ethics and responsibility
PSO4	Function effectively as a member ,leader, individual or group in diverse environment
PSO5	Ability to conceptualise a complex issue into a coherent written statement and oral presentation and to communicate effectively on complex activities with technical community.
PSO6	Providing an opportunity for the students to gain practical exposure towards the workplace and make them industry ready.
PSO7	Promotes entrepreneurship by providing understanding of the fundamentals of creating and managing innovation ,new business development and high growth potential entities.
PSO8	Ability to demonstrate technical competence in domestic and global arena of business through the study of major disciplines within the fields of business.

FIRST YEAR

SEMESTER-I

Course Code	*Course Title*	Course Type	*HPW*	*Credits*	*Exam Hrs.*	*Marks*
BB101	**Environmental Science**	**AECC-1**	**2**	**2**		
BB102	**English**	**ELS-1A**	**4**	**4**		
BB103	**Second Language**	**SLS-1A**	**4**	**4**		
BB104	**Principles of Management**	**DSC-1A**	**5**	**5**	**2 ½ Hrs.**	**60 E + 40 I**
BB105	**Basics of Marketing**	**DSC-2A**	**5**	**5**	**2 ½ Hrs.**	**60 E + 40 I**
BB106	**Business Economics**	**DSC-3A**	**5**	**5**	**2 ½ Hrs.**	**60 E + 40 I**
	Total Semester Credits		**25**	**25**		

SEMESTER – II

Course Code	*Course Title*	Course Type	*HPW*	*Credits*	*Exam Hrs.*	*Marks*
BB201	Basic Computer Skills	**AECC-2**	**2**	**2**		
BB202	**English**	**ELS-1B**	**4**	**4**		
BB203	**Second Language**	**SLS-1B**	**4**	**4**		
BB204	Organizational Behavior	**DSC-1B**	**5**	**5**	**2 ½ Hrs.**	**60 E + 40 I**
BB205	Business Statistics	**DSC-2B**	**5**	**5**	**2 ½ Hrs.**	**60 E + 40 I**
BB206	Financial Accounting	**DSC-3B**	**5**	**5**	**2 ½ Hrs.**	**60 E + 40 I**
	Total Semester Credits		**25**	**25**		

HPW- Hours per Week ; AEC-Ability Enhancement Course(Compulsory)

ELS-English Language Skill ; SLS Second Language Skill;
DSC – Discipline Specific Course (E) – External Assessment (I) – Internal Assessment

SECOND YEAR

SEMESTER-III

Course Code	*Course Title*	**Course Type**	*HPW*	*Credits*	*Exam Hrs.*	*Marks*
BB301(a)	Personality Development-I	**SEC-1**	**2**	**2**	1 ½ Hrs.	40 E +10 I
BB301(b)	Basic Quality Management	**SEC-2**	**2**	**2**	1 ½ Hrs.	40 E + 10 I
BB302	English	**ELS-1C**	**3**	**3**		
BB303	Second Language	**SLS-1C**	**3**	**3**		
BB304	Human Resource Management	**DSC-1C**	**5**	**5**	**2 ½ Hrs.**	**60 E + 40 I**
BB305	Information Technology for Business	**DSC-2C**	**4T+ 1P**	**5**	**2 ½ Hrs.**	**60 E + 20I+ 20 P**
BB306	Financial Management	**DSC-3C**	**5**	**5**	**2 ½ Hrs.**	**60 E + 40 I**
	Total Semester Credits		**25**	**25**		

SEMESTER – IV

Course Code	*Course Title*	**Course Type**	*HPW*	*Credits*	*Exam Hrs.*	*Marks*
BB401(a)	Personality Development - II	**SEC-3**	**2**	**2**	1 ½ Hrs	40 E + 10 I
BB401(b)	Start Up Management	**SEC-4**	**2**	**2**	1 ½ Hrs	40 E + 10 I
BB402	English	**ELS-1D**	**4**	**4**		
BB403	Second Language	**SLS-1D**	**4**	**4**		
BB404	Financial Accounting	**DSC-1D**	**5**	**5**	**2 ½ Hrs.**	**60 E + 40 I**
BB405	Market Research	**DSC-2D**	**5**	**5**	**2 ½ Hrs.**	**60 E + 40 I**
BB406	Management Science	**DSC-3D**	**5**	**5**	**2 ½ Hrs.**	**60 E + 40 I**
	Total Semester Credits		**25**	**25**		

HPW- Hours per Week ; AEC-Ability Enhancement Course(Compulsory)
ELS-English Language Skill ; SLS Second Language Skill;
DSC – Discipline Specific Course (E) – External Assessment (I) – Internal Assessment

THIRD YEAR
SEMESTER-V

Course Code	*Course Title*	Course Type	*HPW*	*Credits*	*Exam Hrs.*	*Marks*
BB501	Mobile Commerce	**GE-1**	**4**	**4**	1 ½ Hrs.	40 E +10 I
BB502	English	**ELS-1C**	**3**	**3**		
BB503	Second Language	**SLS-1C**	**3**	**3**		
BB504	Brand Management	**DSC-1E**	**5**	**5**	**2 ½ Hrs.**	**60 E + 40 I**
BB505	Retail Management	**DSC-2E**	**5**	**5**	**2 ½ Hrs.**	**60 E + 40 I**
BB506	Customer Relationship Management	**DSC-3E**	**5**	**5**	**2 ½ Hrs.**	**60 E + 40 I**
	Total Semester Credits		**25**	**25**		

SEMESTER – VI

Course Code	*Course Title*	Course Type	*HPW*	*Credits*	*Exam Hrs.*	*Marks*
BB601	Business Analytics	**GE-2**	**4**	**4**	1 ½ Hrs	40 E + 10 I
BB602	English	**ELS-1D**	**4**	**4**		
BB603	Second Language	**SLS-1D**	**4**	**4**		
BB604	Buyer Behavior	**DSC-1F**	**5**	**5**	**2 ½ Hrs.**	**60 E + 40 I**
BB605	Advertising and Sales Promotion	**DSC-2F**	**5**	**5**	**2 ½ Hrs.**	**60 E + 40 I**
BB606	Rural Marketing	**DSC-3F**	**5**	**5**	**2 ½ Hrs.**	**60 E + 40 I**
	Total Semester Credits		**25**	**25**		

HPW- Hours per Week ; AEC-Ability Enhancement Course(Compulsory)
ELS-English Language Skill ; SLS Second Language Skill;
DSC – Discipline Specific Course (E) – External Assessment (I) – Internal Assessment

SEMESTER-I

BBA SEM-1 (CBCS) SYLLABUS 2021-22

PAPER CODE: BB104 PRINCIPLES OF MANAGEMENT

Course Objective

The general objective of this course is to provide a broad and integrative introduction to the the theories and practice of management. In particular, the course focuses on the basic areas of the management process and functions from an organizational viewpoint. The course also attempts to enable students to understand the role, challenges, and opportunities of management in contributing to the successful operations and performance of organizations.

Course Outcomes

CO-1: To make student understand the meaning, principles and evolution of management and further to enhance their knowledge in its functions.

CO-2: To present the importance of Planning and Decision Making.

CO-3: To acquaint student the concepts of Organizing, Span of Management, Patterns of organization and Common organizational structures.

CO-4: To present the sources of recruitment and Training.

CO-5 : To present the emerging issues in management.

SYLLABUS

UNIT - I : INTRODUCTION TO MANAGEMENT :

Meaning, definition, concept, scope and principles of management; Evolution of management thought - Management theories- classical, behaviour, system, contingency and contemporary perspectives on management. Management art or science and management as profession. Process and levels of Management. Introduction to Functions (POSDCORB) of Management.

UNIT - II : PLANNING – IMPORTANCE :

Planning – Importance, objectives, process, policies and procedures, types of planning, Decision making - Process of decision making, Types of decision, Problems involved in decision making.

UNIT - III : ORGANIZING :

Meaning, importance, principles of organizing, span of management, Patterns of organization – formal and informal organizations, Common organizational structures; departmentalization, Authority-delegation, centralization and decentralization, Responsibility – line and staff relationship;

UNIT - IV : STAFFING :

Sources of recruitment, Selection process, Training, Directing, Controlling – Meaning and importance, Function, span of control, Process and types of Control, Motivation, Co- ordination – Need and types and techniques of co-ordination - Distinction between coordination and co-operation - Requisites for excellent co-ordination - Systems Approaches and co-ordination.

UNIT - V : EMERGING ISSUES IN MANAGEMENT :

Total Quality management, Technology Management, Talent and Knowledge Management, Leadership, Organizational change and Development, Corporate Social responsibility

SUGGESTED BOOKS :

1. Robbins, S. P., & DeCenzo, A. D. Fundamentals of Management. New Delhi: Pearson Education.
2. Harold Koontz & Heinj Weihrich, (2018) Essentials of Management, 10th Edition, Tata McGraw-Hill Education,
3. T.Ramasamy (2018) Principles of Management, Himalaya Publishing House, Mumbai.
4. L.M. Prasad, Principle and Practice of Management, Sultan Chand and Sons, 6thedition.
5. Gupta, Sharma and Bhalla; Principles of Business Management; Kalyani Publications; 1st ed.
6. P.C. Tripathi & P.N. Reddy, (2015) Principles of Management, 5th Edition, Tata McGraw-Hill Education, New Delhi.

BBA SEM-1 (CBCS) SYLLABUS 2021-22

PAPER CODE: BB105 BASICS OF MARKETING

Course Objective

To provide an exposure to the students pertaining to the nature and Scope of marketing, which they are expected to possess when they enter the industry as practitioners. To give them an understanding of the basic philosophies and tools of marketing management.

Course Outcomes

CO-1: To understand the concept of Marketing and Selling.
CO-2: To understand the concept of Market Segmentation and its importance in marketing.
CO-3: To present process of new product development.
CO-4: To present the techniques New Product Development and Pricing decisions during the life of a product.
CO-5: To understand the importance and effectiveness of Promotional Mix.

SYLLABUS

UNIT - I : INTRODUCTION OF MARKETING :

Nature, Scope and Importance of Marketing, Evolution of Marketing; Core marketing concepts; Production concept, Product concept, Selling concept, Marketing concept. Marketing Environment: Micro and Macro Environment

UNIT - II : MARKET SEGMENTATION :

Target Market and Product Positioning: Levels of Market Segmentation, Bases for Segmenting Consumer Markets, Bases for Segmenting Industrial Markets. Target Market and Product Positioning Tools.

UNIT - III : NEW PRODUCT DEVELOPMENT :

Introduction, Meaning of a New Product. Need and Limitations for Development of a New Product, Reasons for Failure of a New Product, Stages in New Product Development and Consumer Adoptions Process.

UNIT - IV : PRODUCT & PRICING DECISIONS :

Concept of Product, Product Life Cycle (PLC), PLC marketing strategies, Product Classification, Product Line Decision, Product Mix Decision, Pricing Decisions: Concept of Price, PricingMethods and Pricing Strategies

UNIT - V : PROMOTION MIX :

Concept of Promotion Mix, Factors determining promotion mix, Promotional Tools – Types of Advertisement, Sales Promotion, Public Relations & Publicity and Personal Selling; Distribution: Designing Marketing Channels Channel functions, Types of Intermediaries.

SUGGESTED BOOKS :

1. Kotler Philip, Garyarmstrong, Prafullay. Agnihotri, EU Haque, "Principles of Marketing",2018, 18th Ed, Pearson Education Prentice Hall of Indi..
2. Paul Baines, Chris Fill, Kelly page, "Marketing Management", 2018, 15 Ed., OxfordUniversity Press.
3. Kotler, P., Armstrong, G., Agnihotri, P. Y., & Ul Haq, E.: Principles of Marketing: A SouthAsian
4. Dr. Sreeramulu, "Basics of Marketing, (2019), HPH
5. Ramaswamy, V.S. & Namakumari, S.: Marketing Management: Global Perspective-Indian,2019
6. Context, Macmillan Publishers India Limited.4. Rajan Saxena, "Marketing Management",2009, 4th Ed. Tata McGraw H

BBA SEM-1 (CBCS) SYLLABUS 2021-22

PAPER CODE: BB106 BUSINESS ECONOMICS

COURSE OBJECTIVE:

The Purpose of this course is to apply micro economic concepts and tools for analyzing business problems and making accurate decision pertaining to the business firms. The emphasis is given to tools and techniques of micro economics

Course Outcomes

CO-1: To understand nature and scope of Business Economics.

CO-2: To comprehend the Demand Concepts and Elasticity of Demand.
CO-3: To apprehend theory of production and cost concepts.
CO-4: To learn short and long run cost curves and economies and diseconomies of scale.
CO-5: To grasp the concept of market and its structures.

SYLLABUS:

UNIT - I : BUSINESS ECONOMICS NATURE AND SCOPE :

Introduction to business economics, characteristics, nature and scope concept of opportunities Cost, Incremental cost. Time perspective, Discounting and equi-marginal principle

UNIT – II : DEMAND CONCEPTS & ELASTICITY OF DEMAND :

Concept of Demand Determinates of demand , law of demand, exception to the law of demand, elasticity of demand, types of demand elasticity, uses of demand elasticity. Concept of Supply, Determinants of Supply, Law of Supply, Elasticity of Supply.

UNIT – III : PRODUCTION AND COST CONCEPTS :

Theory of production, production function, input output combination, short run production laws, law of diminishing marginal returns to scale, ISO-quant curves, ISO-cost curves

UNIT – IV : BUDGET LINE :

Cost concepts, cost classification, short run cost curves and long run cost curves, Experience curve. Economies and diseconomies to the scale, economies of scope.

UNIT – V : MARKET STRUCTURES AND PRICING :

Concept of market, structures, perfect competition market and price determination, monopoly andabnormal profits, monopolistic completion market price determination, price discrimination. Oligopoly, features of oligopoly, syndicating in oligopoly, kinked demand curve, price leadership and market positioning.

SUGGESTED BOOKS :

1. Dominik Salvotore, (2015) Principal of Micro Economics (7th Edn) oxford UniversityPress.
2. Dr. D N Mithani, (2018) Managerial Economics Theory and Appliocation, HPH
3. Varshiney & Maheswari, Managerial Economics, Juptan Publication, New Delhi
4. Lipsey and Crystal (2008) Economics International (15th Edn) Oxford University Press..
5. Kutosynnis (1979) Modern Mircro Economics (5th Edn) Mc millan Publishers

II - SEMESTER

BBA SEM-II (CBCS) SYLLABUS 2021-22

PAPER CODE: BB204 ORGANIZATIONAL BEHAVIOUR

COURSE OBJECTIVE:

The main objective is to explain the fundamentals of managing business and to understand individual and group behavior at work place so as to improve the effectiveness of an organization.

Course Outcomes

CO-1: To understand nature, factors influencing and scope of Organizational development.
CO-2: To comprehend the concept, importance and theories of motivation and Leadership.
CO-3: To apprehend of groups and group dynamics.
CO-4: To understand the concept of management of Change.
CO-5: To grasp the concept of Organizational Culture, Conflict and Effectiveness.

SYLLABUS:

UNIT - I : ORGANIZATIONAL BEHAVIOR :

Meaning, importance and historical development of organizational behavior, Factors influencing organizational behavior. Perception and Attribution- concept, nature and process, Factors influencing perception. Values and Attitudes. Personality - Stages of personality development, Determinants of personality. Concept and theories of learning.

UNIT – II : MOTIVATION :

Concept, importance and theories of motivation. Leadership - concept, characteristics, theories and styles of leadership, Managerial grid, Leadership continuum and Leadership effectiveness.

UNIT - III : GROUP DYNAMICS :

Meaning of groups and group dynamics, Formation, Characteristics and Types of groups, Theories of group dynamics, Group cohesiveness - Factors influencing group cohesiveness - Group decision making process. Types of teams. Analysis of Interpersonal Relationship: Transactional Analysis, Johari Window.

UNIT – IV : MANAGEMENT OF CHANGE :

Meaning and importance of change, Factors contributing to organizational change, Change agents, Resistance to change – causes of and dealing with resistance to change, Organizational Development - meaning and process.

UNIT - V : ORGANIZATIONAL CULTURE, CONFLICT AND EFFECTIVENESS :

Concept of Organizational Culture, Distinction between organizational culture and organizational climate, Factors influencing organizational culture, Morale- concept and types of morale. Managing conflict, Organizational Effectiveness - Indicators of organizational effectiveness, Achieving organizational effectiveness. Organizational Power and Politics**.**

SUGGESTED BOOKS :

1. Robbins, P.Stephen - Organizational Behavior-concepts, controversies & Applications - Prentice Hall of India Ltd.,
2. Luthans Fred - Organizational Behavior - McGraw Hill Publishers Co. Ltd., New Delhi,1988.
3. Rao, VSP and Narayana, P.S. - Organization Theory & Behavior - Konark Publishers Pvt.Ltd., Delhi, 1987.
4. Prasad, L.M - Organizational Theory & Behavior - Sultan Chand & Sons, New Delhi, 1988.
5. Sekaran, Uma - Organizational Behavior-text & cases - Tata McGraw Hill Pub Ltd., New Delhi, 1989.
6. Aswathappa. K. - Organizational Behavior – Himalaya Publishing House, Mumbai, 18th Edition, 2018.
7. Afsaneh Nahavandi - Organizational Behavior – Sage Publications.
8. P Subba Rao – Organizational Behavior (2018), HPH, 18th Edition

BBA SEM-II (CBCS) SYLLABUS 2021-22

PAPER CODE: BB205 BUSINESS STATISTICS

COURSE OBJECTIVE:

The Objective of this course to provide a student an understanding of basic statistical tools to apply for management problems and analysis. The tools starting from data gathering , tabulation, presentation and analyzing using basic statistical techniques like measures of central tendency, dispersion, kurtosis, correlation and regression.

Course Outcomes

CO-1: To understand the importance of Statistics in Business decisions and classification of data.
CO-2: To introduce the measures of central tendency.
CO_-3: To understand the significance and requisites of measuring dispersions, Skewness and kurtosis.
CO-4: To help the students in understanding the importance of Index Numbers in business decisions.
CO-5: To understand the concept of Correlation and Regression in business decisions.

SYLLABUS:

UNIT – I : STATISTICS :

Definitions – Statistical methods – Importance and Scope – Limitations – Need for Data – Principals of Measurement. Tabulation and Presentation:

Classification of Data – Data Array – Frequency Distribution – Methods of data Classification – Types of Frequency Distributions / tabulation of Data – Objectives of Tabulation – Parts and Types of Tables – Graphical Presentation – Functions of Graphs – Advantages and limitations of Graphs.

UNIT – II : MEASURES OF CENTRAL TENDENCY :

Introduction to Averages – Requisites for a Measure of Central Tendency, Mean - Combined mean – Weighted mean, Median – Partition values – Quartiles, Deciles and Percentiles, Relationship between Partition values–Mode– Relationship between Mean, Median andMode.

Measures of Dispersion:

Introduction – Significance and Requisites of a Measure of dispersion, Range, QD, MD and SD- For Grouped and Ungrouped – Advantages and Disadvantages. Concept of Variation – Coefficient of Variation.

Skewness and Kurtosis (SK):

Introduction, Measures of SK, Relative measures of SK – Advantages and Disadvantages. Moments – concepts –Calculation – Kurtosis.

UNIT – III : INDEX NUMBERS :

Index Numbers - Introduction – Types – Characteristics – Construction weighted and unweighted index numbers – Price and Quantity/Volume index numbers – Tests – time reversal – Factor Reversal and Circular tests – Chain and Fixed base – Changing of base – Combining of two of more overlapping indices consumer

price Index – Problems in Construction.

UNIT – V : CORRELATION AND REGRESSION ANALYSIS :

Correlation Analysis: Scatter diagram, Positive and negative correlation, limits for coefficient of correlation, Karl Pearson's coefficient of correlation, Spearman's Rank correlation.

Regression Analysis: Concept, least square fit of a linear regression, two lines of regression, properties of regression coefficients(Simple problems only)

SUGGESTED BOOKS :

1. Gupta SC: "Fundamental of Statistics" 7th Ed, Himalaya Publishers House, 2019.
2. Sharma JK: "Business Statistics" 2nd Edition Pearson Education, 2007.
3. Arora, PN, Arora, Sumeet and Arora, Amit: "Managerial Statistics", S. Chand, Ist Ed., 2009.
4. Bharadwaj, RS: "Business Statistics" , Excel books, 2nd Ed, 2008.
5. J K Singh, Business Mathematics, 2018, HPH.

BBA SEM-II (CBCS) SYLLABUS 2021-22

PAPER CODE: BB206 FINANCIAL ACCOUNTING

COURSE OBJECTIVE:

To familiarize students with the mechanics of preparation of financial statements, understanding corporate financial statements, their analysis and interpretation.

Course Outcomes

CO-1 : To understand the purpose and principals of Accounting and nature of Accounts.
CO-2: To learn preparation of various types of books.
CO-3: To learn preparation of Financial Statements.
CO-4: To learn analyzing of Financial Statements,
CO-5: To understand the importance of Accounting Standards, procedure for issue and importance of IFRS and Ind-AS

SYLLABUS:

UNIT - I : INTRODUCTION TO FINANCIAL ACCOUNTING :

Accounting as an Information System, Importance and Scope, Limitations; Users of accounting information; Accounting Principles, Accounting Concepts, Principles and Conventions – Generally Accepted Accounting Principles (GAAP); Nature of Accounts

UNIT - II : TYPES OF BOOKS (PRIMARY AND SECONDARY) :

The Accounting Equation Rules of Debit and Credit; Recording Transactions in Journal; Preparation of Ledger Accounts; ledger balancing; Opening and Closing Entries, Preparation of Trial Balance.

UNIT - III : PREPARATION OF FINANCIAL STATEMENTS :

Trading Account, Profit & Loss Account and Balance Sheet, Adjustment Entries, Understanding contents of financial statements of a joint stock company as per the Companies Act2013.

UNIT - IV : FINANCIAL STATEMENT ANALYSIS USING RATIOS :

Objective of financial statement analysis, sources of information, Techniques of financial statement analysis: Horizontal analysis, Vertical analysis and Ratio Analysis; Financial Ratios: Meaning and Usefulness of Financial Ratios. Analysis of ratios- Liquidity Ratios, Solvency Ratios, ProfitabilityRatios and Turnover Ratios; Limitation of ratio analysis.

UNIT – V : INDIAN ACCOUNTING STANDARDS (IND-AS) :

Concept, benefits, procedure for issuing Ind- AS in India, salient features of Ind-AS issued by ICAI; International Financial Reporting Standards (IFRS): Main features, uses and objectives ofIFRS, IFRS issued by IASB.

SUGGESTED BOOKS :

1. Tulsian, P.C., Financial Accounting, Pearson
2. T.S. Grewal, Introduction to Accountancy, Sultan Chand
3. Maheshwari, S.N. & Maheshwari, S.K. , Financial Accounting for B. Com., CA, CS, & ICWA(Foundation) Courses, Vikas Publishing House Pvt. Ltd.
4. Ghosh, T.P., Financial Accounting for Managers, Taxmann Allied Services (P) Ltd.
5. Balwani, Nitin, Accounting and Finance for Managers

SEMESTER-III

BBA SEM-III (CBCS) SYLLABUS 2021-22

PAPER CODE: BB304 HUMAN RESOURCE MANAGEMENT

COURSE OBJECTIVE:

The aim of this course is to introduce to student the basic concepts related to Human Resource Management which can form foundation to understanding advanced concepts in managing human resources in an organization.

Course Outcomes

CO1- To Understand basic Human Resource Management concept and environment
CO2-To Acquire Human resources, its planning and job analysis.
CO3-To Understand developing about Human Resources such as Training, Career planning.
CO4-To Understand Labour Management
CO5- To Understand performance appraisal

SYLLABUS:

UNIT – I : INTRODUCTION TO HUMAN RESOURCE MANAGEMENT AND ENVIRONMENT :

Functions of Human Resource Management. Managerial and operative role of Human Resource Management. Personnel Management vs. Human Resource Management – Strategic Management Approach. The Role of Globalization in HR Policy and Practice.

UNIT – II : ACQUIRING HUMAN RESOURCES :

Human Resource Planning and Alignment – Job Analysis and Design. Job Description, Job Specification and Job Evaluation, Job- Restructuring – Job Rotation, Job Enlargement and Job Enrichment. Recruitment and Selection – Placement – Induction and Orientation. Line and Staff.

UNIT – III : DEVELOPING HUMAN RESOURCES :

Training and Development – Employee Training and Retraining – Assessing Training Needs and Designing Training Programmes. An overview on employee orientation: Career Planning and Development: Role and Significance of Career Planning – Impact of Career Planning on Productivity.

UNIT - IV: LABOUR MANAGEMENT :

Industrial Relations and Industrial Disputes. Principles and guidelines for effective handling of Industrial Disputes and Industrial Relations – Standing Orders – Role and Contents of standing orders – Labour Relations and Collective Bargaining – Employee Health and Safety.

UNIT – V : REWARDING HUMAN RESOURCES :

Performance Appraisal – Methods and needs for Performance Appraisal – Organization Climate and its impact on HRM. Components of Organization Culture. Quality of Work Life – Determinants of quality of work life. Impact of QWL on Organization Climate and Culture.

SUGGESTED BOOKS :

1. Human Resources - Bernandin H. John. TMH
2. Managing Human Resources – Wayne E. Casio. – TMH
3. Human Resources Management – David Lepak and Mary Gowan – Pearson
4. Human Resources Management – Decenzo and Robbins – John Willey
5. Human Resource Management. Texts and Cases. - TMH
6. Human Resource Management, P Subba Rao, HPH, 2009
7. Human Resource Management, Sen Gupta, 2018 1st Edition, Sage Publication

BBA SEM-III (CBCS) SYLLABUS 2021-22

PAPER CODE: BB305 INFORMATION TECHNOLOGY FOR BUSINESS

COURSE OBJECTIVE:

The Objective of this course is to familiarize management students to basics of IT, its applications and importance to present day management and organization.

Course Outcomes

CO1- Implement basic computer system such as Hardware, Software, Memory and Network & its Topologies.
CO2- To Understand the concepts of Information systems and DBMS
CO3- To Understand the concepts of multimedia
CO4- To Understand Internet concepts & security issues.
CO5- To Understand applications of office Management.

UNIT - I : INTRODUCTION TO IT :

Computer Systems- Hardware -I/O devices, Memory devices, Processors-Software - classification of software- systems software, Application software- Operating Systems- Definition- Types of OS- Understanding of GUI- Networks- Definition- Types of Network- LAN, WAN- Network Topologies- Physical Communication Media-TCP/IP, OSI Model.

UNIT – II : INTRODUCTION TO IS :

Definition of Data, Information & Knowledge, IS- MIS, DSS, Expert Systems–Types of IS- Operation, Tactical, Strategic IS- Executives Information Systems (EIS) – Definitions- Data Base, DBMS, Advantages & Disadvantages of DBMS-Ethical and Social Issues in IS.

UNIT - III : MULTIMEDIA CONCEPTS :

Definition of Multimedia - Multimedia devices - Multimedia Formats - Audio formats- Video formats - Compression/ Decompression issues - Business Applications of Multimedia.

UNIT – IV : INTERNET & SECURITY ISSUES :

Internet – History- Internet Addressing and architecture-WWW – Architecture-Browser-Servers- Search engines -Internet Services- Email- Chatting- Messaging- Groups- Social Networking- Internet in Business- definition of e-commerce, m-commerce- types of online business-Security Issues in Internet.

UNIT – V : OFFICE MANAGEMENT APPLICATIONS :

Intranets, Extranets, VPN- Internet Telephony - Group ware- audio and video Conferencing- Wireless Communication - WLANS- Definitions of Blue tooth - Wi Fi- Wi Max – RFID - Use of Spreadsheets for office - spread sheet applications (MS-EXEL) - Use of Databases for the Office (MS-ACCESS) - Database applications.

SUGGESTED BOOKS :

1.Kenneth C. Laudon & Jane P. Laudon - Management Information Systems - Managing the Digital Firm, Pearson Education, Fourth Edition 2008.
2.Turban, McLean, Wetherbe- Information Technology For Management, Wiley Student Edition- Fourth Edition.
3.Leonard Jessup, Joseph Valacich – Information Systems Today, Why IS matters, Pearson Education –Low Price Edition, Second Edition.
4.Effy Oz- Management Information systems, Thomson Course Technology, Fifth Edition.

BBA SEM-III (CBCS) SYLLABUS 2021-22

PAPER CODE: BB306 FINANCIAL MANAGEMENT

COURSE OBJECTIVE:

To acquaint students with the techniques of financial management and their applications forbusiness decision making.

Course Outcome

CO1- To understand the meaning of financial management and to know the difference between Profit Maximization and Wealth Maximization.
CO2- To understand the concept of Time value of Money and its importance in decision making.
CO3 – Awareness as to sources of long-term finances.
CO-4 - To understand how to manage Working Capital Management.
CO-5 - To understand how to manage Receivables.

SYLLABUS:

UNIT – I : NATURE OF FINANCIAL MANAGEMENT :

Finance and relation with other disciplines; Scope of Financial Management; Profit Maximization Vs. Wealth Maximization Vs. Value Maximum Traditional and Modern Approachof FM; Functions of finance – Objectives of Financial Management; Investment Decision, Financing Decision, Current Assets Management Decision and Dividend Decision - Organization of finance function;

UNIT – II : CONCEPT OF TIME VALUE OF MONEY :

Concept of Time Value of Money, compounding, discounting, present value, future value, and annuity; capital budgeting –meaning, features; applications of Discounted Cash Flow (DCF) in capital budgeting, calculation of NPV and IRR

UNIT - III : SOURCES OF LONG TERM FINANCE :

Sources of Long term finance- features of equity shares, preference shares, debentures, long term loans; Capital Structure – meaning, determinants of capital structure; cost of capital – component costs of capital, weighted average cost of capital; Dividend Policy Decision – types of dividend, determinants of dividend policy.

UNIT - IV: WORKING CAPITAL MANAGEMENT :

Gross Vs net working capital, determinants of working capital; Management of Cash - Preparation of Cash Budgets (Receipts and Payment Method only); Cash management technique (Lock box, concentration banking)

UNIT - V: RECEIVABLES MANAGEMENT – OBJECTIVES :

Credit Policy, Cash Discount, Debtors Outstanding and Ageing Analysis; Inventory Management (Very Briefly) - ABC Analysis; Minimum Level; Maximum Level; EOQ (Basic Model); Reorder Level; Safety Stock.

SUGGESTED BOOKS :

1. Eugene.F. Brigham, Fundamentals of Financial Management, The Dryden Press, 6th edition, 1992
2. M.Y. Khan & P.K. Jain , Financial Management, Tata McGraw Hill Publishing Co. Ltd.
3. Prasanna Chandra, Fundamentals of Financial Management, McGraw Hill Education, 6th edition, 2015
4. I.M. Pandey, Financial Management, Vikas Publishing House, 11th edition, 2015
5. J.V. Horne & J.M. Wachowicz, Fundamentals of Financial Management, Prentice Hall ofIndia, 13th edition, 2009.
6. Rustogi, Financial Management, TaxMann, 5th edition, 2011.

SEMESTER-IV

BBA SEM-IV (CBCS) SYLLABUS 2021-22

COURSE- SEC-4 COURSE CODE: BB401(b)
START UP MANAGEMENT

OBJECTIVE:
It helps the students to acquaint themselves with the special challenges of starting new ventures andintroducing new product and service ideas.

UNIT – I: ENTREPRENEUR AND ENTREPRENEURSHIP :
Evolution of the Concept of Entrepreneur. Characteristics of an Entrepreneur. Distinction Betweenan entrepreneur and a Manager. Functions of an Entrepreneur. Traits/ Qualities of Entrepreneurs: Types of Entrepreneurs. Role of Entrepreneurship in Economic Development. Growth of Entrepreneurship in India. Problems and Development of Rural Entrepreneurship.

UNIT – II: ROLE OF SUPPORT INSTITUTIONS & MANAGEMENT OF SMALL ENTERPRISES:
Entrepreneurship Development Programmes (EDPs) – Phases of EDP's and Evaluation of EDPs. Institutional Finance to Entrepreneurs like Commercial Banks–Other Major Financial Institutions such as IDBI, IFCI, IIBI, LIC, UTI, NABARD, SFCs, SISI, SIDCs, SIDBI, and EXIM Bank and
venture capital firms. Role of Small Enterprises in Economic Development. Ownership Structures,MSME act.

SUGGESTED BOOKS :

1. Vasanth Desai, "Dynamics of Entrepreneurial Development and Management", 2007, HPH,Millenium Edition.
2. S.S. Khanka, "Entrepreneurial Development", 2007, S. Chand & Co. Ltd.
3. Poornima. M Charantimath, "Entrepreneurial Development and Small Business Enterprises"2006, Pearson Education.
4. David H. Hott, "Entrepreneurship New Venture Creation", 2004, PHI.
5. P. Narayana Reddy, "Entrepreneurship – Text and Cases", 2010, 1st Ed. Cengage Lerning.
6. Longencker, Morge, Mitchell, "Managing Small Business", Sage South Asia Edition.

BBA SEM-IV (CBCS) SYLLABUS 2021-22

PAPER CODE: BB404 BUSINESS LAW & ETHICS

COURSE OBJECTIVE:

It helps the students to understand importance of contracts companies act & ethics.It focuses on legal aspects of contracts.

COURSE OUTCOMES:

CO1: To understand Introduction of law & Indian Contract act and its case studies
CO2: To Understand about special contracts and sale of goods act.
CO3: To Understand about company , its formation, directors, meetings.
CO4: To understand consumer protection law in India, rights of consumer awareness, Pollution and Environmental Control Law
CO5: To Understand Business ethics and efficiency.

SYLLABUS:

UNIT - I : LAW OF CONTRACTS :

Definition of Contract and Agreement – Classification of Contracts, Essential elements of a valid Contract – Offer - Acceptance - Consideration - Capacity to Contract - Free consent, void Contracts– Legality of Object - Performance of Contract – Remedies for breach of Contract - QuasiContracts.

UNIT – II : LAW RELATING TO SPECIAL CONTRACTS :

Salient features of Contract of Agency, Bailment and Pledge, Indemnity and Guarantee. Sale of Goods Act – Distinction between Sale and agreement to sell - Conditions and Warranties.

UNIT – III : COMPANIES ACT :

Definition of company – Characteristics - Classification of Companies- Formation of Company - Memorandum and Articles of Association – Prospectus - Share holders meetings - Board meetings - Law relating to meetings and proceedings- Company - Management - Qualifications, Appointment, Powers, and legal position of Directors - Board - M.D and Chairman - Their powers.

UNIT - IV: CONSUMER PROTECTION LAW :

Introduction to consumer protection law in India - Consumer councils - Redressal machinery - Rights of consumers - Consumer awareness. Pollution Control Law - Air, water, and environmentpollution control.

UNIT - V: BUSINESS ETHICS :

Ethical and Value based Considerations – Need and Justification – Business ethics and efficiency – Social responsibility of business – Fair and just cooperation among owners, managers, workers and customers – Fair Market Wages – Integrity and ethical consideration in business operations – Indianvalue system and it's relevance in Management**.**

SUGGESTED BOOKS :

1. N.D. Kapoor, "Elements of Mercantile Law", 2015, Sultan Chand & Co.
2. K.R. Bulchandani, "Business Law for Management", 2018, HPH.
3. PPS Gogna, "A Text Book of Company Law", 2006, S. Chand
4. Marianne moody Jennings, "The Legal, Ethical and Global Environment of Business", 2009,South western Cengage learning, New Delhi.
5. Richard Schaffer, Agusti& Earle.
6. V. Ramakrishna Raju, "Business Laws and Economic Legislations", 2005, HPH.

BBA SEM-IV (CBCS) SYLLABUS 2021-22

PAPER CODE: BB405 MARKET RESEARCH

COURSE OBJECTIVE:

To provide an exposure to the students pertaining to the nature and Scope of marketing research, which they are expected to possess when they enter the industry as practitioners. To give them an understanding of the basic techniques and tools of marketing research.

Course Outcome

CO-1 : To understand need for marketing research and process of marketing research.
CO-2 : To present various sources of data and its collection.
CO-3 : To present various sources of secondary data
CO-4: To understand various measurement and scaling techniques.
CO-5: To understand various Sampling methods available.

SYLLABUS:

UNIT - I : MARKETING RESEARCH :

Nature and Scope of Marketing Research – Role of Marketing Research in Decision Making. The Research process – Steps in the Research Process; Designing the Research Proposal.

UNIT – II : SOURCES OF DATA :

Sources of data, Primary data and Secondary data, Survey method of data collection, Observation method – Types of observation, Interview, Depth interview , Focus group interview, Questionnaire, Method, Steps in design of a questionnaire

UNIT – III : SECONDARY METHOD OF DATA COLLECTION :

Advantages & Disadvantages of Secondary
Data, Criteria for evaluating secondary sources, Secondary sources of data in Indian Context,

UNIT – IV : MEASUREMENT AND SCALING :

Concept of measurement and scaling – Types of Scales – Nominal ,Ordinal, Interval and Ratio Scales - Attitude scales Thurstone, Likert, Semantic differential scales, Reliability and Validity of ascale.

UNIT – V : SAMPLING :

Sampling techniques, Data Analysis: Z test (mean, diff. of mean, diff. of proportion) t test (mean),paired t test, Chi square test. Introduction to theoretical concept of ANOVA,

SUGGESTED BOOKS :

1. Green E. Paul, Tull S.Donald & Albaum, Gerald: "Research for Marketing Decisions", 2018,PHI.
2. Tull and Hawckins, "Marketing Research", 2000, 4th Ed. Tata McGraw Hill.
3. Cooper & Schindler: Business Research Methods McGraw-Hill Education.
4. Martin callingam, "Market intelligence", 2009, Kogan Page Publishers.
5. G.C. Beri, "Marketing Research", 2008, 8th Ed, Tata McGraw Hill.
6. Malhotra, K. Naresh, "Marketing Research- And applied orientation", 2014.
7. Kumar, Marketing Research, 2015, Sage Publication.

BBA SEM-IV (CBCS) SYLLABUS 2021-22

PAPER CODE: BB406 MANAGEMENT SCIENCE

COURSE OBJECTIVE:

The objective of this course is to provide the student with adequate knowledge regarding the basic manufacturing facilities & how service activities have attained significance and need managerial skills to address the problems.

Course Outcome

CO-1: To understand the production and operations process and its functions.
CO-2 To understand the importance of capacity planning, factory location, plant layout, sequencing of operations and work study
CO-3: To present the various purchase and stores management techniques.
CO-4: To know the importance of Operations Research and Linear Programming.
CO-5: To understand Transportation, Assignment and Queuing techniques.

SYLLABUS:

UNIT – I : INTRODUCTION TO PRODUCTION & OPERATIONS MANAGEMENT :

Definition of Production and Operations. An overview of Manufacturing processes:
Functions of Production, Planning & Control. Interface of Product Life Cycle & Process Life Cycle. Process design – Project, Job, Batch, Assembly and Continuous process.

UNIT – II : PLANT MANAGEMENT AND WORK STUDY :

Capacity Planning, factory location, plant layout – types of layout.Sequencing of Operations: n-Jobs with one, two and three facilities.

Work Study: The concept and various techniques of methods analysis and work measurement.

UNIT – III : PURCHASE AND STORES MANAGEMENT :

Purchase Management: Sources of Supply of Materials, selection, evaluation of Vendors. Methodsof vendor rating.

Stores Management: Functions of Stores and Materials control. Classification, Codification, Simplification and Standardization of materials. Economic Order Quantity. Selective Inventory Control Techniques: ABC, VED, FNSD & XYZ.

UNIT – IV : INTRODUCTION TO OR :

Introduction to Operation Research: Introduction, Nature, Managerial applications and limitationsof OR. Types of Operation Research Models.

Linear Programming: Mathematical model, Formulation of LPP, assumptions underlying LPP,Solution by Graphical Method.

UNIT – V : TRANSPORTATION, ASSIGNMENT AND QUEUING THEORY :

Transportation Problem (TP) - Mathematical model, IBFS using North West Corner Rule, Least Cost Method (LCM) and Vogel's Approximation Method(VAM).

Assignment Problem (AP): Mathematical model, method of obtaining solution- Hungarian method. Queuing Theory - Concepts of Queue - General structure of a Queuing system-OperatingCharacteristics of Queues.

SUGGESTED BOOKS :

1. S.N. Chary, "Production & Operation Management" 5th Edition, Tata-McGraw – HillPublishing Company Ltd.
2. N.G. Nair, "Production and Operation Management", 2nd Edition, Tata-McGraw – HillPublishing Company Ltd.
3. Kanishka Bedi, "Production and Operations Management", 2007, 3rd Edition, Oxford UniversityPress.
4. N.D. Vohra, "Quantitative Techniques in Management", 2010, 4th Edition, Tata-McGraw – HillPublishing Company Ltd.
5. J.K. Sharma, "Operations Research Theory and Applications 2009, 4th Edition, Macmillan.

SEMESTER-V

BBA SEM-V (CBCS) SYLLABUS 2021-22

PAPER CODE: BB504 BRAND MANAGEMENT

COURSE OBJECTIVE:

To provide an understanding of Different Types of Brand Awareness, Equity.

Course Outcomes:

CO1-TO understand tje nature, scope and the meaning with significance of branding.
CO2- TO create the awareness in branding and advertising and their strategies.
C03- To understand the cincept of brand extensions .
C04- TO learn about the brand positioning and re-positioning personality.
C05- To understand the sources of branding and the concept of brand equity.

UNIT - I : INTRODUCTION TO BRAND MANAGEMENT :

Concept of Branding – Definition – Significance of Brand - Brand Types – Difference betweenBrand and Product – Braking – Brand Building – Brand Launching.

UNIT - II : BRAND AWARENESS :

Branding and Advertisement – Creating Brand Awareness – AIDA Model – Branding Strategies –Brand Communication.

UNIT - III : BRAND EXTENSION :

Brand Line Extension – Horizontal Extension Pros and Cons of Brand Extension – RelatedExtension – Unrelated Extension – Brand Generic Branding.

UNIT - IV : BRAND PERSONALITY :

Branding – Brand Personality – Brand Positioning – Re Positioning – Brand Positioning Strategies – Brand Positioning Variables.

UNIT - V : BRAND EQUITY :

Concept of Brand Equity – Brand Awareness – Personality – Positioning – Enhancing Brand Equity – Brand Management – Planning – Sources Brand.

SUGGESTED BOOKS :

1. Brand Management - Gulnar sharma, Karan Singh Khundia – Himalaya PublishingHouse
2. Brand Management: Principles and Practices - Kirti Dutta - Oxford University Press.
3. Brand Management: The Indian Context - YLR Moorthi - Vikas Publishing House

BBA SEM-V (CBCS) SYLLABUS 2021-22

PAPER CODE: BB505 RETAIL MANAGEMENT

COURSE OBJECTIVE:

This course introduces the role of retailing and various formats and theories.It focuses on distribution management.

Course Outcomes:

CO1- To understand the role of retailing and concept of FDI in Indian Retailing.
CO2- To understand the theories and formats of Retail Development.
CO3- To know the meaning of Merchandising and analysing performance.
CO4- To create the awareness of Retail store designs and its significance.
CO5- To know the role of physical distribution management.

SYLLABUS:

UNIT – I : INTRODUCTION TO RETAIL MANAGEMENT :

Retailing: Role, Relevance and Trends - Introduction to retailing - Types of Retailing, Characteristics of Retailing, Functions and activities of Retailing.
Emergence and growth of Retailing in India, FDI in Indian Retailing.

UNIT – II : RETAIL FORMATS AND THEORIES :

Traditional retail formats – cooperatives and Government and Modern Retail formats in India; Emergence of Malls in India; Franchising – Types of Franchising, Advantages and disadvantages of franchising; legal issues in franchising in India.
Theories of Retail Development – Environmental theory, cyclical theory, conflict Theory and Concept of Life cycle in retail

UNIT – III : MERCHANDISE MANAGEMENT :

Meaning of Merchandising, Factors influencing Merchandising, Functions of Merchandising Manager, Merchandise planning, Merchandise buying, Analyzing Merchandise performance

UNIT – IV : RETAIL STORE DESIGN :

Store layout, significance of Store layout, types of store layout, layout selection - Chief Considerations, Need and Importance of Store Environment, Visual Merchandising, Promotions Strategy, Retail Communication Mix and POP Displays.

UNIT – V : DISTRIBUTION MANAGEMENT :

Role and functions of channels of distribution, selecting channel Members – Criteria; Motivating the Channel participants, controlling channel participant, Managing Channel Conflicts, Physical Distribution System.

SUGGESTED BOOKS :

1. Retail Marketing Management - Second Edition – David Gilbert - Pearson Education
2. Retailing Management - Swapna Pradhan – Tata Mcgraw Hill
3. Contours of Retailing Management - S.A. Chunawalla - Himalaya Publishing House
4. Retail Management - Gibson G. Vedamani – Jaico Books
5. The Art of Retailing - A. J Lamba - Tata Mcgraw Hill
6. Sales and Distribution Management - Dr. S. Gupta - Excel Books
7. Sales and Distribution Management - Panda & Sahadev - Oxford University Press

BBA SEM-V (CBCS) SYLLABUS 2021-22

PAPER CODE: BB506 CUSTOMER RELATIONSHIP MANAGEMENT

COURSE OBJECTIVE:

To know the importance of customer involvement and relations with corporations making the student know and build beneficial relations.

Course Outcomes:

CO1- To understand the concept and evolution of Customer Relationship.
CO2- TO Know the CRM concepts and its significance.
CO3- To know the steos in planning and Strategy development process in CRM.
CO4- To understand the CRM marketing innitiatives and service sectors.
CO5- TO understand the Implementation problems in CRM.

UNIT – 1 : EVOLUTION OF CUSTOMER RELATIONSHIP :

CRM – Definition, Emergence of CRM Practice, Factors responsible for CRM growth, CRM Process, framework of CRM, Benefits of CRM, Types of CRM, Scope of CRM, Customer Profitability.

UNIT – II : CRM CONCEPTS :

Customer Value, Customer Expectation, Customer Satisfaction, Customer Acquisition, Customer Retention, Customer Loyalty, Customer Lifetime Value. Customer Experience Management, Customer Profitability.

UNIT – III : PLANNING FOR CRM :

Steps in Planning – Building Customer Centricity, Setting CRM Objectives, Defining Data Requirements, Planning Desired Outputs, Relevant issues while planning the Outputs, Elements ofCRM Plan, CRM Strategy: The Strategy Development Process.

UNIT – IV : CRM AND MARKETING STRATEGY :

CRM Marketing Initiatives, Sales Force Automation, Campaign Management, Call Centers.Practice of CRM. CRM in Consumer Markets, CRM in Services Sector.

UNIT – V : CRM PROBLEMS IN IMPLEMENTATION :

Issues and Problems in Implementing CRM, Information Technology Tools in CRM, Challenges of CRM Implementation. CRM Implementation Roadmap, Road Map (RM).

SUGGESTED BOOKS :

1. Jagdish N. Sheth, Atul Parvatiyar & G Shainesh, "Customer Relationship Management",Emerging Concepts, Tools and Application", TMH
2. Francis Buttle, "CRM: Concept and Technologies", Elsevier, a division of Read Elseview IndiaPvt. Ltd.
3. Dilip Soman & Sara N – Marandi, "Managing Customer Value" Cambridge.
4. Alok Kumar Rai, "Customer Relationship Management: Concepts and Cases", PHI.
5. Ken Burnett, the Handbook of Key "Customer Relationship Management", Pearson Education.
6. Mukesh Chaturvedi, Abinav Chaturvedi, "Customer Relationship Management – An Indian Perspective", Excel Books
7. K Govind Bhat, "Customer Relationship Management", (2018), HPH.

SEMESTER-VI

BBA SEM-VI (CBCS) SYLLABUS 2021-22

COURSE- GE-2 COURSE CODE: BB601(a)
BUSINESS ANALYTICS

OBJECTIVE:
The course aims to provide an understanding of basics concepts related to Business Analytics andpractical approach using MS-EXCEL and simple programming concepts in R.

UNIT – I : INTRODUCTION TO BUSINESS ANALYTICS :
Definition, Types of Analytics-Descriptive, Predictive and Prescriptive, Business Analytics Applications in Different Areas (BA in Practice), Big Data.

UNIT – II: DESCRIPTIVE ANALYTICS 1 :
Types of Data- Population and Sample Data, Quantitative and Categorical Data, Cross-Sectional and Time Series Data, Sources of data, Descriptive Statistics- Measures of Location (central Tendency)-Mean, Median and Mode and relationship between them – Problems.

UNIT – III: DESCRIPTIVE ANALYTICS 2 :
Measures of Variability-Range, Variance, Standard deviation, Coefficient of Variation, Percentiles, Quartiles, Analyzing Distributions – Empirical Rule, Identifying Outliers, Box Plots, Measures of Association -Scatter Charts, Covariance, Correlation Coefficient – Problems.

UNIT – IV: PREDICTIVE ANALYTICS :
Trend Analysis, Regression Analysis- Least Square Method, Assessing the Fit of Simple Linear Regression, Coefficient of Determination, Introduction to Data Mining- Definition, Methods of Data Mining, Applications of Data Mining.

SUGGESTED BOOKS :

1. Camm, Cochran, Fry, Ohlmann, Anderson, Sweeney, Williams- Essentials of BusinessAnalytics, Cengage Learning.
2. James Evans, Business Analytics, Pearson, Second Edition, 2017.
3. Albright Winston, Business Analytics- Data Analysis-Data Analysis and Decision Making,Cengage Learning, Reprint 2016.
4. Sahil Raj, Business Analytics, Cengage Learning.

BBA SEM-VI (CBCS) SYLLABUS 2021-22

COURSE: PROJECT CODE- BB601(b)

PROJECT REPORT AND VIVA

Student should choose a topic based on his elective chosen in the final year and make a study andprepare a report which will be evaluated through a viva-voce.

BBA SEM-VI (CBCS) SYLLABUS 2021-22

PAPER CODE: BB604 BUYER BEHAVIOUR

COURSE OBJECTIVE:

To understand the depth concept & theories of Consumer buying BehaviourTo Focus on Learning theories

To Know the impact of culture on Buyer Behaviour

Course Outcomes :

1. Be able to identify the dynamics of human behavior and the basic factors that influence the consumers' decision process .
2. To understand the depth concept & theories of Consumer buying Behavior
3. To Know the impact of culture on Buyer Behavior.
4. To understand and evaluate the alternatives in the buying decision process.
5. To understand different models of buyer behavior and be able to demonstrate how they may be applied to marketing strategy

SYLLABUS:

UNIT – I : INTRODUCTION TO BUYER BEHAVIOUR :

Understanding basics of Buyer Behaviour, Factors effecting Buyer Behaviour, Concept and theories of motivation, Personality and Attitudes. Perception and its implications. Role of behavioural factors in framing Marketing Strategies.

UNIT – II : THEORIES OF BUYER BEHAVIOUR :

Learning principles; Concepts of conditioning, important aspects of information processing theory. Promotional tools as source of information; encoding and Information Retention, Retrieval of information.

UNIT – III : IMPACT OF CULTURE ON BUYER BEHAVIOUR :

Social and Cultural Settings: Social Class, Indian Socio – Cultural frames; Culture, elements of culture, Sub-culture and Cross culture and Cross cultural marketing practices. Family Life Cycle- Changing aspects of family size.

UNIT – IV : BUYER BEHAVIOUR DECISION :

Buyer decision making: Information Search, sources of information, evaluation of alternatives. Steps between evaluation of alternatives and purchase decision. Buyer action and disposal of products.

UNIT – V : MODELS OF BUYER BEHAVIOUR :

Basic Model of Buyer Behaviour: Generic Model of Buyer Behaviour, Howard Sheth Model, Engels Consumer Theory, Consumerism, Buyer rights – Protection of Buyer rights in India.

SUGGESTED BOOKS :

1. Schiffman and Kannik, “Consumer Behavior”, 2018, Pearson Education / PHI.
2. Dinesh Kumar Consumer Behavior Consumer Behaviour, 2014, oxford University Press

3. Gary Lilien, "Marketing Models", 2018, PHI.
4. Suja R. Nair, "Consumer Behaviour in Indian perspective", 2010, HPH.
5. Sheth and Mittal, "Consumer Behavior", 2004, Thomson Learning.
6. Stish Batra, "Consumer Behavior", 2009, Excel Books New Delhi.

BBA SEM-VI (CBCS) SYLLABUS 2021-22

PAPER CODE: BB605 ADVERTISING AND SALES PROMOTION

COURSE OBJECTIVE:

It helps the students to understand the important of advertisements for promotion of products.It focuses on media planning, personal selling and sales promotion.

Course Outcomes:

1.It helps the students to understand the importance of advertisements for promotion of products.
2. To understand Communication decision process, Types of Advertisements, Creative Approaches and Execution styles. Advertisement Appeals.
3.Identify the different range and characteristics of media evaluate the effectiveness of different media in relation to advertising
4.students will have the ability to demonstrate the theories and concepts that are central to personal selling
5.To understand different types and tools of Sales promotion and Implement the best sales management strategy for organization

SYLLABUS:

UNIT – I : INTRODUCTION :

Introduction a promotion mix, Elements of Promotion mix, types of promotion budget, promotionStrategies – Push Strategy and Pull Strategy.

UNIT – II : CREATION OF ADVERTISEMENT :

Model of mortally Communication decision process. Advertisement, Types of Advertisements.Concept of creativity. Creative Approaches and Execution styles. Advertisement Appeals – Emotion and Rational Appeals.

UNIT – III : MEDIA PLANNING :

Media planning, Types of Media, Media Vehicles, Media Concentration V/s Media Disruption.Media scheduling.

UNIT – IV : PERSONAL SELLING :

Introduction to personal selling, Role and Importance of Personal Selling, Theories of PersonalSelling. Personal Selling process. Personal Selling in Service Industry.

UNIT – V : SALES PROMOTION :

Sales Promotion – Objectives Types of Sales Promotion – Trade oriented Sales Promotion andConsumer Oriented Sales Promotion.

Consumer Sales Promotion Tools : Off – Self Offers, Price Promotions, Premium Promotions.

SUGGESTED BOOKS :

1. David Aaker, "Advertisement Management", 2018, HPH
2. Belch & Belch, "Advertising and Promotion", TMH.
3. Aaker, Kumar, "Advertising Management", PHI.
4. S.A. Chunawalla, "Advertising Management", HPH.

5. Still Rechard, Sales Management, Latest Edition, 2018, Prentice Hall

BBA SEM-VI (CBCS) SYLLABUS 2021-22

PAPER CODE: BB606 RURAL MARKETING

COURSE OBJECTIVE:

The objective of the course is to introduce rural market dynamics to the students so that they canlearn about rural behavior and factor that differs from urban market.

Course Outcomes :

CO1.To expose the learners to the issues of Rural markets ,Reforms and Development in the last few decades.

CO2.To help the students in understanding the nature ,characteristics of rural markets and consumers and their buying decision process.

CO3.To understand Product Mix Decisions and Competitive product strategies for Rural Markets.

CO4. To understand Innovative pricing methods for Rural Markets ,Appropriate Media & Designing Right Promotion Mix.

CO5.To analyze appropriate channels of distribution and to explore new approaches to reach out rural markets

SYLLABUS:

UNIT – I : RURAL ECONOMY & DEVELOPMENT :

Rural Economy – Rural – Urban disparities – policy interventions required – Rural face to Reforms – The Development in the last few decades.

UNIT – II : RURAL MARKETING & RURAL BUYING DECISION PROCESS :

Rural Marketing – Concept and Scope – Nature of Rural Markets – Attractiveness of Rural Markets – Rural Vs Urban Marketing - Characteristics of Rural Consumers – Buying Decision Process –Potential and Size of the Rural Markets.

UNIT – III : PRODUCT MIX DECISIONS :

Product Strategy – Product Mix Decisions – Decisions Involved in Product, Branding, Packaging, Product Line and Product Mix Decisions. New Product Development, Product Life Cycle,Competitive product strategies for Rural Markets.

UNIT – IV : PRICING & PROMOTION STRATEGY :

Pricing Strategy – Pricing Policies – Innovative pricing methods for Rural Markets – Promotion Strategy – Appropriate Media – Designing Right Promotion Mix – Promotional Campaigns.

UNIT – V : RURAL DISTRIBUTION :

Distribution – Problems encountered – Selection of appropriate channels – New approaches to reach out rural markets – Electronic applications. Rural Marketing Information System.

SUGGESTED BOOKS :

1. Balaam Dogra & Karminder Ghuman, Rural Marketing: Concept & Cases, Tata McGraw HillPublishing Company, New Delhi.
2. CSG Krishnamachary & Lalitha Ramakrishna, Rural Marketing, Pearson Education, Asia
3. A K Singh & S Pandey, Rural Marketing, Indian Perspective, New Age International Publishers
4. Philip Kotler, Marketing Management, Prentice –Hall India Ltd, New Delhi
5. Ruddar Dust Sundaram, Indian Economy, Tata McGraw Hill Publishers, New Delhi

SYLLABUS

B.Com (BUSINESS ANALYTICS)

(With effect from batch of students Admitted from the Academic year 2021-22 onwards under semester system of CBCS)

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16
(An Autonomous College of Osmania University)

DEPARTMENT OF COMMERCE

2021-2022

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16
(An autonomous college of Osmania University)
Re-Accredited by NAAC with "A+" Grade
Faculty of Commerce
STRUCTURE OF B.COM Course w.e.f the academic year 2021-2022

B.COM(BUSINESS ANALYTICS)PROGRAMME

FIRST YEAR

SEMESTER: I

SL.NO	CODE NO	TITLE OF THE PAPER	HPW	CREDITS	EXAM DURATION	MAX MARKS
1	ELS1	English (First Language)	4	4		
2	SLS1	Second Language	4	4		
3	**AECC1**	**a)Environmental Science/** b)Basic Computer Skills	**2**	**2**	**1 ½ hours**	**50 marks**
4	**DSC101**	**Financial Accounting-I**	**5**	**5**	**2 ½ hours**	**60 E+40 I=100**
5	**DSC102**	**Business Organization and Management**	**5**	**5**	**2 ½ hours**	**60 E+40 I=100**
6	**DSC103**	**Data driven Decision Making**	**4T+3P**	**5**	**2 ½ hours**	**60 E+40 I=100 50 Practical**
		Total	**25**	**25**		

SEMESTER:II

SL.NO	CODE NO	TITLE OF THE PAPER	HPW	CREDITS	EXAM DURATION	MAX MARKS
1	ELS2	English (First Language)	4	4		
2	SLS2	Second Language	4	4		
3	**AECC2**	**a)Basic Computer Skills/** b)Environmental Science	**2**	**2**	**1 ½ hours**	**50 marks**
4	**DSC201**	**Financial Accounting-II**	**5**	**5**	**2 ½ hours**	**60 E+40I=100**
5	**DSC202**	**Business Laws**	**5**	**5**	**2 ½ hours**	**60 E+40I=100**
6	**DSC203**	**Data Analytics Essentials**	**4T+3P**	**5**	**2 ½ hours**	**60 E+40 I=100 50 Practical**
		Total	**25**	**25**		

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16
(An Autonomous College of Osmania University)
DEPARTMENT OF COMMERCE
B.COM I YEAR (COMPUTER APPLICATIONS / TAX PROCEDURES / BUSINESS ANALYTICS)CBCS
SEMESTER – I
DSC101 - FINANCIAL ACCOUNTING - I
Applicable from the academic year 2021-22onwards

SCHEME OF INSTRUCTIONS		SCHEME OF EXAMINATION	
Hours per week	5	Max.Marks	100 Marks
credits	5	Internal Assessment	40 Marks
Instruction mode	Lecturer	External Assessment	60 Marks
Course Code	DSC101	Exam duration	2 ½ Hours

Course Objective: To acquire conceptual knowledge of basics of accounting and preparation of final accounts of sole trader.

COURSE OUTCOMES
On Successful completion of the course the student is able to:

S.No	COURSE OUTCOMES
C01	Acquire conceptual knowledge of basics of accounting.
C02	Develop the skill of recording financial transactions and preparation of reports in accordance with GAAP.
C03	Describe the role of accounting information and its limitations.
C04	Equip with the knowledge of accounting process and preparation of final accounts of sole trader.
C05	Identify and analyze the reasons for the difference between cash book and pass book balances.

UNIT-I: ACCOUNTING PROCESS: Financial Accounting: Introduction – Definition – Evolution – Functions-Advantages and Limitations –Users of Accounting Information- Branches of Accounting – Accounting Principles: Concepts and Conventions- Types of Accounts – Accounting Cycle- Journal-Ledger and Trial Balance. (Including problems) **(BTL-4)**

UNIT-II: SUBSIDIARY BOOKS: Meaning –Types - Purchases Book - Purchases Returns Book - Sales Book - - Sales Returns Book - Bills Receivable Book - Bills Payable Book – Cash Book - Single Column, Two Column, Three Column and Petty Cash Book - Journal Proper.(Including problems) **(BTL-2)**

UNIT-III: BANK RECONCILIATION STATEMENT: Meaning – Need - Reasons for differences between cash book and pass book balances – Favorable and over draft balances – Ascertainment of correct cash book balance (Amended Cash Book) - Preparation of Bank Reconciliation Statement. (Including problems) **(BTL-1)**

UNIT-IV: RECTIFICATION OF ERRORS AND DEPRECIATION: Capital and Revenue Expenditure – Capital and Revenue Receipts: Meaning and Differences - Differed Revenue Expenditure. Errors and their Rectification: Types of Errors - Suspense Account – Effect of Errors on Profit. (Theory) Depreciation (AS-6): Meaning – Causes – Difference between Depreciation, Amortization and Depletion - Objectives of providing for depreciation – Factors affecting depreciation – Accounting Treatment – Methods of depreciation: Straight Line Method - Diminishing Balance Method (Including problems) **(BTL-3)**

UNIT-V: FINAL ACCOUNTS: Final Accounts of Sole Trader: Meaning -Uses -Preparation of Manufacturing, Trading and Profit & Loss Account and Balance Sheet – Adjustments – Closing Entries.(Including problems) **(BTL-3&4)**

SUGGESTED READINGS: 1. Accountancy-I: Haneef and Mukherjee, Tata McGraw Hill Company.
2. Principles & Practice of Accounting: R.L.Gupta&V.K.Gupta, Sultan Chand.
3. Accountancy-I: S.P. Jain & K.L Narang, Kalyani Publishers.
4. Accountancy–I: Tulasian, Tata McGraw Hill Co.
5. Introduction to Accountancy: T.S.Grewal, S.Chand and Co.
6. Advanced Accountancy-I: S.N.Maheshwari&V.L.Maheswari, Vikas.
7. Fundamentals of Financial Accounting: Deepak Sehgil, Tax Mann Publication. 8. Financial Accounting: JawaharLal, Himalaya Publishing House.

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Faculty of commerce –

B.COM I YEAR (COMPUTER APPLICATIONS / TAX PROCEDURES/ BUSINESS ANALYTICS)CBCS

SEMESTER-I –**DSC101-FINANCIAL ACCOUNTING-I** (Question paper pattern)

Applicable from the academic year 2021-22

Max.Marks : 100(60E+40I) Time: 2 ½ Hrs

I. Internal Assessment:40 Marks

Written	: 20 Marks
Assignment	: 5 Marks
Seminar	: 5 Marks
MCQ's (Objective)	: 10Marks
Total	: 40 Marks

Note: Average marks of two Internal written test will be considered.

Part-A

I.	Answer any five of the following questions (5x4=20)	M	BTL
1.	Theory form Unit I		4
2.	Theory from Unit II		2
3.	Problem from Unit III		1
4.	Theory from Unit IV		3
5.	Theory from Unit V		3
6.	Problem from Unit-I		4
7.	Problem from Unit II		2
8.	Problem from Unit V		4

Part-B

		Answer the following Questions (5 X8=40)	M	BTL
9.	a.	Theory from Unit-I		4
	b.	Theory from Unit I		4
10.	a.	Theory from Unit II		2
	b.	Theory from Unit II		2
11.	a.	Theory from Unit III		1
	b.	Theory from Unit III		1
12.	a.	Theory from Unit IV		3
	b.	Theory from Unit IV		3
13.	a.	Theory from Unit V		3
	b.	Theory from Unit V		4

1)	Bloom Taxonomy Level-1	Knowledge -20%
2)	Bloom's Taxonomy Level-2 and 3	Understanding and Application – 60%
3)	Bloom's Taxonomy Level-4	Analysis and Evaluate – 20%

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B.COM I YEAR (COMPUTER APPLICATIONS / TAX PROCEDURES/ BUSINESS ANALYTICS)CBCS
SEMESTER – I
DSC102 - BUSINESS ORGANISATION AND MANAGEMENT
Applicable from the academic year 2021-22onwards

SCHEME OF INSTRUCTIONS		SCHEME OF EXAMINATION	
Hours per week	5	Max.Marks	100 Marks
credits	5	Internal Assessment	40 Marks
Instruction mode	Lecturer	External Assessment	60 Marks
Course Code	DSC102	Exam duration	2 ½ Hours

Course Objective: To acquaint the students with the basics of Commerce and Business concepts and functions, forms of Business Organization and functions of Management.

COURSE OUTCOMES

On Successful completion of the course the student is able to:

S.No	COURSE OUTCOMES
C01	Understand the scope of Business, and its importance.
C02	Describe the Social Responsibility and Ethics of Business
C03	Analyses different forms of business organizations
C04	Identify various vital documents of a company
C05	Learn various sources Industrial Financial resources &Explain the functioning of Stock Exchanges & Mutual funds.

UNIT-I: INTRODUCTION AND FORMS OF BUSINESS ORGANISATIONS: Concepts of Business, Trade, Industry and Commerce - Objectives and functions of Business –Social Responsibility of a business - Forms of Business Organization - Meaning, Characteristics, Advantages and Disadvantages of Sole Proprietorship – Meaning, Characteristics, Advantages and Disadvantages of Partnership - Kinds of Partners - Partnership Deed -Concept of Limited liability partnership – Meaning, Characteristics, Advantages and Disadvantages of Hindu Undivided Family – Meaning, Advantages and Disadvantages of Co-Operative Organization.**(BTL-4)**

UNIT-II: JOINT STOCK COMPANY: Joint Stock Company - Meaning - Definition - Characteristics - Advantages and Disadvantages - Kinds of Companies - Promotion - Stages of Promotion - Promoter - Characteristics - Kinds - Preparation of Important Documents - Memorandum of Association - Clauses - Articles of Association - Contents – Prospectus - Contents – Red herring Prospectus- Statement in lieu of Prospectus (As per Companies Act. 2013). **(BTL-2)**

UNIT-III: INTRODUCTION TO FUNCTIONS OF MANAGEMENT: Management - Meaning - Characteristics - Functions of Management - Levels of Management – Skills of Management- Scientific Management - Meaning - Definition - Objectives - Criticism – Fayol's 14 Principles of Management . **(BTL-4)**

UNIT-IV: PLANNING AND ORGANISING: Meaning - Definition - Characteristics - Types of Plans - Advantages and Disadvantages – Approaches to Planning - Management by Objectives (MBO) - Steps

in MBO - Benefits –Weaknesses—Definition of Organizing-Organization-Process of Organizing - Principles of Organization - Formal and Informal Organizations - Line, Staff Organizations - Line and Staff Conflicts - Functional Organization - Span of Management - Meaning - Determining Span - Factors influencing the Span of Supervision. **(BTL-3)**

UNIT-V: AUTHORITY, COORDINATION AND CONTROL: Meaning of Authority, Power, responsibility and accountability - Delegation of Authority - Decentralization of Authority - Definition, importance, process, and principles of Coordination techniques of Effective Coordination - Control - Meaning - Definition – Relationship between planning and control -Steps in Control – Types (post, current and pre-control) - Requirements for effective control. **(BTL-1)**

SUGGESTED READINGS:1.Business Organization & Management: Sharma Shashi K. Gupta, Kalyani Publishers 2.Business Organisation& Management: Patrick Anthony, Himalaya Publishing House 3.Business Organization & Management: Dr. Manish Gupta, PBP. 4.Organization & Management: R. D. Agarwal, McGraw Hill. 5.Modern Business Organization: S.A. Sherlekar, V.S. Sherlekar, Himalaya Publishing House 6.Business Organization & Management: C.R. Basu, Tata McGraw Hill 7.Business Organization & Management: M.C. Shukla S. Chand, 8.Business Organisation and Management: D.S. Vittal, S. Chand 9.Organizational Behaviour Text & Cases: V.S.P. Rao, Himalaya Publishing House.

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SEMESTER-I –**DSC102 - BUSINESS ORGANIZATION & MANAGEMENT** (Question paper pattern)
Applicable from the academic year 2021-22

Max.Marks : 100(60E+40I) Time: 2 ½ Hrs

I. nternal Assessment:40 Marks

Written : 20 Marks
Assignment : 5 Marks
Seminar : 5 Marks
MCQ's : 10Marks
(Objective) _____
Total : 40 Marks

_____

Note: Average marks of two Internal written test will be considered.

Part-A

I. Answer any five of the following questions (5x4m=20)		M	BTL
1.	Theory form Unit I		4
2.	Theory from Unit II		2
3.	Theory from Unit III		4
4.	Theory from Unit IV		3
5.	Theory from Unit V		1
6.	Theory from Unit-I		4
7.	Theory from Unit II		2
8.	Theory from Unit V		1

Part-B

	II. Answer the following Questions (5x8m=40)	M	BTL
9.a.	Theory from Unit-I		4
.b	Theory from Unit I		4
10.a	Theory from Unit II		2
b.	Theory from Unit II		2
11.a	Theory from Unit III		4
b.	Theory from Unit III		4
12.a.	Theory from Unit IV		3
b.	Theory from Unit IV		3
13.a.	Theory from Unit V		1
b.	Theory from Unit V		1

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B.COM I YEAR (BUSINESS ANALYTICS)CBCS
SEMESTER – I
DSC 103: DATA-DRIVEN DECISION MAKING
Applicable from the academic year 2021-22 onwards

SCHEME OF INSTRUCTIONS		SCHEME OF EXAMINATION	
Hours per week	7(4T+3P)	Max.Marks	150 Marks
credits	5	Internal Assessment	40 Marks
Instruction mode	Lecturer	External Assessment	60 Marks
		Practical Exam	50 Marks
Course Code	DSC103	Exam duration	2 ½ Hours

Course Objective: To make students to learn data-driven decision making.

COURSE OUTCOMES

On Successful completion of the course the student is able to:

S.No	COURSE OUTCOMES
C01	Understand the importance and roles of different types of data (financial, economic, accounting…etc,.)
C02	Identify and select data that should be collected.
C03	Utilize varied methodologies for collecting necessary data.
C04	Select and utilize appropriate format for presentation and/or analysis of data
C05	Data will be collected around the business case after careful evaluation of the business case in a particular domain &Culminating project.

UNIT I: DISRUPTION: Challenges: Identify hurdles to becoming a data-driven organization - Opportunities: Analyze data practices in the organization - Identify how data can benefit the organization - Distinguish how to be a proactive data practitioner. **(BTL-1)**

UNIT II: BUSINESS ANALYTICS PRE-REQUISITES: Business Analysis Principles: Identify the categories of analytical people - Distinguish and define roles and responsibilities of professionals in data analysis - Data Driven Decision Making: Identify cultural barriers - Distinguish solutions to cultural and cross-functional barriers - Identify six steps of the data-driven decision-making model. **(BTL-2)**

UNIT III: BUSINESS ANALYTICS ECOSYSTEM: Relational Databases: Nature of relational databases - Purpose of the SQL language - Key aspects of ACID - Meaning of ETL - Not Only SQL: Big data and other data storage tools - Interacting with MongoDB - Document stores and graph stores - Big Data: Key functions of big data technologies - Utility of Hadoop - Purpose of MapReduce - Statistical Tool, Machine Learning, and Data Visualization: Tools for statistical analysis - Python and R - Purpose of machine learning - Visualization tools. **(BTL-3)**

UNIT IV: DATA LIFECYCLE MANAGEMENT: Data Life Cycle: Identify the stages in the data life cycle - Data in the organization: Distinguish between ways that data enters the organization - Identify the forms data takes as it is stored and used within the organization. **(BTL-4)**

UNIT V: REQUIREMENTS GATHERING: Requirements gathering process: Analyze why requirement gathering process is critical to proper analysis - 3 V's of data: Distinguish between the ways data is consumed (the three V's of data) - Customer journey map: Understand how requirement gathering fits with the development of a customer journey map - Distinguish between the stages of the customer journey map **(BTL-1&2)**

SUGGESTED READINGS: 1. Data Analysis Fundamentals Certificate; AICPA 2. Fundamentals of Business Analytics, 2nd Edition; R N Prasad, SeemaAcharya; Wiley 3. Business Analysis with Microsoft Excel and Power BI, 5th edition; Conrad G. Carlberg; Pearson 4. Monetizing Your Data: A Guide to Turning Data into Profit-Driving Strategies and Solutions; Andrew Roman Wells, Kathy Williams Chiang; Wiley 5. AI and Analytics, Accelerating Business Decisions; Sameer Dhanrajani; Wiley 6. Data Analytics with R; BhartiMotwani; Wiley.

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B.COM I YEAR (BUSINESS ANALYTICS)CBCS

SEMESTER-I –**DSC 103: DATA-DRIVEN DECISION MAKING** (Question paper pattern)

Applicable from the academic year 2021-22

Max. Marks : 60 E+40I+50P=150 Time: 2 ½ Hrs

I Internal Assessment:40 Marks

Written	: 20 Marks	Practical Record	: 10
Assignment	: 5 Marks	Skill Test	: 30
Seminar	: 5 Marks	Viva	: 10
MCQ's (Objective)	: 10Marks	Total	50 Marks
Total	40 Marks		

Note: Average marks of two Internal written test will be considered.

Part-A

I. Answer any five of the following questions (5x4m=20)	M	BTL
1. Theory form Unit I		1
2. Theory from Unit II		2
3. Theory from Unit III		3
4. Theory from Unit IV		4
5. Theory from Unit V		1
6. Theory from Unit-I		1
7. Theory from Unit II		2
8. Theory from Unit V		4

Part-B

	II Answer the following Questions (5x8m=40)	M	BTL
9.a.	Theory from Unit-I		1
.b	Theory from Unit I		1
10.a	Theory from Unit II		2
b.	Theory from Unit II		2
11.a	Theory from Unit III		3
b.	Theory from Unit III		3
12.a.	Theory from Unit IV		4
b.	Theory from Unit IV		4
13.a.	Theory from Unit V		4
b.	Theory from Unit V		1

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B.COM I YEAR (COMPUTER APPLICATIONS /TAX PROCEDURES / BUSINESS ANALYTICS)CBCS
SEMESTER – II
DSC 201 - FINANCIAL ACCOUNTING-II
Applicable from the academic year 2021-22 onwards

SCHEME OF INSTRUCTIONS		SCHEME OF EXAMINATION	
Hours per week	5	Max.Marks	100 Marks
credits	5	Internal Assessment	40 Marks
Instruction mode	Lecturer	External Assessment	60 Marks
Course Code	DSC201	Exam duration	2 ½ Hours

Course Objective: To acquire accounting knowledge of bills of exchange and other business accounting methods.

COURSE OUTCOMES

On Successful completion of the course the student is able to:

S.No	COURSE OUTCOMES
C01	Appreciate the need for negotiable instruments and procedure of accounting for them
C02	Evaluate the concept of Consignment and learn its accounting treatment
C03	Distinguish Joint Venture and Partnership and to learn the methods of maintaining records under Joint Venture.
C04	Determine the ascertainment of profit under Single Entry system.
C05	Understand the meaning and features of Non-Profit Organizations - Prepare Receipts & Payment Account, Income & Expenditure Account and Balance sheet

UNIT-I: BILLS OF EXCHANGE: Bills of Exchange - Definition- Distinction between Promissory note and Bills of exchange Accounting treatment of Trade bills: Books of Drawer and Acceptor- Honor and Dishonor of Bills- Renewal of bills- Retiring of bills under rebate- Accommodation bills.(Including problems) **(BTL-1)**

UNIT-II: CONSIGNMENT ACCOUNTS: Consignment – Meaning – Features– Proforma invoice - Account sales – Del credere commission-Accounting treatment in the books of the consignor and the consignee - Valuation of consignment stock –Treatment of Normal and abnormal Loss - Invoice of goods at a price higher than the cost price. (Including problems) **(BTL-2)**

UNIT-III: JOINT VENTURE ACCOUNTS: Joint Venture – Meaning –Features-Difference between Joint Venture and Consignment Accounting Procedure-Methods of Keeping Records for Joint Venture Accounts-Method of Recording in co-ventures books-Separate Set of Books Method- Joint Bank Account Memorandum Joint Venture Account (Including problems) **(BTL-3)**

UNIT-IV: ACCOUNTS FROM INCOMPLETE RECORDS: Single Entry System – Meaning -Features– Difference between Single Entry and Double Entry systems -Defects in Single Entry System - Books and accounts maintained - Ascertainment of Profit - Statement of Affairs and Conversion method (Including problems) **(BTL-4)**

UNIT-V: ACCOUNTING FOR NON-PROFIT ORGANIZATIONS: Non- Profit Organization – Meaning – Features – Receipts and Payments Account – Income and Expenditure Account – Balance Sheet(Including problems) **(BTL-4&1)**

SUGGESTED READINGS: 1. Accountancy-I: Haneef and Mukherjee, Tata McGraw Hill Co.

2. Principles and Practice of Accounting: R.L. Gupta & V.K. Gupta,Sultan Chand & Sons.
3. Accountancy–I: Tulasian, Tata McGraw Hill Co.
4. Accountancy–I: S.P. Jain & K.L Narang, Kalyani.
5. Advanced Accountancy-I: S.N.Maheshwar i& V.L.Maheswari, Vikas.
6. Advanced Accountancy: M Shrinivas& K Sreelatha Reddy, Himalaya Publishers.
7. Financial Accounting: M.N Arora, Tax Mann Publications.

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SEMESTER-II –**DSC 201 - FINANCIAL ACCOUNTING-II** (Question paper pattern)

Applicable from the academic year 2021-22

Max.Marks : 100 (60E+40I) Time: 2 ½ Hrs

I. Internal Assessment:40 Marks

Written	: 20 Marks
Assignment	: 5 Marks
Seminar	: 5 Marks
MCQ's (Objective)	: 10Marks
Total	: 40 Marks

Note: Average marks of two Internal written test will be considered.

Part-A

I. Answer any five of the following questions (5x4m=20)		M	BTL
1.	Theory form Unit I		1
2	Theory from Unit II		2
3.	Problem from Unit III		3
4.	Theory from Unit IV		4
5.	Theory from Unit V		4
6.	Problem from Unit-I		1
7.	Problem from Unit II		2
8.	Problem from Unit V		1

Part-B

	II Answer the following Questions (5x8m=40)	M	BTL
9.a.	Problem from Unit-I		1
.b	Theory from Unit I		1
10.a	Problem from Unit II		2
b.	Problem from Unit II		2
11.a	Problem from Unit III		3
b.	Theory from Unit III		3
12.a.	Problem from Unit IV		4
b.	Problem from Unit IV		4
13.a.	Problem from Unit V		4
b.	Problem from Unit V		1

1)	Bloom Taxonomy Level-1	Knowledge -20%
2)	Bloom's Taxonomy Level-2 and 3	Understanding and Application – 60%
3)	Bloom's Taxonomy Level-4	Analysis and Evaluate – 20%

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SEMESTER – II
DSC 202 - BUSINESS LAWS
Applicable from the academic year 2021-22 onwards

SCHEME OF INSTRUCTIONS		SCHEME OF EXAMINATION	
Hours per week	5	Max.Marks	100 Marks
credits	5	Internal Assessment	40 Marks
Instruction mode	Lecturer	External Assessment	60 Marks
Course Code	DSC 202	Exam duration	2 ½ Hours

Course Objective: To understand basics of contract act, sales of goods act, IPRs and legal provisions applicable for establishment, management and winding up of companies in India.

COURSE OUTCOMES

On Successful completion of the course the student is able to:

S.No	COURSE OUTCOMES
C01	Demonstrate, understand and communicate all the Legal Terminology of Business.
C02	Understanding Development of Business Law in India.
C03	Outline Essentials of a valid Contract and agreements expressly declared to be void.
C04	Wagering Agreements from Contingent contracts and classify different modes of Discharge.
C05	Acquire knowledge about Sale of Goods Act 1930 and Consumer Protection Act 1986. Intellectuals Property Rights , Information Technology Act & Environmental Protection Act.

UNIT–I: INDIAN CONTRACT ACT: Agreement and contract - Essentials of a valid contract - Types of contracts - Offer and Acceptance - Essentials of valid offer and acceptance - Communication and revocation of offer and acceptance – Consideration definition - Essentials of valid consideration - Modes of Discharge of a contract - Performance of Contracts - Breach of Contract - Remedies for Breach - Significance of Information Technology Act. **(BTL-1)**

UNIT–II: SALE OF GOODS ACT AND CONSUMER PROTECTION ACT: Contract of Sale: Essentials of Valid Sale - Sale and Agreement to Sell – Definition and Types of Goods - Conditions and Warranties - Caveat Emptor - Exceptions - - Unpaid Seller - Rights of Unpaid Seller. Consumer Protection Act 1986: Definitions of Consumer – Person – Goods - Service -Consumer Dispute - Consumer Protection Councils - Consumer Dispute Redressal Agencies - Appeals. **(BTL-3)**

UNIT–III: INTELLECTUAL PROPERTY RIGHTS: Trade Marks: Definition - Registration of Trade Marks - Patents: Definition - Kinds of Patents - Transfer of the Patent Rights - Rights of the Patentee - Copy Rights: Definition -- Rights of the Copyright Owner - Terms of Copy Right - Copy Rights Infringement - Other Intellectual Property Rights: Trade Secrets - Geographical Indications. **(BTL-2)**

UNIT–IV: MANAGEMENT OF COMPANIES AND MEETINGS: Director: Qualification - Disqualification - Position - Appointment - Removal – Duties and Liabilities – Loans – Remuneration – Managing Director – Corporate Social Responsibility – Corporate Governance. Meeting: Meaning – Requisites - Notice – Proxy - Agenda – Quorum – Resolutions – Minutes – Kinds – Shareholder Meetings - Statutory Meeting - Annual General Body Meeting – Extraordinary General Body Meeting – Board Meetings. **(BTL-4)**

UNIT–V: WINDING UP: Meaning – Modes of Winding Up –Winding Up by tribunal – Voluntary Winding Up – Compulsory Winding Up – Consequences of Winding Up – Removal of name of the company from Registrar of Companies – Insolvency and Bankruptcy code - 2016. **(BTL- 4&1)**

SUGGESTED READINGS: 1) Company Law: ND Kapoor, Sultan Chand and Co.
2) Company Law: Rajashree. – HPH
3) Business Law - Kavitha Krishna, Himalaya Publishing House
4) Business Laws – Dr. B. K. Hussain, Nagalakshmi – PBP
5) Company Law: Prof. G. Krishna Murthy, G. Kavitha, PBP
6) Company Law and Practice: GK Kapoor& Sanjay Dhamija, Taxmann Publication.
7) Company Law: Revised as per Companies Act- 2013: KC Garg et al, Kalyani Publication.
8) Corporate Law: PPS Gogna, S Chand.
9) Business Law: D.S. Vital, S Chand 10) Company Law: Bagrial AK, Vikas Publishing House.

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B.COM I YEAR (COMPUTER APPLICATIONS /TAX PROCEDURES / BUSINESS ANALYTICS)CBCS

SEMESTER-II **DSC 202-–BUSINESS LAW** (Question paper pattern)

Applicable from the academic year 2021-22

Max.Marks :100(60E+40I) Time: 2 ½ Hrs

I. Internal Assessment:40 Marks

Written	: 20 Marks
Assignment	: 5 Marks
Seminar	: 5 Marks
MCQ's (Objective)	: 10Marks
Total	: 40 Marks

Note: Average marks of two Internal written test will be considered.

Part-A

	I. Answer any five of the following questions (5x4m=20)	M	BTL
1.	Theory form Unit I		1
2.	Theory from Unit II		3
3.	Theory from Unit III		2
4.	Theory from Unit IV		4
5.	Theory from Unit V		1
6.	Theory form Unit I		1
7.	Theory form Unit II		3
8.	Theory from Unit V		4

Part-B

	II Answer the following Questions (5x8m=40)	M	BTL
9.a.	Theory form Unit I		1
.b	Theory form Unit I		1
10.a	Theory from Unit II		3
b.	Theory from Unit II		3
11.a	Theory from Unit III		2
b.	Theory from Unit III		2
12.a.	Theory from Unit IV		4
b.	Theory from Unit IV		4
13.a.	Theory from Unit V		4
b.	Theory from Unit V		1

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B.COM I YEAR (BUSINESS ANALYTICS)CBCS
SEMESTER – II
DSC 203 - DATA ANALYTICS ESSENTIALS
Applicable from the academic year 2021-22 onwards

SCHEME OF INSTRUCTIONS		SCHEME OF EXAMINATION	
Hours per week	7(4T+3P)	Max.Marks	150 Marks
credits	5	Internal Assessment	40 Marks
Instruction mode	Lecturer	External Assessment	60 Marks
		Practical Exam	50 Marks
Course Code	DSC203	Exam duration	2 ½ Hours

Course Objective: To make students to learn Essentials of data Analytics.

COURSE OUTCOMES

On Successful completion of the course the student is able to:

S.No	COURSE OUTCOMES
C01	A database with the data collected in the above step will be created using SQL.
C02	Connect the tools Tableau/python/R to the database and extraction of data. Creation of intuitive reports as per the needs of the business.
C03	Building the dashboard using Tableau/power BI
C04	SAS (self paced)
C05	R programming fundamentals.
C06	Python programming fundamentals.

UNIT I: VARIABLES FOR DATA ANALYTICS: Types of Variables: Determine the nature of variables in data analysis - Differentiate between numerical and categorical. Variables - Distinguish between nominal and ordinal variables - Differentiate between interval and ratio - Distinguish between continuous and discrete. **(BTL-1)**

UNIT II: ESSENTIAL STATISTICS DATA ANALYTICS: Central Tendency of Data: Identify the components of central tendency - Calculate mean/median/mode - Identify the steps in calculating weighted/geometric/harmonic means - Measurement and Variability: Determine core aspects of measurement and variability - Calculate range - Calculate quartiles - Calculate interquartile range - Calculate variance - Calculate standard deviation - Analyze permutation with repetition - Analyze combinations without repetition. **(BTL-2)**

UNIT III: PROBABILITY FOR DATA ANALYTICS : Basic Probability: Uses of probability - Differentiate between sample space, event, independent and dependent - Calculate probability - Probability and Ven Diagramming: Analyze “this” OR “that” diagram - Analyze “this” AND “that” diagram - Analyze exclusive diagram - Joint probability - Conditional probability - Calculating Probability: Calculate P using a contingency table - Calculate P from trees - Calculate Bayes’ theorem - Calculate the mean in terms of probabilities - Calculate the variance and standard deviation in terms of probabilities - Calculate conditional probability. **(BTL-3)**

UNIT IV: DISTRIBUTIONS: Distributions: Analyze distributions - Discrete distributions - Binomial distributions - Poisson distributions - Continuous Distributions: Identify continuous distributions - Calculate continuous distributions - Identify cumulative distributions - Identify normal distributions - Calculate normal distributions - Compare quartiles and normal distributions - Identify skew. **(BTL-4)**

UNIT V: CASE STUDIES USING R: Statistics in R Case Study: Apply Vectors in R - Use Data Frames in R - Use data from an external file in R - Apply mean/median/standard deviation in R - Distributions in R Case Study: Use Normal distribution function in R - Use Poisson distribution function in R - Apply Scatter plot in R - Apply Histogram in R - Apply Box Plot in R - Fraud Detection Case Study: Apply scripts in R - Create reusable, user defined function in R - Use Bayes' Theorem in R - Choose a function flexible to allow for different input parameters . **(BTL-1&4)**

SUGGESTED READING: 1. Application of Data Analysis Essentials Certificate; AICPA

2. Fundamentals of Business Analytics, 2nd Edition; R N Prasad, Seema Acharya; Wiley
3. Business Analysis with Microsoft Excel and Power BI, 5th edition; Conrad G. Carlberg; Pearson
4. Data Analytics with R; Bharti Motwani; Wiley.

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYD-16
(An autonomous college of Osmania University)
Re-Accredited by NAAC with "A+" Grade
Faculty of commerce

B.COM I YEAR (BUSINESS ANALYTICS)CBCS

SEMESTER-II –**DSC 203 - DATA ANALYTICS ESSENTIALS** (Question paper pattern)

Applicable from the academic year 2021-22

Max. Marks : 60 E+40I+50P=150 Time: 2 ½ Hrs

I. Internal Assessment:40 Marks

Written	: 20 Marks	Practical Record	: 10
Assignment	: 5 Marks	Skill Test	: 30
Seminar	: 5 Marks	Viva	: 10
MCQ's (Objective)	: 10Marks	Total	:50 Marks
Total	: 40 Marks		

Note: Average marks of two Internal written test will be considered.

Part-A

I. Answer any five of the following questions (5x4m=20)		M	BTL
1.	Theory form Unit I		1
2.	Theory from Unit II		2
3.	Theory from Unit III		3
4.	Theory from Unit IV		4
5.	Theory from Unit V		1
6.	Theory from Unit-I		1
7.	Theory from Unit II		2
8.	Theory from Unit V		4

Part-B

	II Answer the following Questions (5x8m=40)	M	BTL
9.a.	Theory from Unit-I		1
.b	Theory from Unit-I		1
10.a	Theory from Unit II		2
b.	Theory from Unit II		2
11.a	Theory from Unit III		3
b.	Theory from Unit III		3
12.a.	Theory from Unit IV		4
b.	Theory from Unit IV		4
13.a.	Theory from Unit V		4
b.	Theory from Unit V		1

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET (AUTONOMOUS)

Syllabus for the
B.A. (Honours) Political Science Course

Curriculum and Syllabus Template for B.A. (Hons) PoliticalScience (Draft)

Year	Semester	Courses	Title	Credits	Total
First Year	I	Core-1	Political Theory and Concepts	5	23
		Core-2	Indian Constitution and Political Institutions	5	
		Core-3	Public Administration -Theories and Concepts	5	
		Core-4	Political Institutions and their History	5	
		AECC-1	Communicative English	2	
		Seminar-1		1	
	II	Core-5	Political Realm-Historical Developments	5	26
		Core-6	Indian Political Process	5	
		Core-7	Modern Political Analysis	5	
		GE-1	Social Structure of Indian Society	4	
		AECC-2	Environmental Studies	2	
		Seminar-2		4	
		Internship-1		4	
Second Year	III	Core-8	Western Political Thought-I	5	24
		Core-9	International Relations-I	5	
		Core-10	Comparative Government and Politics	5	
		DSC-1	(A) Political Ideologies (B) Political Parties in India	4	
		GE-2	Indian Economy (Economics)	4	
		Seminar-3		1	
	IV	Core-11	Western Political Thought-II	5	28
		Core-12	International Relations-II	5	
		Core-13	State Politics in India	5	
		DSE-2	(A) Security Studies (B) Human Rights	4	
		GE-3	e-Governance (Public Adm)	4	
		Seminar-4		1	
		Internship-2		4	
Third Year	V	Core-14	Contemporary Political Thought	5	23
		Core-15	Public Policy Analysis	5	
		DSE-3	(A) Feminist Politics (B) International Organisations	4	
		DSE-4	(A) Political Economy of Globalisation (B) Federal Politics in India	4	
		GE-4	Media and Politics (Journalism)	4	
		Seminar-5		1	
	VI	Core-16	Indian Political Thought and Movements	5	26
		Core-17	Research Methods in Political Science	5	
		DSE-5	(A) Indian Foreign Policy (B) Development and Displacement	4	
		Project	Dissertation	8	
		GE-5	Reporting Politics (Journalism)	4	
			TOTAL	150	150

GE: Generic Elective, AECC- Compulsory Courses, DSC: Discipline Specific Course: DSE: Discipline Specific Elective

THE RATIONALE BEHIND THE INTRODUCTION OF A B.A HONS COURSE IN POLITICAL SCIENCE

The TSCHE and Osmania University have decided to launch a B.A Hons. course in Political science. While at one time social sciences and the B.A degree did not command the same respect that courses in sciences did, today the situation is completely different. Some social science courses have been witnessing a greater demand than the science courses.

However, the demand for B.A social sciences courses has been quite low in the state of Telangana as well as in the city of Hyderabad. This lack of penetration of B.A courses has a litany of reasons behind it. The prime reason is that there has been very little innovation in the curriculum framework in the B.A social sciences courses. Very little has changed over a long period of time, and this is reflected in the second reason which is lack of upgradation in the syllabi of various social sciences courses. Another reason behind the poor patronage for these courses is the lack of a proper and dedicated faculty to teach these courses.

Yet another reason why social sciences and B.A do not have sufficient takers in the perception that these are inferior courses that do not require intelligence to pursue them. One can say that B.A and social science courses are stigmatized in a manner of speaking. Another extremely important reason is that in some cases, there is a lack of proper awareness about the potential of the social sciences, especially political science and economics to get career opportunities. In a vast majority of cases, there is a total lack of awareness about the potential of political science and economics in finding jobs.

In a paradoxical situation, there are a large number of civil service aspirants, both at the central and state level, but these very aspirants have little awareness about how the study of political science to a greater extent and the study of economics to lesser extent is now mandatory to do well and succeed in these civil service examinations.

Added to this is the structural problem of the B.A program. Presently, the B.A program requires students to opt for three subjects in a pre-set combination and this limits how much a student can learn about each of these three subjects. If one takes into consideration the change made in the pattern of the UPSC examination a few years ago, instead of one general studies paper, there are now two general studies papers. The second general studies paper requires the aspirants to have an in-depth knowledge of political theory, Indian government and politics, international relations and public policy apart from some aspects of economics as well.

The present structure limits how much of political science can be pursued as also the depth of what one learns. Given the fact that among the UPSC exams, political science occupies the most prominent place, it is an urgent requirement that a B.A Hons course be introduced by the Osmania University immediately. The introduction of an Honours course will ensure that those who seek to do well in the UPSC, and other competitive exams can be given an education in political science which is not compromised and is sufficiently deep and gives an edge to those who pursue this course.

Students pursuing the B.A Hons political science course will not only benefit in the UPSC and other competitive exams but also will be very well equipped to deal with their career by pursuing job-

oriented masters programs such as public policy (which is now all the range in many universities in the country) as well as programs in international studies which also serve as a catchment for several different types of jobs including those in various different consulates and embassies.

Jobs in rural development and governance at various levels are also available in plenty for those who are equipped with the necessary knowledge and skills and the foundation for these can be laid by the B.A Hons program in political science.

It must also be pointed out that most Honours courses at the undergraduate level are presently being offered mainly in Delhi and Kolkata and sporadically in other parts of north and east India. However, the coming of private universities, especially in the north, has increased the number of B.A Hons programs. The private universities offer them at a very high cost. In the southern part of the country, there is hardly any university, except for some newly emerging private universities, that offer Hons programs at the under graduate level. The Osmania University, with a proud history of over a hundred years, with recognition nationally and internationally, taking the lead in offering Hons programs in B.A would be yet another feather in its cap since it will be the first public university to offer these programs at a cost which is affordable by all sections of the society.

This would be in tune with the goal of the right to education and equality as envisaged in our constitution.

To sum up, it can be said that the B.A Hons program in political science will be of great help and use to students by opening doors and opportunities that most students of a regular B.A are not even aware of as of today.

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SEMESTER-I

Core-I: Political Theory and Concepts

Course Objective: Political Theory is often a misunderstood phrase with quite a few people equating it with some of the concepts and even institutions that go into the making of the subject called Political Science. While it is indeed necessary to understand concepts and institutions and their functioning it should be kept in mind all the time that Political Theory deals with ideas that have emerged in different periods and how some of them have disappeared forever while others have persisted through time. This persistence is not one dimensional; it is something that shows breaks and regenerations of certain ideas while also showing continuities in the same ideas. In other instances, it is something that shows the continuous existence of an idea through time but explores how the core of the seemingly continuous idea has undergone mutation. This particular phenomenon is called "sublation" a word coined in the English language to express what the German term "aufheben" conveyed. What needs to be understood in the very first semester is that Political Theory generates political ideas and these drive politics. From Political Theory to politics is the Greek "praxis" which sought to emphasize the coming together of theory and practice. This paper explores those important concepts and theories that have been adopted by the world and it tries to explain how these theories and concepts have come into existence. Historicity pervades through the discussion on the elements of this paper.

Unit – I: The emergence of the Political in Ancient Greece (15 Lectures)

A. The Sophists and Socrates
B. Plato's and Aristotle' ideas such as "*politeia*" and "*eudaimonia*"

Unit – II: The disappearance of the words politics and political for a few centuries (15 Lectures)

A. The fall of Greece and the rise of Rome as a *ResPublica* and as an Empire
B. The overwhelming domination and *subsumption* of every institution by the Church

Unit – III: The changes brought about in the meanings of Greek Political Concepts and theories (25 Lectures)

A. The early changes brought about by the Romans while translating from the Greek language to Latin due to the absence of corresponding institutions in Rome
B. Deliberate change of meanings by thinkers such as Machiavelli and Locke to serve their interests in creating a new politics and political institutions such the introduction of politics in the modern era and use of Civil Society and Democracy to suit Locke's purpose.

Unit – IV: Revolutions that rocked Europe and brought out immutable change (15 Lectures)

A. The Renaissance and its content
B. The Reformation and its discontent

Unit – V: Understanding different Revolutions (20 Lectures)

A. The Glorious Revolution and its consequences
B. The American Revolution and the type of governance it generated
C. The French Revolution and its connection to democracy

In lieu of Understanding Political Theory in Semester one

Core-II: Indian Constitution and Political Institutions

Background

For the democratic functioning of the post independent political system the constitution of India has been drafted. The constitution of India has been providing legal guarantees to the citizens in the form of fundamental rights and Directive principles of the state policy. Towards the achieving the basic principles of Indian constitution such as Equality, Liberty, Fraternity, Social Justice etc., The makers of the constitution designed institutions such as legislature, Executive and Judiciary. Therefore, the students of the course on Indian Constitutions and Political Institutions are expected to acquire in-depth knowledge and ability to form the ideas and institutions of the Indian constitution. The course is designed with the following objectives.

Objectives

- To acquire knowledge about the historical evolution and basic structure of the Indian constitution
- To familiarize the institutions, which are designed for the political and administrative purpose
- To highlight the structure and formation of the government at national, state and local levels

CONTENTS

UNIT I: Nationalist Movement and Constitutional Development (15 Lectures)

Impact of Colonial Rule and Indian National Movement.

Making of the Indian Constitution.

Philosophical Foundations and Salient Features of the Indian Constitution.

UNITII: Fundamental Rights and Directive Principles (15 Lectures)

Fundamental Rights and Duties.

Directive Principles of State Policy.

Relationship between Fundamental Rights and Directive Principles of State Policy.

UNIT III: Union Government (15 Lectures)

President: Election; Powers and Functions.

Parliament: Composition; Powers and Functions.

Prime Minister and Council of Ministers.

Supreme Court: Composition; Powers and Functions

Judicial Review; Judicial Activism.

UNIT IV: State Government (15 Lectures)

Governor.

Chief Minister and Council of Ministers.

Legislature.

High Court: Composition; Powers and Functions.

UNIT V: Union - State Relations (15 Lectures)

Features of Indian Federal System.

Centre - State Relations.

Recent Trends in Centre-State Relations.

UNIT VI: Local Self Government: Democratic Decentralisation. (15 Lectures)

Panchayati Raj Institutions: 73rd Constitutional Amendment.

Urban Self-Governing Bodies: 74th Constitutional Amendment.

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Ramachandran, R. (2000). The supreme court and the basic structure doctrine. *Supreme but not Infallible: Essays in Honour of the Supreme Court of*, *1*(2), 3.

Rudolph, L. I., & Rudolph, S. H. (2008). *Explaining Indian Democracy: A Fifty Year Perspective, 1956-2006: Volume II: The Realm of Institutions: State Formation and Institutional Change*. OUP India.

Shankar, B. L., & Rodrigues, V. (2014). *The Indian parliament: A democracy at work*. Oxford University Press.

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Core-III: Public AdministrationTheories and Concepts

Course Objectives: Public Administration as a rubric has been a part of mainstream Political Science despite its origins being in the world of industry especially those that had a production line. There was a division of employees into line and staff and the word public was essentially used to denote the line workers who were daily wage employees. This idea of public administration and that of the public did not stand scrutiny of time and the formation of unions of workers led to the politicization of the concept of Public Administration. Slowly, the involvement of governments in the settling of disputes brought it firmly into the domain of politics. This was the beginning of public administration being studied as a part of Political Science in various Universities first in Europe and later in American Universities as well. This inclusion of Public Administration in Political Science led to the transformation of Political Science into a policy science. In the present period in some universities Public Administration and Public Policy are studied as a part of the departments of management. However, Public Administration and later Public Policy are primarily considered to be an integral part of Public Administration. The study of this course will enable students to not only understand the political aspects of the administrative process especially the functioning of the bureaucracy.

The students will also derive an understating of not just of political aspects but also of concerns of management studies and this opens new vistas in the minds of students in understanding the functioning of institutions which are a political interface between the public and administrators.

Unit-I: Introduction (20 Lectures)

A. Meaning, nature, Scope and Importance of Public Administration
B. Evolution of state and Public Administration
C. Politics of administration Dichotomy- views of Woodrow Willson and F.J.Goodnow

Unit-II: Theories and Approaches (20 Lectures)

A. Classical theory –Henry Fayol, Gntiekar Urwick
B. Scientific Management –F.W.Taylor
C. Bureaucratic theory-Max Weber

Unit-III: Theories and Approaches (20 Lectures)

A. Human Relations Approach- Elton Mayo
B. Behavioural Approach – Chester Barnard and Herbart Simon
C. Socio-psychological Approach- Abraham Maslow and Fredrick Herzberg

Unit-IV: Concepts and Principals (15 Lectures)

A. Division of Work, Hierarchy, Coordination, unity of Commandand Span of Control
B. Centralization and decentralization, delegation, line and Staff Agencies.
C. Leadership, Supervision and Communication

Unit-V: Emerging Trends (15 Lectures)

A. Public Administration and Public policy
B. New Public Management
C. Concept of Governance

Suggested Readings:

- D.Ravindra Prasad and Y. Pardhasaradhi (eds.,), Public Administration: Concepts, Theories and Principles (Eng),TeluguAkademi, Hyd, 2011.
- R.K.Sapru, Administrative Theories and Management Thought (Third Edition), PHI, New Delhi, 2014.
- Avasthi, Amareswar and Maheswari Sri Ram: Public Administration (30th Edition),LakshminarayanAggarwal,Agra , 2010.
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Core-IV: Political Institutions and their histories

This paper deals with the emergence of Political Institutions and the causes of their origin and causes of persistence. It tries to understand the history behind the emergence and persistence and the mutations that have taken place in between. This paper looks at some of the most fundamental institutions that have come into being for a certain reason but are continuing for reasons that are far removed from why they came into being. This paper examines the history behind some of the most seminal institutions and practices. Starting with idea of democracy and the institutions that support its functioning this paper goes on to also look at some of the most valid criticisms that are levelled at democracy as it is practiced today.

Unit – I: Democracy (15 Lectures)

A. Its origins in Greece and what it meant for them
B. The adoption of limited democracy at the beginning of the modern period after reviving it in the early Modern Period

Unit – II: Parliament (15 Lectures)

A. The reasons for the birth of the first ever Parliament in Britain in 1066 CE
B. Understanding why it became a Bicameral Institution in 1341 CE
C. Was democracy present during the birth and continuation of the institution?

Unit – III: Executive (15 Lectures)

A. The creation of a Council of Ministers and the reason behind it
B. The reasons for the creation of the Prime Minister and a Cabinet within the Council of Ministers

Unit – IV: Judiciary (15 Lectures)

A. The House of the Lords and the Star Chamber as the highest judicial entity
B. Creation of Common Law and the appointment of Magistrates

Unit – V: The Theory of Separation of Powers (15 Lectures)

A. Baron de Montesquieu and his misunderstanding of the British system and propounding the theory of Separation of Power
B. The Americans and their drawing of inspiration from the Ancient Rome and implementation of the theory of Montesquieu's

(In place of computer Applications Paper – I in semester One)

Semester-II

Core-V: Political Realm-Historical Developments

Course Objective: There have been some important upheavals in European Society that made changes to the very nature of European Society. These have not only changed the way in which European Society functioned but also paved the way for global domination by the Europeans so much so that European knowledge systems, institutions of governance are the de jure systems and institutions that have pervaded the entire world with the exception of none. That is what makes the study of these upheavals a necessity for all students of Political Science. In fact, the emergence of Political Science as a science has something to do with these upheavals.

Unit – I: The rise of the early Scientific Method (15 Lectures)

A. The rise of the institution called the University
B. The Resolutive-Compositive Method which was used by the Paduans

Unit – II: The rise of rational knowledge and inventions (20 Lectures)

A. The use of mathematics by likes of Copernicus and Kepler to prove the Helio-Centric theory of the Universe
B. Galileo and his invention of the telescope rand his cannon ball experiments to understand gravity
C. The emergence of Newtonian physics
D. The idea of the Natural Sciences taking root

Unit – III: The Emergence of Natural Sciences and their impact on society (15 Lectures)

A. Demystification of Natural phenomena and understanding nature better
B. The rise of a desire to understand society scientifically for a better understanding of human society and existence.

Unit – IV: The Rise of Positivism and Empiricism (20 Lectures)

A. Auguste Comte and his desire and attempt at creating Social Sciences that mirror the success of the Natural Sciences.
B. Fact – Value Dichotomy, objectivity, and the concentration on facts for certain knowledge and elimination of value based disciplines.

Unit – V: The Hermeneutic Method or the Method of Interpretation (20 Lectures)

A. Methodological Hermeneutics of Wilhelm Dilthey
B. Philosophical Hermeneutics of Hans Gadamer
C. The replacement of objectivity in knowledge with Inter-Subjectivity

In lieu of Political Theory – Debates in Semester Two

Core-VI: INDIAN POLITICAL PROCESS

Background

In the process of functioning of the Indian Democracy, series of critical issues and trends have been emerging. To understand the emerging issues and trends, with specific reference to basic structure, principles, and the institutions of the Constitution. The issues and trends have been emerging in the context of multi-party electoral fray. Broadly, the critical issues include religion, caste and Money in the Electoral process, representation to various social groups. To understand the multiples issues of the political process of the India, the present course is being introduced with the following objectives.

Objectives

- To sensitize about the political process in the post independent India
- To identify the critical issues in the political process of India
- To bring out the historical origin and genesis of the social and civil society movements and
- To highlight the response of the Indian stat, to the emerging critical issues

CONTENTS

Unit 1: Political Parties and the Party System (15 Lectures)

National Parties and State Parties; Trends in the Party System: From the Congress System to Multi-Party Coalitions

Unit 2: Elections and Electoral Processes (15 Lectures)

Electoral process, representation, social determinants of voting behaviour and role of money; Election Commission and Electoral Reforms

Unit 3: Religion and Politics (15 Lectures)

Debates on Secularism and Communalism

Unit 4: Caste in Indian Politics (15 Lectures)

Caste in Politics and the Politicisation of Caste; Intersectionality of Caste, Class and Gender, Reservation and affirmative action policies

Unit 5: Rise of Social and Civil society Movements (15 Lectures**)**

Tribal, Dalit, Backward Classes, Naxalite, Peasant, Anti-corruption movements

Unit 6: **The Changing Nature of the Indian State (15 Lectures)**

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Core-VII: Modern Political Analysis

Course Background: While there has always been a Political Theory or Political Philosophy which was the touchstone for understanding politics, the Positivist and Empiricist revolutions brought about new ways of looking at the world and also at politics. Of the two it is Empiricism that has generated many different changes in the perspectives of how to understand politics. One of the significant changes is the study of politics logically and scientifically while a more fundamental change has been the movement away from theories that were considered normative and therefore studying the main subject of politics in the modern era – the individual. While this produced some results it was felt that studying the individual in the context of institutions would yield better and more certain results. While there have been failures there has been an attempt to understand the causes behind the failures and rectify them to yield better results. This paper studies those trends and tries to generate an understanding of the purpose behind these studies.

Unit – I: Logical Positivism (15 Lectures)

A. Moritz Schlick
B. Otto Neurath
C. Rudolph Carnap

Unit – II: Behaviourism (10 Lectures)

A. The study of the behaviour in order to understand him better.
B. The basis of this is Freudian Psycho-Analysis and Psychology
C. The problem that behaviourism faced in form of hyper factuality

Unit – III: Behaviouralism(15 Lectures)

A. Started as an attempt to overcome the problems of behaviourism and studying human behaviour in the political context
B. Political Science acquiring the stature of a policy science
C. Post-Behaviouralism and Post-Positivism and the furtherance of the study of public policy

Unit – IV: The emergence of the idea of a system and studying the individual in its context

(10 Lectures)

A. Structural-Functionalism of Gabriel Almond
B. Systems Analysis of David Easton
C. Use of the Idea of system in understanding International Relations by Immanuel Wallerstein and Morton Kaplan

Unit – V: The Concept of Power (10 Lectures)

A. The difference between power and authority including in International Relations
B. Robert Dahl and his concept of power
C. Seymour Lipset and his idea of Political Man

(This paper in lieu of Computer Sciences – II in second SemesterSEM-III)

GE-I: Social Structure of Indian Society

Back Ground: Sociology along with psychology is one of the new disciplines that constitute the social sciences. The Gulbenkian committee report submitted under the chairmanship of Immanuel Wallerstein made a case for the widening after scope of social sciences and including inter disciplinary education in the new expanded courses that should launched by Universities all over the world. The substance of the argument of the committee is that there is a tendency to create a hierarchy among the social sciences and that this should be overcome and through the introduction of recently developed disciplines a more comprehensive and well-rounded education should be provided starting from under graduate courses itself. Special mention was made of sociology, anthropology in its myriad forms and psychology and even psychiatry as a social science had to be made so that there no loopholes in social science education.

Course Objective: Keeping these recommendation in view the BA (Honours) course in political science has been developed in a completely interdisciplinary manner and it is here that sociological dimensions of the discipline of sociology and the structures of society in India which impinge on the political realm of activity has been included for study by the students. The main aim of this particular course is to introduce young students to the complexity of the traditional Indian society. In the mayhem of everyday life many young people do not have a proper historical understanding of how social institutions and practices privilege some, while disadvantaging others and they are unaware of the duration of time these discriminatory structures and practices have persisted. This course will mainly sensitize those who have not been socialized in understanding the humiliation and the discrimination that large number of Indian people face on a daily basis. To summarize it is about the exclusion of populations from social goods at a time when theories of inclusion are talked about as banalities.

Unit-I: Introduction to the Sociology **(15 Lectures)**

A. Meaning nature and scope of the Sociology
B. Sociology as a Science; Sociology and other
C. Social sciences (Anthropology, Psychology, Economics, Political Science, History); Sociology.

Unit-II: Basic Concepts **(15 Lectures)**

A. Social Action and Social Relationship; Social Group, Community and Association; Society and Social Structure; Social Organization and Social System;
B. Social Institution: Family, Education, State and Religion.

Unit-III: Origin and Social Structures **(15 Lectures)**

A. Social structure of Indus Valley Civilization:
B. Vedic Society: Varnadharma, Purushasuktha
C. Jain and Buddhist Social System: Unique features- functions

Unit-IV: Social Stratification **(15 Lectures)**

A. Meaning, Forms and Bases; Social Mobility: Meaning,
B. Social Change: Meaning, and Nature; Types of change and Factors contributing to change
C. Social Movements: Meaning and Types- New Social Movements.

Suggested Readings:

- Berger, P. 1963. An Invitation to Sociology: A Humanistic Perspective, Bantam: Doubleday Dell Publication
- Bottomore, T. B. 1973. Sociology: A Guide to Problems and Literature, Bombay: George Allen & Unwin (Hindi translation available)
- Davis, Kingsley. 1973.Human Society, New York; Macmillan (Hindi translation available)
- Giddens, Anthony et.al. 2009. Introduction to Sociology,London: Polity Press (Hindi translation available)
- Haralambos, M. & M. Holborn. 2008. Sociology: Themes and Perspective, New York: Collins Educational
- Inkles, Alex. 1987. What is Sociology, New Delhi:Prentice-Hall (India)
- Johnson, H. M. 1961. Introduction to Sociology, New Delhi: Allied Publishers (Hindi translation available)
- Mills, C.W. 1959. The Sociological Imagination, London: Oxford University Press
- Schaefer, R. T. and Robert P. Lamm. 1999. Sociology, New Delhi: Tata McGraw Hill

AECC-II:Environmental Studies

The last few decades of the 20th Century and the beginning of the 21st Century have shown a great concern towards the degradation of the Environment. It started as issues such as the hole in the Ozone layer and the banning of chlorofluorocarbons. Vehicular pollution, industrial pollution and all other forms of pollution have been seen as leading to diseases among children and older people. Apart from this the other big concern has been the Green House effect and Global Warming and their deleterious effects. In the light of these events this paper tries to look at the present and the future from the point of few of a cleaner and greener environment

Unit – I: Understanding the Environment and its importance for living forms (08 Lectures)

A. The problem of pollution and Green House gases
B. The problem of Global Warming and its consequences
C. Damage to the Coral Reef and the problems it creates

Unit – II: The problems generated by Global warming (05 Lectures)

A. Melting glaciers and polar caps
B. Melting Icebergs, rise in the ocean levels and threat this poses to people

Unit – III: The rising population of human beings and its consequences of it to the environment

(17 Lectures)

A. Erosion of forests, man-animal conflicts, disappearances of many species and the consequences of that for the environment
B. The loss of forest cover leading to inadequate and erratic monsoons and a crisis of shortage of water leading to conflicts between people within countries and with other countries.
C. Study of the debates on climate change and summits from the Rio De Janeiro to the present day

Semester-III

Core-VIII:Western Political Thought – I

This paper deals with the Western Political Thought of the Ancient Period of Europe, some parts of Medieval European Thinking and Beginnings of the Political Thought in the Modern period of European history. It is often mistakenly believed that Political Thought is a pervading phenomenon through the Ancient period of European history to the Modern period and through the Modern and Post-Modern periods. This paper tries to demonstrate that Political Thought is actually a peculiarly Greek phenomenon since the organisation of Ancient Greek society was based in the institution called the Polis. The Roman Period that followed the Greek period created translations of Greek Political vocabulary into Latin and hence the word Political disappears from the vocabulary of the Roman period and the Medieval period of European history. This paper studies this phenomenon and also the reappearance of the word Political in the Modern Period despite the absence of the Polis. It looks into the reasons why and how the word was reintroduced in conjunction with Philosophy or Theory.

Unit - I: Ancient Greek Thought (20 Lectures)

The rise of Ancient Greece in the Ionian Period of its history

A. The Milesian School and its emphasis on nature and matter
B. The Eleatic School and its focus on the mind and its influence on Plato

Unit – II: Ancient Greek Political Thought (15 Lectures)

A. Plato – Politeia and what constitutes his Idealism
B. Aristotle – Teleology, Politeia, Eudaimonia, Polity and Politics

Unit – III: The fading away of Ancient Greece and Rise of the Romans (20 Lectures)

A. The Hellenistic Period of Greece – Stoicism, Cynicism and Epicureanism
B. The Rise of Rome – The Ancient Roman Republic and the Triumvirate
C. The Roman Empire – The rise of Julius Caesar and the creation of the Empire
D. Roman Thought – Cicero and Jurisprudence, Seneca, and Virgil

Unit – IV: The slow decline of Ancient Rome and the Rise of Christianity (15 Lectures)

A. Marcus Aurelius - the Roman Emperor and Philosopher
B. Constantine – Conversion of the Roman Empire into Christianity
C. Rise of Christendom and the start of the Medieval period of Europe
D. St. Augustine and St. Thomas Aquinas

Unit – V: The Emergence of the Modern Period of European History (20 Lectures)

A. Feudalism and the Feudal Professional Guilds
B. The Decline of power of Christianity and Feudalism
C. The emergence of the ‘protestant ethic’
D. Capitalism, Nation-States, and Colonialism

Core-X: Comparative Government and Politics

Course Objective: This is a fundamental course in comparative politics. The purpose is to familiarize students with the basic concepts and approaches to the study of comparative politics. More specifically they course will focus on examining politics in a historical framework while engaging with various themes of comparative analysis in developed and developing countries.

Unit-I: Understanding Comparative Politics (15 Lectures)

- Evolution, Content Analysis
- Methods of comparison: How and what to compare.
- Comparative Politics in Contemporary Times

Unit-II: Approaches to the Study of Comparative Politics (15 Lectures)

- Traditional Approaches
  A) Philosophical B) Historical C)Institutional
- Modern Approaches:
  A) Systems approach B) Structural-Functional Approach

Unit-III: Tracing the Constitutional Development in the following countries (15 Lectures)

- Nature and evolution of the British Constitution
- Evolution and salient features of the constitution of China
- Constitutional development in post-independent Brazil

Unit-IV: Party System Comparative Perspective (15 Lectures)

- Formation of Party System
- Typologies of Political Parties
- Emerging trends in Party System

Unit-V: Process of Democratization in Comparative Perspective (15 Lectures)

- Introduction: Democracy and Democratization
- Process of Democratization: Post-colonial, Post-authoritarian and Post-Communist Countries
- Democratic Constitution: different parameters

Unit-VI: Federalism in Comparative Perspective in the following Countries (15 Lectures)

- Federalism, Federation and Confederation
- Federalism in India
- Federalism in Canada
- Federalism in Australia

Reading texts:

- Von Begme, Klaus. The Evolution of Comparative Politics; edited by Daniel Caramani, New York: Oxford University Press.2008.
- ThedaSkocpal. The Role Theory in Comparative Politics: A Symposium World Politics.
- Chilcote Ronald H. Theories of Comparative Politics: Search for a Paradigm Reconsidered Colorado: Westview Press.1994.
- Hague, Red and Martin Harrop: Comparative Government and Politics: An Introduction.
- Putman Robert D. Making Democracy Work. Princton. NJ: Princeton University Press.
- Ball, Alan R. Modren Politics and Government. London: Macmillan.
- Pushpa Singh, Chetana Sharma (etd) Comparative Government and Politics. Sage Publication, New Delhi, 2019.

DSC-I (A): Political Ideologies

A caveat must be put right in the beginning of writing the rationale for this course. Ideology is a very deep and complicated subject in itself and there are many technical definitions attributed to the term which makes its understanding a very difficult exercise. Therefore it is being mentioned right in the beginning that this course steers clear of those difficult and contentious definitions and focusses on Ideology as the vantage point from which one views politics. This is a perfectly rational and legal understanding and the following of it generates many isms, all of which cannot be studied here. The focus is therefore on those isms which enrich the understanding of everyone about various issues that the study of politics throws up.

Unit – I: Liberalism (10 Lectures)

A. The different forms of Liberalism
B. The significant differences between these different forms

Unit – II: Socialism (15 Lectures)

A. Utopian Socialism
B. Marxian Socialism

Unit – III: Anarchism (10 Lectures)

A. Its similarities and dissimilarities with Marxian Socialism
B. The ideas of Proudhon and Kropotkin

Unit – IV: Feminism (10 Lectures)

A. Early Feminism
B. New Feminism and the difference between the different forms of feminism

Unit – V: Environmentalism (15 Lectures)

A. Politics among nations about environmental issues such as Global Warming
B. The rise of Greta Thunberg as an environmentalist in her teen years

DSC-I (B): POLITICAL PARTIES IN INDIA

Background

In the functioning of modern democratic political systems, political parties have been playing the significant role. The contribution of political parties, essentially, in the form of awareness building, mobilization, contesting in the elections, formation of the government and opposition party role. Therefore, there is a need to study the political parties both from theoretical and empirical point of views. Under this backdrop the present course on political parties in India is proposed with the following objectives.

Objectives

- To study the Typologies of political parties
- To examine the nature and character of political parties and
- To critically analyze the emerging issues in the working of political parties

Content:

Unit-I:Party systems in a democracy; Role and types of political parties (10 Lectures)

i. Gunther, R., & Diamond, L. (2003). Species of political parties: A new typology. Party politics, 9(2), 167-199.

ii. LaPalombara, J., & Weiner, M. (1966). The origin and development of political parties, in Political parties and political development, (SDP-6),Princeton, NJ: Princeton University Press. 3-42.v.

Unit- II-Political Parties in India (10 Lectures)

i. Sridharan, E, and Peter Ronald deSouza, "Introduction" in DeSouza, Peter and E. Sridharan (ed.), (2006). Indian Political Parties, Delhi: Sage.

ii. Suri, K. C. (2005). Parties under pressure: Political parties in India since independence. Project on State of Democracy in South Asia, New Delhi: Lokniti (Programme on Comparative Democracy), Centre for the Study of Developing Societies.

iii. Suri, K. C. (2013). Party system and party politics in India. Political science, Vol.2, Indian Democracy ICSSR Research Surveys and Explorations New Delhi: Oxford University Press. 209-252.

Unit-III: Classification of political parties in India (20 Lectures)

A). Indian National Congress

i. Kothari, R. (1964). The Congress' System' in India. Asian survey, 1161-1173.

ii. Heath, A., &Yadav, Y. (1999). The united colours of Congress: Social profile of Congress voters, 1996 and 1998. Economic and Political Weekly, 2518-2528.

iii. Sheth, D.L. (1975). "Social Bases of Party Support", in D.L. Sheth (ed.), Citizens and Parties: Aspects of Competitive Politics in India. Bombay: Allied Publishers.

iv. Rudolph, S. H., & Rudolph, L. I. (2008). Congress learns to lose: From a one-party dominant to a multiparty system in India. In Political transitions in dominant party systems (pp. 31-57). Routledge.

B). BharatiyaJanata Party

i. Graham, B. D. (2006). The Challenge of Hindu Nationalism: The BharatiyaJanata Party in Contemporary Indian Politics in DeSouza, Peter and E. Sridharan (ed.), Indian Political Parties, Delhi: Sage

ii. Palshikar, S. (2015). The BJP and Hindu nationalism: Centrist politics and majoritarian impulses. South Asia: Journal of South Asian Studies, 38(4),719-735.

iii. Sridharan, E. (2005). Coalition Strategies and the BJP's Expansion, 1989–2004. Commonwealth and Comparative Politics, 43(2), 194-221.

iv. Singh, V.B. (2004). "Rise of the BJP and the Decline of the Congress: An Appraisal", in Vora and Palshikar, ed. 299-324.

v. Heath, Oliver (1999). "Anatomy of BJP's Rise to Power: Social, Regional and Political Expansion in the 1990s", Economic and Political Weekly, 34(34&35), 21-28 August, 2511-17.

vi. Suri, K. C. (2019). Social Change and the Changing Indian Voter: Consolidation of the BJP in India's 2019 LokSabha Election. Studies in Indian Politics, 2321023019874913.

C). Regional parties

Characteristics of regional parties

i. Palshikar, S. (2003). "The Regional Parties and Democracy: Romantic Rendezous or Localized Legitimation?" in Ajay K. Mehra, D.D. Khanna and GertKueck (eds), Political Parties and Party Systems, New Delhi, Sage Publications, pp.306-35.

ii. Wyatt, A. (January 02, 2019). Small parties and the federal structure of the Indian state. Contemporary South Asia, 27, 1, 66-72.

iii. Ziegfeld, A. (2012). Coalition government and party system change: Explaining the rise of regional political parties in India. Comparative Politics, 45(1), 69-87.

iv. Kailash, K. K. (2014). Regional parties in the 16th LokSabha elections: Who survived and why? Economic and Political Weekly, 49(39), 64-70.

v. E.Venkatesu, etal., politics.policies,and electoral performance an analysis of Telangana Rashtrasamithi (TRS) party for the second term, Indian journal of Public Administration

Unit-IV: Issues and Challenges of Political parties (20 Lectures)

A). Populism

i. Banerjee, Mukulika (2004). "Populist Leadership in West Bengal and Tamil Nadu: Mamata and Jayalalithaa Compared", in Rob Jenkins (ed.), Regional Reflections: Comparing Politics across India's States. Delhi: Oxford University Press.

ii. Wyatt, A. (2013). Populism and politics in contemporary Tamil Nadu. Contemporary South Asia, 21(4), 365-381.

iii. Nooruddin, I., & Simmons, J. W. (2015). Do voters count? Institutions, voter turnout, and public goods provision in India. Electoral Studies, 37, 1-

B). Clientelism

i. Elliott, C. (2016). Clientelism and the democratic deficit. Studies in IndianPolitics, 4(1), 22-36.

ii. Berenschot, W. (2011). Political fixers and the rise of Hindu nationalism inGujarat, India: Lubricating a patronage democracy. South Asia: Journal ofSouth Asian Studies, 34(3), 382-401.

iii. Wyatt, A. (2013). Combining clientelist and programmatic politics in TamilNadu, South India. Commonwealth & Comparative Politics, 51(1), 27-55.

C) Party financing and campaign expenditure

i. Gowda, M. R., &Sharalaya, N. (2016). Crony Capitalism and India'sPolitical System. In Crony Capitalism in India (pp. 131-158). PalgraveMacmillan, London.

ii. Gowda, M. R., &Sridharan, E. (2012). Reforming India's party financing and election expenditure laws. Election Law Journal, 11(2), 226-240.

iii. Sridharan, E. (2006). Parties, the party system and collective action for state funding of elections: A comparative perspective on possible options. India's Political Parties, 311-40.

iv. Vaishnav, M. (2017). When crime pays: Money and muscle in Indian politics. Yale University Press. (selection)

D). Dynastic leadership

i. Chandra, Kanchan (2016). Democratic Dynasties: State, Party and Family in Contemporary Indian Politics, Cambridge, OUP (selection)

ii. Chhibber, Pradeep K. (2011). "Dynastic parties: Organization, finance and impact". Party Politics, 19(2), 277–295.

Semester-IV

Core-XI: Western Political Thought – II

Unit – I: Renaissance and Reformation (15 Lectures)

A. Imperium – Sacerdotium Controversy
B. The support to Principalities by Franciscan Friars
C. Marsilius of Padua and William of Ockham
D. Machiavelli and the rise of politics and political philosophy

Unit – II: Capitalism, Liberalism, and Individualism (20 Lectures)

A. The rise of Rationalism, and Anglophone Philosophy
B. The Proto-Liberalism of Thomas Hobbes
C. Liberalism and John Locke
D. The firm entrenchment of Individualism and its consequences

Unit – III: The French Enlightenment and its consequences (20 Lectures)

A. The birth of Romanticism
B. The reflection of Romanticism in Art, Literature and Philosophy
C. Jean Jacques Rousseau and his philosophy as a combination of Romanticism, Expressivism and Rationalism
D. The influence of Rousseau on the French Revolution and the characteristics of the French Revolution

Unit – IV: Utilitarianism (10 Lectures)

A. The Scepticism of David Hume
B. Jeremy Bentham and the Felicific Calculus
C. John Stuart Mill as combination of Utilitarian and Classical Liberal Thought
D. The spread of Utilitarianism based legislation and laws all over the world

Unit – V: The German Enlightenment and its impact on the world (25 Lectures)

A. Immanuel Kant and Arthur Schopenhauer as the products of the German Enlightenment
B. Hegel and his attempts to solve the problematique of Cartesian dualism, the Antinomies of Kant, and the problem of alienation as seen by Rousseau
C. Karl Marx, Anarchism, and their efforts to overcome the problems of wealth distribution in Capitalist societies and overcoming of alienation and setting up of communist democracy based in the slogan of French Revolution "Liberty, Equality and Fraternity"
D. Antonio Gramsci and his movement from Fascism, through Marxism to his own particular philosophy using eclectic influences ranging from Machiavelli to Elite theories.

Semester-V

Core-XIV: Contemporary Political Thought

Unit – I: The coming into being of Neo-Liberalism (15 Lectures)

A. The rise of Neo-Liberalism in the aftermath of the two World Wars
B. The involvement of the State in economic affairs
C. The problems posed by Neo-Liberalism and the rise of Classical Liberalism
D. The disappearance of the USSR and with it the idea of Socialism.

Unit – II: The mutations of Liberalism (10 Lectures)

A. Libertarianism
B. Rawlsian Liberalism
C. Communitarianism
D. Multiculturalism

Unit – III: Critical Theory Tradition (25 Lectures)

A. Georgy Lukacs
B. Max Horkheimer
C. Theodor Adorno
D. Herbert Marcuse

Unit – IV: The Post Modernists (25 Lectures)

A. Claude Levi Strauss
B. Michel Foucault
C. Jacques Derrida
D. Roland Barthes

Unit – V: Contemporary American Philosophers (15 Lectures)

A. Hannah Arendt
B. Richard Rorty
C. Noam Chomsky
D. Francis Fukuyama

Core- XV: Public Policy Analysis

Course Description

Public policy making constitutes the core of politics and governance in any country. As the governments are called upon to perform a wide array of functions, the policy making process has acquired considerable complexity. Although policy analysis finds an important place in other social science disciplines, it has evolved into a major sub-discipline in political science since the 1950s. As such it became a basic component of political science curricula all over the world.

Learning Outcomes

This course aims at familiarizing the students with the key concepts and theories of public policy. At the end of the course, students are expected to understand as to why certain issues emerge as policy issues for the government to act upon, what the theories are, how different actors play their role in shaping and influencing the policy process, how policies are implemented and what are the outcomes. The subject matter will be treated in a broader perspective and in the light of different approaches in public policy making and analysis.

Contents

Unit 1: Public Policy: Key Concepts and Theories(15 Lectures)

Concepts

- Public Policy: Meaning, Definitions and Scope
- Historical Evolution of Public Policy: Context and Contribution of Harold D. Lasswell and YehezkelDror

Essential Readings

- Birkland, Thomas A. (2010), *An introduction to the policy process: theories, concepts and models of public policymaking,* 3rdedn, ME Sharpe, New York. Chapter 1. Fischer, Frank; Miller, Gerald; and Sidney, Mara S (2006), *Handbook of public policy analysis: theory, politics and methods*, CRC Press, Boca Raton. Chapters 2and3
- Haragopal.G, (2018), YehezkelDror in Administrative Thinkers (ed) RavindraPrasad.D, Prasad VS and Satyanarayan.P, Sterling Publishers PVT, LTD, Chapter. 18.

Unit-2: Public Policy Theories and Models (25 Lectures)

- Public Policy Cycle
- Decision Making Theory
- Elite theory
- Institutional model

- Rational policy-making model
- Incremental Model

Essential Readings

- Dye, Thomas R. (2013), *Understanding public policy*, 14thed, Pearson, Boston.

Unit 3: Policy Typologies (10 Lectures)

- Distributive Policies
- Regulatory Policies
- Redistributive Policies
- Public vs. private policies

Essential Readings

- Rahimi, Reza Gelami and Norozi, Mohammed Reza (2011), "A brief look on policy, typology of policy, and its related affairs", *International Journal of Business and Social Science*, Vol.2, No.11, June, pp 173-176.

Unit 4: Public Policy in India;(20 Lectures)

- Welfare, populism and clientelism
- Rural Development Policy: Agriculture Policy, National Rural Livelihood Mission, MGNREGA Etc.
- Education Policy
- Reservation Policy

Essential Readings

- Wyatt, Andrew. 2013. "Populism and politics in contemporary Tamil Nadu", Contemporary South Asia, 21 (4), pp. 365-81.
- Elliott, Carolyn. 2016. "Clientelism and the Democratic Deficit," Studies in Indian Politics. 4 (1): 22-36.
- Mathur. Kuldeep, (2013), Public Policy and Politics in India. How Institutions Matter, Oxford India, New Delhi.
- Mathur. Kuldeep, Bjorkuman. Warner, James. (2009), Policy-Making in India Who Speaks? Who Listens?,Har-Anand Publications, New Delhi.
- Mohanty, M. (Ed.). (2004). *Class, caste, gender* (Vol. 5). Sage.,chapter 8
- Reservation,Respresentation and Social Justice by Naidu Ashok& Rajesh Kota(2020), Kalpaz Publications

- Local Governance in India: Experiences after the Constitutional Amendments
- by E. Venkatesu
- Model villages in the context of state, civil society and the market: emerging paradigm in India (E.Venkatesu) from Governance in South Asia edited by RumkiBasu, M. Shamsur Rahman.
- Kumar, K. (Ed.). (2017). Routledge Handbook of Education in India: Debates, Practices, and Policies. Taylor & Francis.
- Pal, M. (2004). Panchayati Raj and rural governance: Experiences of a decade. Economic and Political Weekly, 137-143.
- Ashwini Deshpande oxford short introductions, AFFIRMATIVE ACTION, Oxford India Short Introductions Series

Unit 5:Public Policy-Budgeting(20 Lectures)

- concept and significance of Budget
- Budget-cycle in India
- Various approaches and types of Budgeting

De, P. K. Public Policy and Systems. Pearson Education India.

Chakrabarty, B,Chand,P.(2016) Public Policy: Concept, Theory and Practice

DSC-III (A): Feminist Politics

In the recent years there has been a phenomenal growth in Feminism and Feminist explanation of various things such as politics, economics, sociology, history, and philosophy making it a truly inter-disciplinary rubric. This paper tries to map the growth of feminism from its earliest years to the present day. This paper enriches the understanding of feminism and the richness of this particular ism in dealing with a multiplicity of disciplines and issues.

Unit – I: Old feminism (10 Lectures)

A. More a women's movement asking for recognition and rights to be given to women and the productive role that they play in society
B. Mary Wollstonecraft and her fight for various rights

Unit – II: Feminism in the 19th Century. (10 Lectures)

A. Harriet Taylor Mill and her fight for the rights of women
B. John Stuart Mill as feminist because of his book the Subjugation of Women

Unit – III: Feminism as Political philosophy in the 20th Century (15 Lectures)

A. Simone De Beauvoir – also a feminist who studied literature
B. Nancy Fraser

Unit – IV: Feminism in Literature (10 Lectures)

A. Kate Millett
B. Elaine Showalter

Unit – V: Feminists of the 21st Century (15 Lectures)

A. Margaret Atwood
B. Maya Angelou
C. Naomi Woolf

This paper is in lieu of Women's Studies

Semester-VI

Core-XVII: Indian Political Thought and Movements

This paper seeks to acquaint students with political thought in India. It should be remembered that Political Thought in India is in reality limited to the modern period and that too to a handful of thinkers who had something original to say. The others just rehashed Western ideas of Socialism in their own different ways and these at best were pamphleteers and politicians. Ancient Indian Political Thought is complete misnomer which is best avoided as there was no Polis or its equivalent institution in Ancient India. The same applies for the State too. The State is a Modern Institution which was totally absent in the Ancient and Medieval periods in any part of the world including Europe. What is studied as Ancient India is only for historical curiosity and to see the gradual transformation of this Ancient Nation into a Modern Nation-State with politics as they are understood coming into being towards the end of the 19th Century and the beginning of the 20th Century. Despite claims to the contrary, India as a Political Nation emerged only in the 20th Century and most unfortunately got fragmented into three parts. This paper will study the contribution of various people to the emergence of a political nation and subsequently as a Nation-State.

Unit - I: Ancient Indian Thought (20 Lectures)

A. The Vedas, Vedangas, Upavedas, Dharmashastras, Brahmanas and the Varna System
B. The Upanishads and the contestations between Brahmins and Kshatriyas and Vysyas for superiority in the Jati System
C. The creation of the PanchamaJati as untouchables

Unit – II: The Units of Governance (15 Lectures)

A. The Janapadas and the Ganapadas as Indian equivalents of Ancient Republics
B. The Mahajanapadas and the emergence of Rajyas and Maharajyas

Unit – III: The rise of the Islamic Rule in India and the beginning of the Medieval Period

(10 Lectures)

A. The Slave Dynasty and other rulers of the Delhi Sultanate
B. The invasion of Babar and the establishment of the Mughal Empire

Unit – IV: British colonial Period and emergence of political institutions of Europe in India and the beginning of political thinking among Indians (20 Lectures)

A. Surendranath Banerjee, Sir Syed Ahmed Khan and DadabhoyNaoroji
B. GopalakrishnaGokhale, BalaGangadharTilak, Joti Rao Phule

Unit – V: Indian National Movement's consolidation and some fractures in it(25 Lectures)

A. M K Gandhi and his consolidation of Indian Cultural Nationalism into Political Nationalism and creation of a mass based political struggle for Independence.
B. DR B R Ambedkar's political thought and his political movement for social change.
C. Ram ManoharLohia and his examination of the caste and class categories
D. Jawaharlal Nehru and his vision for a newly emerged independent India

GOVERNMENT DEGREE COLLEGE FOR WOMEN (AUTONOMOUS)

BEGUMPET, HYDERABAD-16

Affiliated To Osmania University, Re-Accredited With 'A^{+}' Grade by NAAC

B.A. (HONORS) ECONOMICS

SYLLABUS (2021-2022)

Programme Outcomes

PO1. Domain Expertise:

- Gain thorough knowledge in the chosen domain and be able to apply it wherever necessary in an innovative manner.

PO2. Modern equipment Usage:

- Equip the students with modern technological skills, so that they are able to use software applications in their careers.

PO3. Computing Skills and Ethics:

- Students learn critical thinking and are able to analyse and solve problems rationally and ethically for communication, entertainment and for the benefit of mankind throughout ones endeavours for the wellbeing of human race.

PO4. Complex Problem Investigation & Solving

- Learn to analyze the problem, frame hypotheses, interpret empirical data and execute action

PO5. Perform effectively as Individuals and in Teams

- Be able to contribute at individual level and as team member and prioritize institutional interest over individual.

PO6. Efficient Communication & Life skills

- Learn efficient communication to express, listen, understand and project views in a convincing manner clearly and concisely

PO7. Environmental Sustainability

- Understand current environmental challenges faced by the country & propagate and follow environment friendly practices.

PO8. Societal contribution

- Develop the pride in volunteering to address societal issues *viz:* calamities, disasters, poverty, epidemics and involve voluntarily in social development activities at Regional, National, global levels.

PO9. Effective Project Management

- Identify the goals, objectives and components of a project and then implementation so that deadlines are achieved, even when there are setbacks.

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)

Re-Accredited with 'B' Grade by NAAC

CHOICE BASED CREDIT SYSTEM

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BOARD OF STUDIES

B.A. (HONORS) ECONOMICS

(Adopted from the Honors Syllabus prepared by CESS, Hyderabad as per the directions of Telangana State Council for Higher Education)

UNDER GRADUATE PROGRAMME

IN

DEPARTMENT OF ECONOMICS

(w.e.f. 2021-2022)

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET

(AUTONOMOUS)

Re-Accredited with 'B' Grade by NAAC

Department of Economics

Board of Studies Meeting on -0 -2022

AGENDA OF THE MEETING

1. Approval of Choice Based Credit System (CBCS) for I year B.A Honors Economics for the AY 2021-22.
2. Adoption of syllabus for I and II Semesters of I year B.A. Honors (Economics) of Osmania University.
3. Scheme of Evaluation and Examination pattern to be followed.
4. Approval of Model Question Paper for Semester I & II for the AY 2021-22.
5. Approval of list of panels of examiners for both semesters I & II AY 2021-22.
6. Any other matter with the permission of the chair.

University Nominee

Members of BOS

Head
Department of Economics
Osmania University

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001 T.S.

Dr.J VENKATESWARLU
Assistant Professor
Department of Economics
PRR Govt College
Mahabubnagar-509001 (TS)

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)

DEPARMENT OF ECONOMICS

B.A. I, II & III YEAR, CHOICE BASED CREDIT SYSTEM (2021-2022)

PATTERN OF EXAMINATION

Question paper pattern for theory examination for B.A. (Honors) Economics is given hereunder;

Internal Assessment

- Two internals of 40 marks each – Average of the two internals is considered for computation in Marks Memo.
- Internals shall be held at the end of every 10th week and 15th week of the semester.
- The time of duration for the internal shall be 60 minutes.
- Internals consists of three parts.

  PART – A : Written test of 20 marks.

  PART – B : Online test (Multiple Choice Questions) of 10 marks

  PART – C : It consists of two activities

  Assignment - 5 Marks

  Seminar - 5 Marks

- Internal Assessment Test with 1 Essay and 4 short questions.

End Semester Examination

- To be held in the month of December/January and April/May months.
- 60 marks are allotted for the Main Exam per each semester.

Examination Pattern

Section – A: Short Questions

Open choice from each unit

5 out of 8 questions - each question carries 3 marks 5×4 =20 marks

Section – B: Essay Questions

Dr. P. SATYANARAYANA
M.A., Ph.D
ASST. PROFESSOR
DEPT. OF ECONOMICS
GOVT. DEGREE COLLEGE (WOMEN)
BEGUMPET, HYDERABAD

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001

Dr.J.VENKATESWARL
Assistant Professor
Department of Economics
Dr.BRR Govt College Jadcherla
Dist.Mahabubnagar-509301

Answer all questions – each question carries 8 marks 5×8 =40 marks

Total = 60marks

Resolved to accept the above following pattern of examination Board of Studies

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Chairman BOS

University Nominee

Members of BOS

1.

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

Head
Department of Economics
Osmania University, Hyd-7.

3.

4.

Dr. P. SATYANARAYANA
M.A., Ph.D
ASST. PROFESSOR
DEPT. OF ECONOMICS
GOVT. DEGREE COLLEGE (WOMEN)
BEGUMPET, HYDERABAD

5.

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001

Dr. J. VENKATESWARLU
Assistant Professor
Department of Economics
Dr. BRR Govt College Jadcherla
Dist. Mahabubnagar-509301 (TS)

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DEPARTMENT OF ECONOMICS

Board of Studies Meeting for the year 2021-22

BA (Honors) Economics

The Board of studies meeting of the Department of Economics was held at 2.00 P.M on 14-03-2022 in the Department of Economics, Osmania University.

The following members are present in the meeting are:

S.NO	NAME	ADDRESS	SIGNATURE
1	Prof. J.Narasimha Rao Chairman BOS, Department of Economics University Nominee	Department of Economics OsmaniaUniversity, Hyderabad.	
2	Dr. N. Vijaya Raghavi Assistant Professor Incharge, Dept. of Economics	Department of Economics Government Degree College for Women, Begumpet, Hyderabad.	
3	Dr. Bala Sreenivas Assistant Professor Subject Expert	Dept. of Economics Government Degree College for Women(A), N.G.College Nalgonda.	
4	Dr.Venkateswarlu Assistant Professor Subject Expert	Dept. of Economics Government Degree College, Jadcherla.	
5	Dr. P. Satyanarayana Assistant Professor Member	Dept. of Economics Government Degree College for Women,Begumpet, Hyderabad.	

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDC (W) BEGUMPET, HYD-16.

23/4/22

Head
Department of Economics
Osmania University, Hyd-7

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001 T.S

P. SATYANARAYANA Ph.D
ASST. PROFESSOR
DEPT. OF ECONOMICS
GOVT. DEGREE COLLEGE FOR WOMEN
BEGUMPET, HYD

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jadcherla
Dist.Mahabubnagar-509301 (T.S)

Government Degree College for Women, Begumpet
(Autonomous)
Affiliated to Osmania University
BA (Honors) Economics
Scheme of Evaluation

Code	Paper	DSE/ AECC/ DSC/ GE/ SEC	Titl e	Credits	External	Internal	Total
Semester-I:							
311	1	DSC	Economic Thought	5	60	40	100
312	2	DSC	National Income	4	60	40	100
313	3	DSC	Mathematics	4	60	40	100
314	4	DSC	Statistics	4	60	40	100
		AECC	Communicative English	3	40	10	50
		GE	Indian National Movement	5	60	40	100
			Total	25			
Semester II:							
315	5	DSC	Micro Economics	4	60	40	100
316	6	DSC	Macro Economics	4	60	40	100
317	7	DSC	Mathematics	3	60	40	100
318	8	DSC	Statistics	3	60	40	100
			Second Language	3	60	40	100
			English	3	60	40	100
		GE	History of Telangana and State Formation	5	60	40	100
			Total	25			

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001

Head
Department of Economics
Osmania University, Hyd-7

HEAD & CHAIRMAN
DEPARTMENT OF ECON
GDCW (A) BEGUMPET

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.SRR Govt College Jancherla

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)
DEPARMENT OF ECONOMICS
B.A. I YEAR HONORS ECONOMICS (CBCS)
2021-22
SEMESTER-I
Discipline Specific Course – Paper I
HISTORY OF ECONOMIC THOUGHT

Total Hours: 90

Nature of Course: Core
Number of Credits: 5

COURSE OUTCOMES:

- To expose the students to different schools of Economic thought.
- Students should be familiar with the origin and development of economic theory.
- They should be able to identify four distinct systems of Economic theory(Classical, Marxian, Neoclassical and Keynes) and their characteristics.

Unit-1 : Orientalist Traditions of Political Economy – Kautilya's Arthashastra.

Unit-2: Pre-Classical theory – William Petty, Richard Cantillon and French Physiocrats.

Unit- 3: Adam Smith – critique of Merchantilist ideas – Economic Growth Propostitons – Method of Natural Positions – Theories of Value and Distributions.

Unit- 4: David Ricardo – critiques of Smith's Value and Distribution theories – Theory of Rent – Marx's Labour theory of value – Method of Dialectical Materialism.

Unit-5 : Origins of Neoclasssical / Marginalist theories- Walras, Menger and Jevons- Keyne's theory of Output , Money and Employment.

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GDCW (A) BEGUMPET, HYD-16.

23/4/22
Head
Department of Economics
Osmania University, Hyd-7

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S

Dr. P. SATYANARAYANA M.A., Ph.D
ASST. PROFESSOR
DEPT. OF ECONOMICS
GOVT. DEGREE COLLEGE (WOMEN)
BEGUMPET, HYDERABAD

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
RR Govt. College Jadcherla
Mahabubnagar-509301 (TS)

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)
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2021-22
SEMESTER-I
Discipline Specific Course – Paper II
NATIONAL INCOME ACCOUNTING

Nature of Course: Core
Number of Credits: 4

Total Hours: 75

COURSE OUTCOMES:

- To make the students understand Economic processes of Production, Exchange , Distribution and also accounting of the same.
- To make the students understand the components and methods of computing National Income.
- To make student understand the challenges in computing national Income with reference to India and States.
- To provide foundation to learn Macro Economic theory.

Unit- 1: Economic process of Production-Exchange-Distribution-Accumulation-Three sector Economy- (Primary, Secondary, Tertiary)- Economic system and its Aggregates through a simple input-output scheme – National Income output and Value Added- product Expenditure and income as alternative approaches to measure National Income.

Unit- 2: Gross Domestic Products – Agents- Households, Business and Government – what are its composition – Private Consumption, Private Investment, Government Expenditure- Factor cost and Market prices – Capital Consumption and Depreciation.

Unit-3 : Open Economy – Fourth Sector (Trade) – Gross National Income – Balance of Payment – Current and Capital Account.

Unit-4 : Challenges of Estimating National Income in India and State level estimates.

(Weekly one period of Lab practical on Computer System by using – Excel)

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

Head
Department of Economics
Osmania University, Hyd-7.

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001 T.S

Dr. P. SATYANARAYANA
M.A., Ph.D
ASST PROFESSOR
DEPT. OF ECONOMICS
GOVT. DEGREE COLLEGE (WOMEN)
BEGUMPET, HYDERABAD

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jancherla
Dist.Mahabubnagar-509301 (TS)

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)
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2021-22
SEMESTER-I
Discipline Specific Course – Paper III
MATHEMATICS

Nature of Course: Core
Number of Credits: 4

Total Hours: 75

COURSE OUTCOMES:

- The course aims at a quick refresher of basic algebra with an orientation of applications in Economics.
- The course provide the mathematical foundation for subsequent courses in quantitative methods.

Unit-1: Number System- Basic set Theory – Venn Diagrams – Functions and Relations - Basics of Algebra - Linear Equations – Polynominals and Quadric Equations – Exponents and Logarithms.

Unit-2: Ratio and Proportion - Progressions (Arithmetic, Geometric, Harmonic).

Unit-3: Difference operations- Concepts and Applications of Growth rates and Discounting – NPV – IRR.

Unit-4: Functions - Concepts of Limits and Derivatives.

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

Head
Department of Economics
Osmania University, Hyd-7

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S

Dr. P. SATYANARAYANA
M.A., Ph.D
ASST PROFESSOR
DEPT OF ECONOMICS
GOVT [illegible] COLLEGE (WOMEN)
[illegible]

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.ERR Govt College Jadcherla
Dist.Mahabubnagar-509301 (TS)

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(AUTONOMOUS)
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2021-22
SEMESTER-I
Discipline Specific Course – Paper IV
STATISTICS

Nature of Course: Core
Number of Credits: 4

Total Hours: 75

COURSE OUTCOMES:

- Students will learn to use Statistical concept and measures with reference to major Economic data sets.
- Students will learn to use MS-Excel of any advanced version to compute descriptive statistics.

Unit-1: Understanding the Nature of Data – Scales and Measurements – Sources of data (Primary and Secondary) Organising the data – Tabulation and Presentation (including Graphs) - Frequency Distribution and Grouping Fixing Class Intervals.

Unit-2: Measures of Central Tendency – Measures of Central Tendency – Measures of Dispersion – Concepts of Population and Sample - parameter and statistics-

Unit-3: Measures of Correlation- Karl Pearson's Method- Spearman's Rank Correrelation.

Unit-4: Index Numbers – Types and construction of different price and Quantity Index (Laspeyers, Pasches, Fisher, Tornquist) – Concepts and Measurements of Growth.

(Weekly one period of Lab practical on Computer System by using – Excel)

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

Head
Department of Economics
Osmania University, Hyd-7

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001 T.S

P. SATYANARAYANA
M.A., PH.D
ASST. PROFESSOR
DEPT. OF ECONOMICS
GOVT. DEGREE COLLEGE (WOMEN)
BEGUMPET, HYDERABAD

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jadcherla
Dist.Mahabubnagar-509301 (TS)

DEPARMENT OF ECONOMICS
B.A. I YEAR HONORS ECONOMICS
CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)
SEMESTER-I, Discipline Specific Course
QUESTION PAPER PATTERN FOR SEMESTER EXAMINATION

Time: 2 ½ Hrs **Max. Marks: 60**

SECTION – A

I. Answer any Five out of Eight questions. Each question carries 4 marks. 5×4=20marks

1.
2.
3.
4.
5.
6.
7.
8.

SECTION – B

II. Answer all questions with Internal Choice. Each question carries 8 marks. 5×8=40marks

9. a
(or)
b

10. a
(or)
b

11. a
(or)
b

12. a
(or)

13 a
(or)
b

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16

Head
Department of Economics
Osmania University, Hyd-7

Dr. P. SATYANARAYANA
M.A., PH.D
ASST. PROFESSOR
DEPT. OF ECONOMICS
GOVT. DEGREE COLLEGE
BEG. ..., HYDE...

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001 T.R.

Dr. J. VENKATESWARLU
Assistant Professor
Department of Economics
... Govt College Jadcherla
Dist. Mahabubnagar-509301 (T...

DEPARMENT OF ECONOMICS

B.A. I YEAR HONORS ECONOMICS

CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)

SEMESTER-I, Discipline Specific Course

QUESTION PAPER PATTERN FOR INTERNAL ASSESSMENT

Duration of exam: 1 Hr. **Max. Marks: 20**

Section – I

Answer any FOUR from the following marks 4×2.5=10

1.
2.
3.
4.
5.
6.
7.
8.

Section – II

Answer any ONE from the following 1×10=10 marks

9. a.
(or)
b.

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

Head
Department of Economics
Osmania University, Hyd-7

Dr. P. SATYANARAYANA
M.A., Ph.D
ASST PROFESSOR
DEPT. OF ECONOMICS
GOVT. COLLEGE (WOMEN)
HYDERABAD

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001

Dr. J. VENKATESWARLU
Assistant Professor
Department of Economics
Govt College Jadcherla
Dist.Mahabubnagar-509301 (TS)

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B.A. I YEAR HONORS ECONOMICS
CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)
SEMESTER-II
Discipline Specific Course
PAPER-V
MICRO ECONOMICS-I

Course Title: Micro Economics
Nature of Course: Core
Number of Credits: 4 **Total Hours: 75**

COURSE OUTCOMES:

- The course aims at providing a theory of price and Distribution under conditions of scarcity
- This is approached from an analysis of demand, supply and equilibrium.
  The course ends with showing the relation between competitive equilibrium and welfare maximization.

Unit-1: Exploring the subject matter of Micro Economics – Fundamental problems of Economics- (The problem of Scarce Resources- Question of What and How to produce and How to distribute output) - Concepts of Market Demand, Supply and Equilibrium – Type of Economic Agents (Consumers and Producers) and their Motivations and Behaviours – Concept of pure and perfect competition.

Unit-2 : Consumer Behaviour – Axioms of Choice – Utility and Preferences Ordering – Indifference Curve Analysis- Decomposition of Price Effect – Revealed Preference Theory – Price- Consumption Curve- Individual and Market Demand Schedule – Concept of Elasticities(income, price and cross-price elasticities) – Some Applications of Elasticities (administered prices, subsidies etc..)

Unit-3 : Producer's (firm) Behaviour – Profit Maximisation of the firm – Law of Variable Proportions – Production function (two factors of production) – Isoquants – Cost Function.

Unit-4: Revenue and Cost Curves – Fixed and Variable Costs – Short run and Long run – Returns to Scale – Supply function- some applications – Marginal Productivity theory of distribution. Competitive Equilibrium – Price and Output determination in Perfect Competition – Partial and General Equilibrium – Social Welfare Functions- Edgeworth Box Diagram – Pareto Efficiency.

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001

Head
Department of Economics
Osmania University, Hyd-7

Dr. P. SATYANARAYANA
M.A., Ph.D
ASST. PROFESSOR
DEPT. OF ECONOMICS
GOVT. DEGREE COLLEGE (WOMEN)
BEGUMPET, HYDERABAD

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr. John's Govt College, Jadcherla
Dist.Mahabubnagar-509301 (TS)

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(AUTONOMOUS)
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CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)
SEMESTER-II

Discipline Specific Course
Paper VI
MACRO ECONOMICS- I

Course Title: Macro Economics
Nature of Course: Core
Number of Credits: 4

Total Hours: 75

COURSE OUTCOMES:

The course approaches the behaviour of the aggregate economy from the standpoint of conventional (demand-supply-equilibrium) theory.

- The behaviour of the aggregate economy is analysed in terms of levels of output, employment and prices and change therein.
- Students are introduced to theories of money and inflation.
- Students will appreciate the same problems from an open economy prespective.

Unit-1 : Introduction of Macro Economics – Aggregate Demand and Supply – Concept of full employment- Say's Law of markets.

Unit- 2 : Money (Quantity theory of money) and Price level – Cash Transaction & Cash Balances Approaches- Hicks -ISLM.

Unit -3 : Unemployment – Causes and Consequences -Inflation – Causes and Consequences- Philips Curve Effects of Inflation– Rational Expectations –Applications.

Unit- 4: Open Economy Macroeconomics – Exchange rate –Balance of payments Equilibrium – Mundell-Fleming model – Purchasing Power Parity – Applications.

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

Head
Department of Economics
Osmania University, Hyd-7

Dr. P. SATYANARAYANA
M.A., Ph.D
ASST. PROFESSOR
DEPT. OF ECONOMICS
GOVT. DEGREE COLLEGE (WOMEN),
BEGUMPET, HYDERABAD

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Mahabubnagar-509301 (TS)

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(AUTONOMOUS)
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B.A. I YEAR HONORS ECONOMICS (CBCS)
2021-22
SEMESTER-II
Discipline Specific Course – Paper VII
MATHEMATICS-II

Total Hours: 60

Nature of Course: Core
Number of Credits: 3

COURSE OUTCOMES:

- This course builds on tools and concepts introduced in Mathematics I course and enables the students to develop methods used in general economic theory.
- Particular emphasis will be placed on solving problems of optimization.

Unit -1 : Properties of Functions – Single and Multi-variate – Linearity and Non-Linearity – Homogeneity, Convexity, Concavity and Continuity – Rules of Differentiation – Basics of Integration.

Unit -2 : Concepts of Minimum and Maximum – Idea of Optimisation – Constrained and Unconstrained.

Unit -3 : Elementary Algebra of Vectors and Matrices / Determinants – Solution to systems of Simultaneous Linear Equations – Crammer's Rule- Optimisation with many variables.

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

Head
Department of Economics
Osmania University, Hyd-7

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001

Dr. P. SATYANARAYANA
M.A., Ph.D
ASST PROFESSOR
DEPT. OF ECONOMICS
GOVT. DEGREE COLLEGE (WOMEN)
BEGUMPET, HYDERABAD

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
PG&DR Govt College Jadcherla
Dist.Mahabubnagar-509301 (TS)

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2021-22
SEMESTER-II
Discipline Specific Course – Paper VIII
STATISTICS-II

Nature of Course: Core
Number of Credits: 3

Total Hours: 60

COURSE OUTCOMES:

- The course introduces the student to basic concepts of statistical theory.
- Students will learn to apply statistical theory to problems of sampling, estimation and inference.

Statistics II

Unit – 1: Basic Probability Theories – Random Variable – Probability Distributions – Univariate and Bi- Variate – Theoretical Probability Distribution – Binominal , Poisson, and Normal – Properties.

Unit -2 : Sampling Theories – Basic Concepts of Sampling – Sampling and Non- Sampling Errors – Sampling Distributions – Students' t, F distributions, Chi Square.

Unit-3 : Estimation – Properties of Estimators – Unbiasedness, Consistency and Efficiency – point and Interval Estimation – Inference –Testing of Hypothesis – Type I and Type II Error – Applications of t, F and Chi Square.

Head
Department of Economics
Osmania University, Hyd-7

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001 T.S.

Dr. P. SATYANARAYANA
M.A., Ph.D
ASST. PROFESSOR
DEPT. OF ECONOMICS
GOVT. DEGREE COLLEGE (WOMEN)
BEGUMPET, HYDERABAD

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
PGHRR Govt College Jaccherla
Dist.Mahabubnagar-509301 (TS)

DEPARMENT OF ECONOMICS
B.A. I YEAR, CHOICE BASED CREDIT SYSTEM (2021-22))
SEMESTER-II, Discipline Specific Course
QUESTION PAPER PATTERN FOR SEMESTER EXAMINATION

Time: 2 ½ Hrs **Max. Marks: 60**

SECTION – A

I. Answer any Five out of Eight questions. Each question carries 4 marks. 5×4=20marks

1.
2.
3.
4.
5.
6.
7.
8.

SECTION – B

II. Answer all questions with Internal Choice. Each question carries 8 marks 5×8=40marks

9. a
(or)
b

10. a
(or)
b

11. a
(or)
b

12. a
(or)

13 a
(or)
b

Head
Department of Economics
Osmania University, Hyd-7

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

R. OMAR BEG

Dr. P. SATYANARAYANA
M.A., Ph.D
ASST. PROFESSOR
DEPT. OF ECONOMICS
GOVT. DEGREE COLLEGE (WOMEN)
BEGUMPET, HYDERABAD

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001 T.S.

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jadcherla
Dist.Mahabubnagar-509301 (TS)

(AUTONOMOUS)

DEPARMENT OF ECONOMICS

B.A. I YEAR, CHOICE BASED CREDIT SYSTEM (2021-2022)

SEMESTER-II

QUESTION PAPER PATTERN FOR INTERNAL ASSESSMENT

Duration of exam: 1 Hr. **Max. Marks: 20**

Section – I

Answer any FOUR from the following marks 4×2.5 =10

1.
2.
3.
4.
5.
6.
7.
8.

Section – II

Answer any ONE from the following 1×10=10 marks

9. a.
(or)
b.

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DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

Head
Department of Economics
Osmania University, Hyd-7

Dr. P. SATYANARAYANA
M.A., Ph.D
ASST. PROFESSOR
DEPT. OF ECONOMICS
GOVT. DEGREE COLLEGE (WOMEN)
BEGUMPET, HYDERABAD

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001 T.S.

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.SRR Govt.College Jadcherla
Dist.Mahabubnagar-509301 (TS)

(Autonomous)
Accredited with 'B' Grade by NAAC
Panel of Examiners
I BA HONORS ECONOMICS 2021-2022

SEMESTER-I		
Paper	**Examiner**	**Examiner**
Paper-I	Dr.E.Pavani Assistant Professor GovernmentCity College 9959632449	Dr.Ramesh GDC,Malkajgiri Hyderabad 9160450077
Paper-II	Dr.Krishnaveni Assistant Professor Government City College 9032349901	Dr.Bhaskar Reddy, Government Degree College for Women, Nalgonda. 9182564607
Paper-III	Dr.Padma Government Degree College, Sadashivapet 9493046020	Dr.K.Kasturi Assistant Professor GDC,Kukatpally 9441548382
Paper-IV	Dr.Ramesh GDC,Malkajgiri Hyderabad 9160450077	Dr.Bhaskar Reddy, Government Degree College for Women, Nalgonda. 9182564607
SEMSETER-II		
Paper-V	Dr.Ramesh GDC,Malkajgiri Hyderabad 9160450077	Dr.D.Padma GovernmentDegree College, Sadashivapet 9493046020
Paper-VI	Dr.Ch.Anuradha GDC,Khairatabad Hyderabad 8919392419	Dr.Ramesh GDC,Malkajgiri Hyderabad 9160450077
Paper-VII	Dr.K.Kasturi Assistant Professor GDC,Kukatpally 9441548382	Dr.E.Pavani Assistant Professor Government City College 9959632449
Paper-VIII	Dr.Ramesh GDC,Malkajgiri Hyderabad	Dr.K.Kasturi Assistant Professor

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HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16

	9160450077	GDC,Kukatpally 9441548382

Chairman BOS

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
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University Nominee

Members of BOS

1.

2.

3.

Head
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NOMICS

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Department of Economics
Dr.B.R.K. Govt. College, Jadcherla
Dist.Mahabubnagar-509301 (TS)

B.A. II YEAR, CHOICE BASED CREDIT SYSTEM (2021-22))
SEMESTER-III, , Discipline Specific Course-Paper-
QUESTION PAPER PATTERN FOR SEMESTER EXAMINATION

Time: 2 ½ Hrs **Max. Marks: 60**

SECTION – A

I. Answer any Five out of Eight questions. Each question carries 4 marks. 5×4=20marks

1.
2.
3.
4.
5.
6.
7.
8.

SECTION – B

II. Answer all questions with Internal Choice. Each question carries 10 marks 4×10=40marks

9. a
(or)
b

10. a
(or)
b

11. a
(or)
b

12. a
(or)

13 a
(or)
b

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Department of Economics
Dr.BRR Govt Colleg[illegible]
Dist.Mahabubnagar-509301 (TS)

Duration of exam: 1 Hr. **Max. Marks: 20**

Section – I

Answer any FOUR from the following marks 4×2.5=10

1.
2.
3.
4.
5.
6.
7.
8.

Section – II

Answer any ONE from the following 1×10=10 marks

9. a.
(or)
b.

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GOVERNMENT DEGREE COLEGE FOR WOMEN

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BEGUMPET, HYDERABAD

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BOARD OF STUDIES IN POLITICAL SCIENCE

For

B A POLITICAL SCIENCE

UNDER GRADUATE PROGRAMME

IN

CHOICE BASED CREDIT SYSTEM

(w.e.f. 2021-22)

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERABAD

DEPARTMENT OF POLITICAL SCIENCE
Constitution of Board of Studies 2021- 22

S.NO	CATEGORY	NAME & DESIGNATION
1	Head & Chairman Board of studies	Dr. Maroju Ramachary Chairman Board of Studies in Political Science Assistant Professor Government Degree College for Women (A), Begumpet, Hyderabad
2	University Nominee	Prof. Chandru Naik BOS Chairman Department of Political Science Osmania University, Hyderabad.
3	Subject expert from outside the University/college	Dr. Sripathi Naidu Assistant Professor of Political Science Government Degree College, Gadwal, Jogulamba Gadwal District.
4	Subject expert from outside the University/college	Sri. S. Yadagiri Assistant Professor Department of Political Science Nagarjuna Government College (A), Nalgonda
5	Faculty member of the Dept.	Dr. K. Kamala Assistant Professor Department of Political Science Government Degree College for Women (A), Begumpet, Hyderabad
6	Black Knight India	J. Shyam Sunder Reddy, HR Manager, Black Knight India

Submitted by
Head & Chairman BOS

Proposals approved by
Principal/Chairman academic council

GOVERNMENT DEGREE COLEGE FOR WOMEN

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Department of Political Science

Board of Studies Meeting on 07-10-2021

AGENDA OF THE MEETING

1. Approval of Choice Based Credit System (CBCS) for III year and ratification of syllabus for I, II & III year B.A Political Science for the AY 2021-22.
2. Ratification and prescribing of syllabus for I to VI Semesters of B.A. Political Science, division and adoption of syllabus.
3. Scheme of Evaluation and Examination pattern to be followed.
4. Approval of Model Question Papers for I, II, III, IV, V & VI Semesters for the AY 2021-22.
5. Approval of list of panel of examiners for semesters I to VI AY 2021-22.
6. Any other matter with the permission of the chair.

Chariman of BOS, GDCW University Nominee Members of BOS

Faculty of Social Sciences

GDCW (A), Begumpet, Hyderabad

Scheme for CBCS in BA Political Science - 2021-22

Course	**Name of the Module**	No. of Credits
	Semester-I	
DSC 1	Understanding the Political Theory	5
	Semester-II	
DSC 2	Western Political Thought	5
	Semester-III	
DSC 3	Indian Political Thought	5
SEC 1	Disaster Management	2
SEC 2	UGC Life Skills	2
	Semester-IV	
DSC 4	Constitution and Politics of India	5
SEC 1	Legal Literacy	2
SEC 2	UGC Life Skills	2
	Semester-V	
DSE 1	Paper VII: International Relations	5
GE	Human Rights	4
	Semester- VI	
DSE 3	Paper VIII: Global Politics	5
Project	Project Work	4
	TOTAL	46

Programme Outcomes

PO 1 Domain Expertise:

- Acquire comprehensive knowledge and skills.
- Make use of the knowledge in an innovative manner.
- Effectively apply the knowledge and skills to address various issues.

.

PO 2 Modern equipment Usage

- Use ICT effectively.
- Access, retrieve and use authenticated information.
- Access, retrieve and use authenticated information. Have knowledge of software applications to analyze data.

PO 3 Computing Skills and Ethics

- Develop rationale and scientific thinking process.
- Use technology intelligently for communication, entertainment and for the benefit of mankind.
- Ensure ethical practices throughout ones endeavors for the wellbeing of human race.

PO 4 Complex problem Investigation & Solving

- Predict and analyze problems.
- Frame hypotheses.
- Investigate and interpret empirical data.
- Plan and execute action.

PO 5 Perform effectively as Individuals and in Teams

- Work efficiently as an individual

- Cooperate, coordinate and perform effectively in diverse teams/groups.
- Prioritize common interest to individual interest.

PO 6 Efficient Communication & Life Skills

- Express thoughts in an effective manner
- Listen, understand and project views in a convincing manner.
- Decide appropriate media to share information
- Develop skills to present significant information clearly and concisely to interested groups.

PO 7 Environmental Sustainability

- Understand sensibly the Environmental challenges.
- Think critically on environment sustainability measures.
- Propagate and follow environment friendly practices.

PO 8 Societal contribution

- Render service for the general good of the society.
- Involve voluntarily in social development activities at Regional, National, global levels.
- Have own pride in volunteering to address societal issues viz: calamities, disasters, poverty, epidemics.
- Be a patriotic citizen to uphold the values of the nation

PO 9 Effective Project Management

- Identify the goals, objectives and components of a project and decide the appropriate time of completion.
- Plan, organize and direct the endeavors of teams to achieve the set targets in time.
- Be competent in identifying opportunities and develop strategies for contingencies.

GOVERNMENT DEGREE COLEGE FOR WOMEN

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DEPARTMENT OF POLITICAL SCIENCE

Board of Studies Meeting on 07-10-2021

The Board of studies meeting for the Department of Political Science is held at …….. hours on 07-10-2021 in the Department of Political Science, Govt. Degree College for Women (A), Begumpet, Hyderabad.

The following resolutions have taken in the meeting:

i) The syllabus and Model question papers for I , II, III & IV Semesters for the year 2019-20 have been approved.

ii) It is agreed and approved to have 100 marks for each paper in which 60 marks for external and 40 marks for internal assessment average of two (30 M for periodical test (20 q +10 MCQ CBT) + 5 Assignment+ 5 Student seminar) for all Semesters.

iii) It is agreed and approved to prepare question papers unit wise in Part – B and Questions from entire syllabus covering for part - A for all semesters.

iv) It is approved to pass end exam one has to get a minimum of 40 % marks (24 marks mandatory in external and on the whole 40 marks) in exam for each paper in all semesters.

v) It is agreed and approved the list of examiners for paper setting for I, II, III & IV semesters.

The following members are present in the meeting:

S.No	NAME	ADDRESS	SIGNATURE
1	Dr. Maroju Ramachary Head & Chairman Board of Studies in Political Science	Government Degree College for Women (A), Begumpet, Hyderabad	
2	Prof. Chandru Naik University Nominee of OU, Hyd.	BOS Chairman of Department of Political Science Osmania University, Hyderabad.	
3	Dr. Sripathi Naidu Assistant Professor of Political Science Subject expert	Government Degree College, Gadwal, Jogulamba Gadwal District.	
4	Sri. S. Yadagiri Assistant Professor Subject Expert	Department of Political Science Nagarjuna Government College (A), Nalgonda	
5	Dr. K. Kamala Assistant Professor	Department of Political Science Government Degree College for Women (A), Begumpet, Hyderabad	
6	Black Knight India	J. Shyam Sunder Reddy, HR Manager, Black Knight India	

GOVERNMENT DEGREE COLLEGE FOR WOMEN
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RE-ACCREDITED WITH "A+" GRADE BY NAAC
POLITICAL SCIENCE
Semester I Syllabus 2021-22
Paper – I
Module Understanding Political Theory

Duration 90 hours
Credits:05

Course Outcome:

On completion of the Course, students will:

- Learn in depth meaning and nature of political theory
- Deliberate in details with examples differences between politics and political theory
- Understand the elements of state and origin theories of the states, and political concepts.
- Specify the details of theoretical perspectives of liberal, Marxist and feminist.
- Understand the political ideologies.
- Understanding the making of the public policies, role of the media and importance of the public opinion.

Unit- I: Political Theory

1. What is Political Theory, Evolution, Nature, Significance
2. Debates on Political Theory
   a) Normative b) Empirical

Unit-II

1. State: Theories of origin of the state, Divine, Social Contract, Evolution Theories
   a) Power and Authority
   b) Sovereign state: Challenges

Unit- III

1. Political Values and Theoretical Perspective

Liberty :- A) Liberal B) Marxist C) Feminist
Equality :- A) Liberal B) Marxist C) Feminist
Justice :- A) Liberal B) Marxist C) Feminist

Unit-IV

1. Political Ideologies
   a) Liberalism
   b) Socialism
   c) Multiculturalism

Unit-V: Public Policy And Mass Media

a) Legislature, Executive and Judiciary
b) Media, Pressure Groups & Public Opinion

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POLITICAL SCIENCE
PAPER-II, II-SEMESTER, SYLLABUS-2021-22
MODULE: WESTERN POLITICAL THOUGHT

Duration: 90 Hrs
CREDITS 05

Course outcomes:

On completion of the Course, students will:

- Understand in details of the greek political philosophy.
- Identify the classification and characteristics of western political thought
- Understand in details with examples western political thought
- Understand in depth of different political thinkers ideologies.
- Identify the classification and characteristics of liberalistic ideologies.
- Learn the details of Marxism and hegemony theory.

UNIT I: INTRODUCTION AND ANCIENT POLITICAL THOUGHT

1. Political Thought : Nature , Significance.
2. Plato: Theory of Justice and Ideal State.
3. Aristotle: Classification of Governments , Slavery and Theory of Revolutions.

UNIT-II: MEDIEVAL AND EARLY MODERN POLITICAL THOUGHT

1. Saint Thomas Acquinas : Views on Church- State, Slavery, Classification of governments and Theory of Law.
2. Church- State controversy.
3. Nicolo Machiavelli: Views on Human Nature, Religion, State Craft and suggestions to the Prince.

UNIT-III: SOCIAL CONTRACTUALISTS

1. Thomas Hobbes: Views on Human Nature, State of Nature, Social Contract Theory, Individualism and Absolute Sovereignty
2. John Lock: State of Nature, Human Nature and Social contract, Natural Rights and Limited Government.
3. Jean Jacquies Rousseau: State of Nature, Human Nature , Social Contract, General Will and Popular Sovereignty.

UNIT-IV: UTILITARIANS

1. Jeremy Bentham: Principles of Utilitarianism.
2. J.S.Mill: Views on Bentham's Utilitarianism, Liberty, Representative Government and Women's Liberty.

UNIT-IV: MARXIST THINKERS

1. Karl Marx: Dialectical Materialism, Historical Materialism, Class Struggle, Surplus Value and communism.
2. Antonio Gramsci: Hegemony and Civil Society.

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PAPER-III, SEMESTER-III, SYLLABUS-2021-22

MODULE: INDIAN POLITICAL THOUGHT

Duration: 90 Hours
Credits: 5

Course outcomes:

On completion of the Course, students will:

- Understand in details with application, if applicable, Indian political thought
- Specify in depth Indian political thought
- Identify the classification and characteristics of Indian political thought
- Understand in details with examples Indian political thought
- Understand in depth of Gandian and Ambedkar Ideologies.
- Learn the details of Socialistic society and socialistic democracy methods.

Unit- I

State and Society in Ancient India

Manu – Features of Manusmriti, Origins of Varna, Varna Dharma
Buddha – Dhamma , Sangha , Eightfold path
Kautilya- Saptanga Theory , Mandala Theory , Statecraft

Unit-II **Medieval Political Thought**

Basava- Anubhava Mantapa , Gender Equality
Ziauddin Barani- Theory of Kingship Ideal Sulth, Ideal Polity

Unit- III **RenaissanceThought**

Raja Ram Mohan Roy - Colonial Encounters , Brahma Samaj
Dayananda saraswathi- Arya Samaj
Jyothi Rao Phule- Gulam Giri , Satya Shodhak Samaj, Educat

Unit-IV **Reformist Thought**

M. K. Gandhi – Satyagraha , Trusteeship , Problem of Political Obligation
Dr. B. R. Ambedkar- Who are Shudras? , Annihilation of Caste

Unit-V **Socialist Thought**

Jawaharlal Nehru- Democratic Socialism
Jayaprakash Narayan – socialist movement.

GOVERNMENT DEGREE COLLEGE FOR WOMEN
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BEGUMPET, HYDERABAD-
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SKILL ENHANCEMENT COURCE
YEAR-II, SEMESTER-III
MODULE: DISASTER MANAGEMENT
SYLLABUS-2021-22

CREDITS 02

Course outcomes:

- Understand the concepts of risk, hazard and disaster etc.
- To learn about the framework of risk management.
- To understand the vulnerability and rehabilitation methods.
- To study the frame work of NMDA and SMDA.

UNIT-I

Introduction to Natural disasters – Meaning and Nature of natural disasters, their types and effects. Floods, drought, cyclone, earthquakes, landslides, avalanches.
Introduction to Man Made Disasters – Nuclear disasters, chemical disasters, biological disasters, building fire, coal fire, forest fire and oil fire.

UNIT-II

Disaster Risk Management in India. Hazard and Vulnerability profile of India. Components of Disaster Relief; water; food; sanitation, shelter.

Mitigation response and preparedness. Disaster management Act Policy, programmes and legislation. National Disaster Response Force(NDRF) . Role of NGO's, community based organization and media. Centre, State, District and local administration.

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PAPER-IV, SEMESTER-IV, SYLLABUS-2021-22
MODULE: Constitution and Politics of India

Duration: 90 Hours
Credits: 5

Course Outcome:

On completion of the Course, students will:

- Identify the characteristics of Indian politics
- Understand the characteristics of Indian constitution
- Understand in details with application, if applicable, federalism
- Identify the classification and characteristics of power structure in India
- Identify the details of party system in India

Unit- I **Constitutional Development in India**

- Brief overview of Nationalist Movement
- Evolution of Indian Constitution -1909 Act,1919 Act ,1935Act. Philosophical Foundations of the Indian Constitution – Liberal, Gandhian Socialist

Unit- II : **Institutional Framework at Union**

- Union Government –
  a) Executive
  b) Legislature
  c) Judiciary

Unit – III Institutional Framework at State Government

a) Executive
b) Legislature
c) Judiciary

Unit- IV **Federal Politics**

Union- State Relations : Legislative, Administrative, Financial
Recent trends in Union - State Relations

Unit- V **: Electoral Politics in India**

a) Political Parties a) National : INC, BJP, CPM, BSP
b) Regional : DMK, Akali Dal, TDP, TRS
c) Recent Trends in Party System
d) Election Commission & Electoral Reforms

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SKILL ENHANCEMENT COURCE
YEAR-II, SEMESTER-IV
MODULE: LEGAL LITERACY
SYLLABUS-2021-22

CREDITS 02

Course Outcome:

On completion of the Course, students will:

- Identify in depth democratic awareness with legal literacy
- Learn in details with examples system of course
- Write down in details with application, if applicable, constitutional rights and there enforcement
- Understand in details with examples criminal jurisdiction
- Specify in details with examples personal laws in India

Unit - I

1. Introduction: Judiciary – Significance and functions.
2. Sources of Law , Concept of Rule of Law and Judicial Review.
3. Judicial System in India – Supreme Court, High Court and District Courts.
4. Constitutional Protections of Rights: Writs- Habeas Corpus, Mandamus, Certiorari, Prohibition and Quo-warranto.
5. Arbitration, Tribunal Adjudication and Alternate Dispute Resolution – Administrative Tribunals, Ombudsman, Mediation, Conciliation, Lok Adalats, Lokpal and Lokayukta.
6. Right to information Act – 2005

Unit – II

1. Legal Terminology: Appeals, Alimony, Backlog, Bail, Bench, Contempt of Court, Immunity, Indian Penal Code, Civil Procedure Code, Criminal Procedure Code, Juvenile Court, Power of Attorney, Petition, Plaint, Suit, Status Quo, Summons.
2. First Information Report (FIR) – Procedure and Importance.
3. Public Interest Litigation (PIL)
4. Rights of Senior Citizens, Disabled, Tribal's and Depressed Classes.

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POLITICAL SCIENCE
PAPER-V, V-SEMESTER, SYLLABUS-2021-22
MODULE: INTERNATIONAL RELATIONS

CREDITS 05
Duration: 90 Hours

Course Outcome:

On completion of the Course, students will:

- Identify the classification and characteristics of approaches of international relations
- Understanding the causes and consequences of the I and II world wars.
- Specify the classification and characteristics of cold war
- Write down in depth of globalization and international funding agencies.
- Understand the political concepts of international relations like power authority, sovereignty and balance of power.

UNIT-I:

1. Introduction to International Relations: Evolution, Meaning, Definition, Nature, Scope and Significance.
2. Westphalian State and Soverigen State system and its characteristics

UNIT-II:

1. Colonialism: Rise of colonialism, Causes for the rise of colonialism.
2. The First World War: Nature, causes and its impact on International Relations. Second World War, Nature, Causes and Consequences.

UNIT- III:

1. Decolonisation: Causes of decolonization and its Impact. Emergence of Third world, Problems and Prospects.
2. Cold war: Definition, Causes, Phases and Impact.

UNIT-IV:

1. Indian Foreign Policy: Determinants, Features, Non-alignment

UNIT-V:

1. India Relations with USA, China, Pakistan, Srilanka and Nephal.

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POLITICAL SCIENCE
PAPER-VI, VI-SEMESTER, SYLLABUS-2021-22
MODULE: GLOBAL POLITICS

CREDITS 05
DURATION: 90 HOURS

Course Outcomes:

On completion of the Course, students will:

- Understanding the international organizations and regional organizations.
- Comprehend the details of international security methods, nuclear weapons etc.
- Write down the characteristics of India's foreign policy
- Specify in depth India and her neighbours relationship
- Learn the details of relations of India with great powers
- Examine the international social issues such as terrorism, Environmental movements etc.

UNIT-I:

Power, Elements of Power, Balance of Power, Growing Importance of Soft Power

UNIT-II:

Security, Collective Security, Bipolarity, Multipolarity, Unipolarity.

UNIT-III:

Human Rights, Agencies of Human Rights Protection, Terrorism, Environmental Issues.

UNIT-IV:

World Bank and IMF, UNCTAD, North-South Dialogue and South-South Co-operations, WTO

UNIT-V :

Disarmament, Arms Race, Arms Control, NPT, CTBT, MTCR Proliferation of Small Arms, WMDs

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RE-ACCREDITED WITH A $^{+}$ GRADE BY NAAC
GENERIC ELECTIVE
SEMESTER-V, MODULE: HUMAN RIGHTS
SYLLABUS-2021-22
B.A Political Science

Credits 04

Human Rights

Course outcomes:

- To understand the issues concerning the rights of citizens in general and the marginalized groups in particular.
- To assess the institutional and policy measures which have been taken in response to the demands of various movements.
- Understand the Conceptual dimensions, international trends and the Indian experience form the contents of the course.

Unit-I:

a) Caste, Gender, Ethnicity and Class as distinct categories of Indian and International Societies.
b) Human Rights Movement in India

Unit-II:

a) Globalization impact on workers, peasants, dalits, adivasis and women.
b) Human Rights: Various Meanings UN Declarations and Covenants Human Rights

Unit-III

a) Human Rights of Marginalized Groups: Dalits, Adivasis, Women, Minorities and Unorganized Workers.
b) The National Human Rights Commission in India.

Unit-IV

a) Citizenship Rights Human Rights and the Indian Constitution Human Rights, Laws and Institutions in India
b) Consumer Rights: The Consumer Protection Act and grievance redressal mechanisms.

GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)
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POLITICAL SCIENCE
PAPER-I, I-SEMESTER, SYLLABUS-2021-22
MODULE: UNDERSTANDING POLITICAL THEORY

Time: 2 1/2Hours **Marks: 60**

SECTION-I

Note: Answer all questions using internal choice. **5x8=40Marks**

1 (A) what is political theory and Explain its significance

OR

(B)Describe the normative theory

2(A) Explain theSocial contract Theoris.

OR

(B) Describe the Sovereign state.

3. (A) Explain the liberty with Marxist perspective

OR

(B).discuss the equality with liberlistic approach

4. (A) Describe the factors supporting nationality.

OR

(B) Describe the multiculturalism.

5.(A) Explain the Mass media.

. OR

(B) Describe the pressure groups.

SECTION-II

Note: Answer any Five from the following. 5X4=20

6. Explain the nature of political science.
7.Emoerical political thoery
8. Liberty
9.Power
10. Divine thoery
11. socialism
12.Print media
13. public policy
14 electronic media
15. Feminism

GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)
BEGUMPET, HYDERABAD
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POLITICAL SCIENCE
PAPER-II, II-SEMESTER, SYLLABUS-2021-22
MODULE: WESTERN POLITICAL THOUGHT

Time: 2 1/2Hours **Marks: 60**

SECTION-I

Note: Answer all questions using internal choice. **5x8=40Marks**

1(A) Discuss the methods and significance of political thought.

OR

(B) Discuss Aristotle's views on theory of revolutions.

2. (A) Explain the controversy between church and state.

OR

(B) Explain Machiavelli's views on state craft.

3. (A) Discuss Thomas Hobbes views on absolute sovereignty.

OR

(B) Write an essay on Rousseau's General will

4. (A) Explain Bentham's Utilitarianism

OR

(B) Explain the views of J S Mill on Liberty

5. (A) Explain Karlmarx communism.

OR

(B)Write an essay on Gramsci's views on Hegemony

SECTION-II

Note: Answer any five questions from the following. **5x4=20**

6. Explain Plato's theory of Justice
7. Explain Thomas Aquinas theory of Law
8.Explain John Locke's views on Limited Government
9 .JS Mill Representative Government
10. write about Antonio Gramsci's Civil Society
11. The Laws
12. Aristotle's classification of Government
13. Machiavelli Suggestions
14. Surplus value
15. Hegemony

GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)
BEGUMPET, HYDERABAD
RE-ACCREDITED WITH "A+" GRADE BY NAAC
POLITICAL SCIENCE
PAPER-III, III-SEMESTER, SYLLABUS-2021-22
MODULE: INDIAN POLITICAL THOUGHT

Time: 2 1/2Hours **Marks: 60**

SECTION-I

Note: Answer all questions using internal choice.

5x8=40Marks

1. (A) Explain the source of Indian Political Thought.

OR

(B) Discuss Manu's views on Varnadharma and society.

2. (A) Explain Koutilya's views on statecraft.

OR

(B) Discuss Budha'sDhamma and Sangha.

3. (A) Discuss Jyothirao Pule Social Revolution.

OR

(B) Write an essay on Ambedkar's views on society and castiesm

4. (A) Explain Vivekananda's social and political ideas

OR

(B) Discuss Rabindranath Tagore critique on Nationalism

5. (A) Explain Mahatma Gandhi's Theory of Ahimsa.

OR

(B) Discuss Jawaharlal Nehru views on Democratic socialism

SECTION-II

Note: Answer any five questions from the following. **5x4=20**

6. Explain the concepts of Indian political thought
7. Explain Mandal Theory
8. Ambedkar's state Socialism
9. Satyagraha
10. Tagore's views on education
11. Dandaneethi
12. Arthashastra
13. Saptanga theory
14. Annihilation of Caste
15. Gram Swaraj

GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)
BEGUMPET, HYDERABAD
RE-ACCREDITED WITH "A+" GRADE BY NAAC
POLITICAL SCIENCE
PAPER-IV, IV-SEMESTER, SYLLABUS-2021-22
MODULE: CONSTITUTION AND POLITICS OF INDIA

Time: 2 1/2Hours **Marks: 60**

SECTION-I

Note: Answer all questions using internal choice.

5x8=40Marks

1. (A). Discuss about Indian national movement

OR

(B) Explain the Indian government act of 1935

2. (A explain the powers and factions of the president of India

OR

(B).what is role of the chief minister in the state government

3. (A).Discuss on union state relations in the recent trends

OR

(B explain the union state financial relations

4. (A) Discuss the features of the Indian National Political parties?

OR

(B) Discuss about the Regional Political Parities?

5. (A) Write an essay on Indian Secularism?

OR

(B) Discuss about the role of caste in Indian politics?

SECTION-II

Note: Answer any five questions from the following. **5x4=20**

6. 1909 act
7. Swadeshi Movement
8. Vice President of India
9. Quorum
10. Union list
11. Concurrent list
12. BJP
13. TRS
14. EVM
15. Religion

GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)
BEGUMPET, HYDERABAD
RE-ACCREDITED WITH "A+" GRADE BY NAAC
POLITICAL SCIENCE
PAPER-IV, V-SEMESTER, SYLLABUS-2020-21
MODULE: INTERNATIONAL RELATIONS-1

Time: 2 1/2Hours **Marks: 60**

SECTION-I

Note: Answer all questions using internal choice. **5x8=40Marks**

1. (A) Discuss the scope of International relations.

OR

(B) Explain the features of sovereign state system.

2. (A) Discuss the causes for the rise of colonialism.

OR

(B) Explain the causes the Second World War

3. (A) Discuss the problems of Third world countries

OR

(B) Write an essay on causes of cold war

4. (A) Explain the determiments of Indian Policy.

OR

(B) Write an essay on Non-Alignment

5. (A) Discuss about India – USA relations.

OR

(B) Explain the relations between the India and Pakistan.

SECTION-II

Note: Answer any five questions from the following. **5x4=20**

6. Explain the consequences of First World War
7. Explain causes for Decolonialism
8. Three reasons of First World War
9. League of Nations
10. Cold War
11. Neo-colonialism
12. Woodrow Wilson 14 Principles
13. Treaty of Versailles
14. Détente
15. American Hegemony

GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)
BEGUMPET, HYDERABAD
RE-ACCREDITED WITH "A+" GRADE BY NAAC
POLITICAL SCIENCE
PAPER-IV, VI-SEMESTER, SYLLABUS-2020-21
MODULE: GLOBAL POLITICS

Time: 2 1/2Hours **Marks: 60**

SECTION-I

Note: Answer all questions using internal choice. **5x8=40Marks**

1. (A) Discuss the elements of power.

OR

(B) Write an essay on balance of power.

2. (A) Explain the collective security.

OR

(B) Impact of Bipolarity system in the International Relations.

3. (A) Write an Essay on Human Rights.

OR

(B) Explain the Environmental Issues.

4. (A) Write an essay on World Bank.

OR

(B) Discuss about North-South Dialogues

5. (A) Discuss about Disarmament.

OR

(B)Explain about the arms raise.

SECTION-II

Note: Answer any five questions from the following. **5x4=20**

6. Power
7. NPT
8. Arms control
9. IMF
10. WTO
11. South-South Cooperation
12. CTBT
13. Unipolarity
14. Soft Power
15. Terrorism

FACULTY OF ARTS

B.A. III YEAR V SEMESTER EXAMINATIONS, MODEL PAPER

POLITICAL SCIENCE

GENERIC ELECTIVE - I

HUMAN RIGHTS

Time: 1 ½ Hrs **Max Marks: 60**

SECTION – A

I. Answer all the questions. **4 x 10 = 40**

1. a. Define Human Rights and Explain Social Inequalities.

Or

b. Explain the Human Rights Movements in India.

2. a. Discuss about the globalization impact on workers and peasants.

Or

b. Explain the Human Rights declaration of UNO.

3. a. Explain the Power and Functions of Human Rights Commission in India.

OR

b) What are the Human Rights Protections of Daliths and Adivasis.

4. a. What are the Human Rights are Incorporated in Indian Constitutions.

OR

b) Explain the consumer protection act and its mechanism.

SECTION – B

II. Answer any four from the following. **4 x 5 = 20**

1. Gender Inequality

2. Race Inequality

3. Globalization

4. Rights of Minorities

6. Citizenship Rights

7. Consumer Rights

8. Right to Equality

FACULTY OF ARTS

B.A. II YEAR IV SEMESTER EXAMINATIONS, MODEL PAPER

SUBJECT: POLITICAL SCIENCE

SEC – I SEMESTER-III

PAPER: DISASTER MANAGEMENT

Time: 1 Hrs **Max Marks: 40**

SECTION – A

I. Answer any four of the following questions. **4 x 4 = 16**

1. Natural Hazards in India.
2. Media's role in Disaster Management.
3. Define the term Rehabilitation.
4. Sanitation measures after a disaster.
5. Role of Collector in Disaster Management.
6. Emergency steps after a disaster.

SECTION – B

7. **Answer all the questions.** **2 x 12 = 24**

8. a. Write an essay on Disaster Management policies in India.

   Or

   b. Explain the various stages in Disaster Management?

9. a. Describe NDRF Organization and working style.

   Or

   b. Explain the role of NGO's in Disaster Management?

B.A. II YEAR IV SEMESTER EXAMINATIONS, MODEL PAPER

SUBJECT: POLITICAL SCIENCE

SEC – II SEMESTER-IV

PAPER: LEGAL LITERACY

Time: 1 Hrs **Max Marks: 40**

SECTION – A

II. Answer any four of the following questions. 4 x 4 = 16

1. FIR
2. PIL
3. Writs
4. Rule of law
5. Arbitration
6. Lok pal

SECTION – B

Note: Answer all the questions. 2 x 12 = 24

7. A) Write an essay on RTI Act-2005?

   Or

   B) Describe the powers and functions of Supreme Court?

8. A) Write a note on rights of senior citizens in India.

   Or

   B) Explain about the juvenile crime?

GOVERNMENT DEGREE COLLEGE FOR WOMEN [A], BEGUMPET, HYDERABAD

Panel of Examiners

Department of Political Science 2020-21

SI. NO	Paper	Name	Working Place	Cell No
1	I	Dr. K. Bhaskar	Govt City College (A), Hyderbad.	9949999690
2		Dr. Zahada	GDC, Hayath nagar, hyd	9908078786
3	II	Dr. Zahada	GDC, Hayath nagar, hyd	9908078786
4		Dr. K. Bhaskar	Govt City College (A), Hyderbad	9949999690
5	III	Dr. L Thirupathi	Govt City College (A), Hyderbad.	8106014469
6		Dr. K Hussain	GDC siddipet (A), Siddipet.	9885077541
7	IV	Dr. K Hussain	GDC siddipet (A), Siddipet.	9885077541
8.		Dr. L Thirupathi	Govt City College (A), Hyderbad.	8106014469
9	V	Dr. Bandi Raju	GDC, Malkajgiri, hyderabad	9966911448
10		Kishtaiah	GDC, Kukatpally	9849402407
11	VI	Kishtaiah	GDC, Kukatpally	9849402407
12		Dr. Bandi Raju	GDC, Malkajgiri, hyderabad	9966911448

GOVERNMENT DEGREE COLLEGE FOR WOMEN

BEGUMPET, HYDERABAD – 500 016, TELANGANA STATE

(Autonomous - Affiliated to Osmania University)

Re-Accredited with 'B' Grade by NAAC

DR.K. PADMAVATHI,M.Sc,Ph.D.
PRINCIPAL

(: **27766536**
Cell: 9154806672
E-mail: gdcwbpthyd@gmail.com
Website: **www.gdcwbegumpet.com**

OUR MOTTO: "LEARNING IS THE BEST ORNAMENT"

To,

Prof. Chandru Naik,
BOS Chairman,
Department of Political Science,
Osmania University,
Hyderabad.

Rc No: /GDCWB /Estt/2021 Date: 07.10.2021.

Respected Sir,

Sub:-Nomination as University Nominee of GDCW, (A), Begumpet, Hyderabad.

****

I am pleased to inform that you have been nominated as a University Nominee for the subject of Political Science for a period of two years.

Yours faithfully,

GOVERNMENT DEGREE COLLEGE FOR WOMEN

BEGUMPET, HYDERABAD – 500 016, TELANGANA STATE

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OUR MOTTO: "LEARNING IS THE BEST ORNAMENT"

To,

Prof. Sripathi Naidu,
Assistant Professor of Political Science,
MALD Government Degree College,
Palamuru University,
Gadwal, Jogulamba Gadwal District.

Rc No: /GDCWB /Estt/2021 Date: 07.10.2021.

Respected Sir,

Sub:-Nomination as University Nominee of GDCW, (A), Begumpet, Hyderabad.

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Yours faithfully,
sd
Principal

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BEGUMPET, HYDERABAD – 500 016, TELANGANA STATE

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PRINCIPAL

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Website: **www.gdcwbegumpet.com**

OUR MOTTO: "LEARNING IS THE BEST ORNAMENT"

To,

Sri. S. Yadagiri,
Assistant Professor of Political Science,
Nagarjuna Government Degree College,
Mahathma Gandhi University,
Nalgonda.

Rc No: /GDCWB /Estt/2021 Date: 07.10.2021.

Respected Sir,

Sub:-Nomination as University Nominee of GDCW, (A), Begumpet, Hyderabad.

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Principal

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BEGUMPET, HYDERABAD – 500 016, TELANGANA STATE

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E-mail: gdcwbpthyd@gmail.com
Website: **www.gdcwbegumpet.com**

OUR MOTTO: "LEARNING IS THE BEST ORNAMENT"

To,

Sri. J. Shyam Sunder Reddy,
HR Manager,
Black Knight India,
Hyderabad.

Rc No: /GDCWB /Estt/2021 Date: 07.10.2021.

Respected Sir,

Sub:-Nomination as University Nominee of GDCW, (A), Begumpet, Hyderabad.

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DR.K. PADMAVATHI,M.Sc,Ph.D.
PRINCIPAL

(: **27766536**
Cell: 9154806672
E-mail: gdcwbpthyd@gmail.com
Website: **www.gdcwbegumpet.com**

OUR MOTTO: "LEARNING IS THE BEST ORNAMENT"

To,

Dr. K. Kamala,
Assistant Professor of Political Science,
Government Degree College for Women (A),
Begumpet, Hyderabad.

Rc No: /GDCWB /Estt/2021 Date: 07.10.2021.

Respected Sir,

Sub:-Nomination as University Nominee of GDCW, (A), Begumpet, Hyderabad.

****

I am pleased to inform that you have been nominated as a University Nominee for the subject of Political Science for a period of two years.

Yours faithfully,
sd
Principal

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET

(AUTONOMOUS)

Re-Accredited with 'B' Grade by NAAC

CHOICE BASED CREDIT SYSTEM

(CBCS)

BOARD OF STUDIES

UNDER GRADUATE PROGRAMME

IN

DEPARTMENT OF ECONOMICS

(w.e.f. 2021-2022)

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET

(AUTONOMOUS)

Re-Accredited with 'B' Grade by NAAC

Department of Economics

Board of Studies Meeting on 11-10-2021 for the year 2021-22

AGENDA OF THE MEETING

- Approval and adoption of syllabus for V and VI Semesters of III year B.A.
- Ratification and prescribing of syllabus for I, II , III, IVSemesters of B.A. I&IIyearEconomics ; adoption of the syllabus.
- Prescribing of syllabus for I and II Semesters of B.A. Economics, Ratification and adoption of the syllabus.
- Prescribing of syllabus for III and IV Semesters of B.A. II year Economics, adoption of the syllabus.
- Approval of one certificate Course in Banking and Financefor B.A. II and III years.
- Scheme of Evaluation and Examination pattern to be followed.
- Approval of Model Question Paper.
- Approval of list of panel of examiners for both semesters.
- Any other matter with the permission of the chair.

BOS

Chairman BOS

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

University Nominee

Chairman
Board of Studies
Dept of Economics
Osmania University
Hyderabad-500 007

Members of BOS

1.

2. (DR. P. SATYANARAYANA)

3. Dr. Bala Srinivas

4.

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jaccherla
Dist.Mahabubnagar-509301 (TS)

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)

DEPARMENT OF ECONOMICS

B.A. I, II & III YEAR, CHOICE BASED CREDIT SYSTEM (2021-22)

PATTERN OF EXAMINATION

Question paper pattern for theory examination for B.A. all combinations for all papers is given hereunder:

Internal Assessment

- Two internals of 40 marks each – Average of the two internals is considered for computation in Marks Memo.
- Internals shall be held at the end of every 10th week and 15th week of the semester.
- The time of duration for the internal shall be 60 minutes.
- Internals consists of three parts.

  PART – A : Written test of 20 marks.

  PART – B : Online test (Multiple Choice Questions) of 10 marks conducted four times after the completion of each Module.

  PART – C : It consists of two activities

Assignment	-	5 Marks
Seminar/Debate/Quiz	-	5 Marks

- Internal Assessment Test with 1 Essay and 2 short questions from each unit.

End Semester Examination

- To be held in the month November/December andApril/May months.
- 60 marks are allotted for the Main Exam per each semester.

Examination Pattern

Section – A: Short Questions

Open choice from each unit

5out of 8 questions - each question carries 4 marks 5×4 =20 marks

Dr.J.VENKATESWARL
Assistant Professor
Department of Economics
Dr.BRR Govt College Jadcher
Dist.Mahabubnagar-509301(T

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS

Chairman
Board of Studies
Dept of Economics
Osmania University
Hyderabad-500 007

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S

Section – B: Essay Questions

Answer all questions with internal choice – each question carries 10 marks 5×8 =40 marks

Total = 60marks

Resolved to accept the above following pattern of examination Board of Studies

BOS

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HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

University Nominee

Chairman
Board of Studies
Dept of Economics
Osmania University
Hyderabad-500 007

Members of BOS

1.

2. (DR. P. SATYANARAYANA)

3. Dr Bala Sriniwas

4.

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jadcherla
Dist.Mahabubnagar-509301 (TS)

5

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)

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DEPARTMENT OF ECONOMICS

Board of Studies Meeting for the year 2021-22

The Board of studies meeting is held at 2.00 P.M on11-10-21 in the Department of Economics, GDCWomen(A), Begumpet.

The following members are present in the meeting are:

S.NO	NAME	ADDRESS	SIGNATURE
1	**Dr. N.VijayaRaghavi** Assistant Professor **HOD &Chairman,BOS** Dept. of Economics	Department of Economics Government Degree College for Women, Begumpet, Hyderabad.	HEAD & CHAIRMAN, BOS DEPARTMENT OF ECONOMICS GDCW (A) BEGUMPET, HYD-16.
2	**University Nominee:** **Prof.J.NarasimhaRao** **Chairman, BOS** **Osmania University** **Hyderabad**	Department of Economics Osmania University Hyderabad	Chairman Board of Studies Dept of Economics Osmania University Hyderabad-500 007.
3	**Dr. J. Venkateshwarlu** Assistant Professor Subject Expert	Dept. of Economics Government Degree College, Jadcherla, Mahaboobnagar Dist.	Dr.J.VENKATESWARLU Assistant Professor Department of Economics Dr.BRA Govt College Jadcherla Dist.Mahaboobnagar-509301 (TS)
4	**Dr. BalaSrinivas,** Assistant Professor Subject Expert	Dept. of Economics Nagarjuna Government College Nalgonda, Nalgonda Dist.	Dr. BALA SRINIVAS Assistant Professor Department of Economics Nagarjuna Government College NALGONDA-508 001, T.S.
5	**Dr. P. Satyanarayana** Assistant Professor Member	Dept. of Economics Government Degree College for Women,Begumpet, Hyderabad.	P. Satyanarayana
6.	**Visiting Faculty**	Prof.Indrakanth RBI Chair in NIRD Visiting Professor,CESS	
7.	**Industry Expert**	M.Narasimham Faculty, ICWA, Hyderabad Chapter, Former Company Secretary in PM Telelinks Ltd. Secunderabad	M Narasimham 11/10/21

(AUTONOMOUS)
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DEPARTMENT OF ECONOMICS

Board of Studies Meeting for the year 2021-22

MINUTES RECORD

The Board of Studies Meeting of the Department of Economics was held on 11-10-2021 at 2:00 P.M in the Department of Economics, GDCW(A).Begumpet.

The following resolutions were taken in the meeting

- The Division of the syllabus for the 5th semester Discipline Specific Course Paper- V consists of **Public Economics** syllabus which is as follows.

- Unit – I: Introduction
- Unit – II: Public Expenditure
- Unit – III: Taxation and Public Development
- Unit – IV: Public Revenue,Fiscal Policy and Federal Finance
- Unit-V: Budget

The Division of the syllabus for the 6th semester Discipline Specific Course-Paper-VI consists of **International Economics** Syllabus which is as follows.

- Unit – I: Theories of International Trade
- Unit – II: Trade and Growth Gains from Trade
- Unit – III: Terms of Trade, Tariffs and Quotas
- Unit-IV: Balance of Payments
- Unit – V: International Funding Institutions The Board of Studies approved and adoption of syllabus as mentioned above.
- It is resolved to follow the prescribed text books and reference books as recommended by the BOS Chairman and members.
- It is resolved to approved the changes of syllabus in I,II,III&IV Semesters for 1st and 2nd Years.
- It is resolved to approved and adoption of Public Economics in Semester-V and International Economics in Semester-VI of B.A III Year.
- It is resolved to follow the existing Osmania University syllabus prescribed for Economics. 100 marks per semester. 60 marks to be awarded for external end evaluation and 40 marks for Internal evaluation.
- It is resolved to follow the following internal assessment scheme for 40 marks.

Internal Assessment I+II- (Written Test) - 20Marks

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College
NALGONDA-508 001. T.S.

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

Chairman
Board of Studies
Dept of Economics
Osmania University
Hyderabad-500 007

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College, Jadcherla
Dist.Mahabubnagar-509301 (TS)

MCQs - 10 Marks

Assignment - 5 Marks

Seminar - 5 Marks

Total - 40 Marks

- The maximum marks for the end semester theory examination is 60 marks and the pattern of examination is as follows:

Section – A: Short Questions

Five out of Eight questions with Open choice. Each question carries marks 5×4=20marks

Section – B: Essay Questions

Answer all questions with Internal Choice. Each question carries 15 marks 5×8=40 marks

Total =60 marks

- The Board approved the above mentioned examination pattern and scheme of evaluation.
- It is approved minor changes in the syllabus of 5th Semester and 6th Semester DSC and GE were recommended.
- The Board approved the panel of examiners mentioned.
- The duration of exam time for internals will be 45 minutes.
- Paper setting and valuation to be done by external examiners from the approval panel for external papers. .
- It is resolved to approve the one **Skill Enhancement Courses each** for III & IV Semesters for B.A. 2nd year students under CBCS for the academic year 2021-22.
- The division of syllabus for III & IV semester for the **SEC**- 2 and 4 consists of 2 units under each semester.
- The division of syllabus for V & VI semesters for the core consists of 5 units under each semester.
- The board approved and adoption of syllabus as mentioned above.

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (
NALGONDA-508 001. T.S.

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

Chairman
Board of Studies
Dept of Economics
Osmania University
Hyderabad-500 007

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jadcherla
Dist.Mahabubnagar-509301 (TS)

- It is resolved to follow the prescribed text books and reference books recommended by the BOS, Osmania University.
- It is resolved to follow and ratify the prescribed Osmania University Syllabus for B.A. Economics 3rd year for the academic year 2021-22 onwards.

Date:

Chairman BOS

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

University Nominee

Chairman
Board of Studies
Dept of Economics
Osmania University
Hyderabad-500 007

Members of BOS

1.
2.
3.
4.
5.

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jadcherla
Dist.Mahabubnagar-509301 (TS)

Scheme of Study: 2021-22

Sem	Paper Code	Course	Teaching Hours	Credits	Internal Assessment	Theory Marks	Total Marks
I	DSC Paper-I	Micro Economics	5	5	40	60	100
II	DSC Paper-II	Macro Economics	5	5	40	60	100
III	DSC Paper-III	Statistics for Economics	5	5	40	60	100
	SEC-I	UGC Specified SEC-1 Communication Skills and Professional Skills	2	2	10	40	50
	Sec-II	Rural Development	2	2	10	40	50
IV	DSC Paper-IV	Indian Economy	5	5	40	60	100
	SEC-III	UGC Specified SEC-3 Leadership and Management Skills,Universal Human Values	2	2	10	40	50
	Sec-IV	Entrepreneurship Development	2	2	10	40	50
V	DSC Paper-V	Public Economics	5	5	40	60	100
	GE-I	Telangana Economy	4	4	40	60	100
VI	DSC PAPER VII	International Economics	5	5	40	60	100
	Project	Project (Project Report and Seminar)	4	4	50	50	100

Programme Outcomes

PO 1 Domain Expertise:

- Acquire comprehensive knowledge and skills.
- Make use of the knowledge in an innovative manner.
- Effectively apply the knowledge and skills to address various issues.

PO 2 Modern equipment Usage

- Use ICT effectively.
- Access, retrieve and use authenticated information.
- Access, retrieve and use authenticated information.Have knowledge of software applications to analyze data.

PO 3 Computing Skills and Ethics

- Develop rationale and scientific thinking process.
- Use technology intelligently for communication, entertainment and for the benefit of mankind.
- Ensure ethical practices throughout ones endeavors for the wellbeing of human race.

PO 4 Complex problem Investigation & Solving

- Predict and analyze problems.
- Frame hypotheses.
- Investigate and interpret empirical data.
- Plan and execute action.

PO 5 Perform effectively as Individuals and in Teams

- Work efficiently as an individual
- Cooperate, coordinate and perform effectively in diverse teams/groups.
- Prioritize common interest to individual interest.

PO 6 Efficient Communication & Life Skills

- Express thoughts in an effective manner
- Listen, understand and project views in a convincing manner.
- Decide appropriate media to share information
- Develop skills to present significant information clearly and concisely to interested groups.

PO 7 Environmental Sustainability

- Understand sensibly the Environmental challenges.
- Think critically on environment sustainability measures.
- Propagate and follow environment friendly practices.

PO 8 Societal contribution

- Render service for the general good of the society.
- Involve voluntarily in social development activities at Regional, National, global levels.
- Have own pride in volunteering to address societal issues viz: calamities, disasters, poverty, epidemics.
- Be a patriotic citizen to uphold the values of the nation

PO 9 Effective Project Management

- Identify the goals, objectives and components of a project and decide the appropriate time of completion.
- Plan, organize and direct the endeavors of teams to achieve the set targets in time.
- Be competent in identifying opportunities and develop strategies for contingencies.

Programme Specific Outcomes of

Department of Economics

PSO1 – To know the key changes in Indian and Global Economies.

PSO2 – To know the Economic growth trends of Indian and World Economies.

PSO3 – To analyse macro-economic policies including fiscal and monetary policies of India.

PSO4– To understand the behaviour of financial and money markets and cost benefit analysis for making investments.

PSO5– To develop the general ability of analysing economic problems and issues.

PSO6 – To determine economic variable including inflation, unemployment, poverty, GDP, Balance of Payments problems, foreign exchange rates by using statistical methods.

PSO7. Understand theoretical and practical aspects of Economics.

PSO8. Evaluate Economic behaviour of Individuals and organisations.

PSO9. Suggest the policy makers about desirable changes to be made in Micro and Macro Economic issues as future policy makers.

PSO10. Gain ability to understand the economic problems of the nation.

PSO11. Able to offer palatable solutions for economic challenges.

PSO12. Attain Proficiency to analyze the economic decision of Government and non-Govt. entities.

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(AUTONOMOUS)
DEPARMENT OF ECONOMICS
B.A. I YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)
SEMESTER-I, **MICRO ECONOMICS**, Discipline Specific Course – Paper – I

Course Title: Micro Economics
Nature of Course: Core
Number of Credits: 5

Total Hours: 90

Course Objective:
This course exposes the student to the basic principles and application of Microeconomic Theory.

Course outcomes:
On completion of the Course, students will:
CO1. Understand in details with examples Concepts of Micro and Macro Economics.
CO2. Understand in depth Laws of Utility.
CO3. Learn in details with examples meaning and properties of indifference curve.
CO4. Deliberate in depth cost and revenue concepts.
CO5. Specify the details of concepts of Marginal cost and Marginal revenue
CO6. Understand the details of meaning and types of markets. .
CO7. Learn in depth types of Imperfect Competition
CO8. Deliberate the characteristics of Price Discrimination.
CO9. Identify the classification and characteristics of Kinked Demand Curve.

Module I: Introduction and Consumer Behaviour

Definitions: Wealth, Welfare, Scarcity and Growth. Scope and Limitations.Importance of Economics.Concept of Utility.Cardinal and Ordinal Utility Analysis.Law of Diminishing Marginal Utility, Law of Equi- Marginal Utility. Properties of Indifference Curves, Concept of Budget Line, Consumer Equilibrium, Consumer Surplus. Price Consumption Curve, Income Consumption Curve, Derivation of Demand Curve with the help of Ordinal Utility Analysis.Concept of Price, Income and Substitution Effects.

Module II: Production Analysis

Concepts of Short Run and Long Run Production Function, Properties of Iso-Product Curves, Concept of Factor Price Line , Analysis of Least Cost Input Combination, Concept of Expansion Path and Economic Region of Production, Concept of Returns Scale and Types of Returns to Scale. Linear and Homogenous Production Function, Properties of Cobb-Douglas Production Function.

Module III: Cost and Revenue Analysis
Cost Concepts: Accounting, Real, Opportunity, Explicit Cost, Total Cost , Total Fixed Cost, Total Variable Cost, Average Cost, Average Fixed Cost, Average Variable Cost, Marginal

Dr. BALA SRINIV...
Assistant Professor
Department of Econo...
Nagarjuna Government Co...
NALGONDA-508 001

Chairman
Board of Studies
Dept. of Economics
Osmania University
Hyderabad-500 007

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Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jadcherla
Dist.Mahabubnagar-509301 (TS)

Cost and the Relationship between Average and Marginal Cost, Derivation of Long Run Average Cost Curve. Economies of Scale: Internal and External Economies.

Revenue Concepts: Total, Average and Marginal, Relationship between Average Revenue and Marginal Revenue and Price Elasticity of Demand-Revenue Curves.

Module IV: Market Structure: Imperfect Competition

Monopoly :Equlibrium of a Monopolist with Price Discrimination, Degree of Price Discrimination, Welfare Loss Under Monopoly. Monopolistic Competition: Characteristics, Concepts of Product Differentiation and Selling Cost, Analysis of Resources Wastage under Monopolistic Competition. Oligopoly: Characteristics of Oligopoly, Reasons for Price Rigidity in Non-Collusive Oligopoly. Duopoly: AugustinCournot's Modern Version of Duopoly.

Module V: Analysis of Business Firm , Profit and Pricing Strategies

Characteristics of Business Firm, Objectives of Business Firm: Profit maximization, Sales Revenue maximization, Market shares maximization, Growth maximization. Profit Concepts: Accounting and Economic, Break-Even Point and Profit-Volume Analysis.

Pricing Strategies: Cost Plus Pricing, Marginal Cost Pricing, Rate of Return Pricing, Price Skimming, Penetration Pricing, Loss-Leader Pricing, Mark-Up Pricing and Administered Prices.

References Books:

1. M L Seth : Micro Economics
2. M L Jhingan: : Micro Economics
3. H L Ahuja: : Modern Micro Economics
4. Koutsayanis; : Modern Micro Economics
5. Stonier and Hague : Micro Economics
6. Salvatore : Micro Economics
7. SchaumSeries : Micro Economics

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Assistant Professor
Department of Economics
Dr.BRR Govt College Jaggaiahpet
Dist.Mahabubnagar-509301 (TS)

DR. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S.

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B.A. I YEAR, CHOICE BASED CREDIT SYSTEM (2021-22)
SEMESTER-I, **MICRO ECONOMICS**, Discipline Specific Course –Paper – I

QUESTION PAPER PATTERN FOR SEMESTER EXAMINATION

Time: 2 ½ Hrs **Max. Marks: 60**

SECTION – A

I. Answer any Five out of Eight questions. Each question carries 5 marks. 5×4=20marks

1.
2.
3.
4.
5.
6.
7.
8.

SECTION – B

II. Answer All questions with Internal Choice. Each question carries 10 marks. 5×8=40marks

9. a
(or)
b

10. a
(or)
b

11. a
(or)
b

12. a
(or)
b

13. a
(or)
b

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Dept of Economics
Osmania University
Hyderabad-500 007

Dr. J. VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jadcherla
Dist.Mahabubnagar-509301 (TS)

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College
NALGONDA-508 001. T.S.

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B.A. I YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)
SEMESTER-II, **MACRO ECONOMICS**, Discipline Specific Course – Paper II

Course Title: Macro Economics
Nature of Course: Core
Number of Credits: 5

Total Hours: 90

Course Objective:
This course introduces students to the basic concepts in Macroeconomics, definition, measurement and variables like GDP, consumption, savings, investment and Balance of Payments.

Course Outcomes:

On completion of the Course, students will:
CO1. Identify in details with examples Key variables of Macro Economics.
CO2. Understand in details with examples Concepts of National Income.
CO3. Identify in depth Marginal Efficiency of Capital.
CO4. Specify the details of Concept of Multiplier.
CO5. Identify the characteristics of Keynesian Macro Economics.
CO6. Deliberate in depth Liquidity Theory of money.
CO7. Identify the characteristics of Demand for Money.
CO8. Identify in details with examples Concept if Inflation.
CO9. Learn the classification and characteristics of Trade Cycles.

Module– I: Introduction Macro Economics – Concept of Circular Flow of Incomes – National Income Analysis: Concepts and Components – Methods of Measurement – Difficulties and Limitations in the Estimation of National Income.

Module– II: Theories of Income and Employment Keynesian Theory of Income and Employment: Effective Demand – Consumption Function: Average Propensity to Consume (APC) and Marginal Propensity to Consume (MPC) – Factors Determining Consumption Function – Savings Function: Average Propensity to Save and Marginal Propensity to Save – Concepts of Multiplier and Accelerator

Module– III: Investment & Theories of Interest Rate Capital and Investment: Types of Investment, Determinants of Level of Investment – Marginal Efficiency of Capital and Marginal Efficiency of Investment, Neo-Classical and Keynesian Theories of Interest.

Module – IV: Supply of Money & Demand for Money Functions and Classification of Money – Money Supply – Measures of Money Supply with reference to India: M1, M2, M3 and M4 – Classical Theories of Money: Fisher's and Cambridge Versions of Quantity Theory of Money – Keynes' Theory of Money and Prices. – Demonetization

Dr. D. VENKATESWA
Assistant Professor
Department of Econom
Dr.BRR Govt College Jad
Dist.Mahabubnagar-5093

Dr. BALA SRINIVA
Assistant Professor
Department of Economic
Nagarjuna Government Colleg
NALGONDA-508 001. T.

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Module– V: Inflation & Trade Cycles Inflation: Concept, Types, Causes and Measurement – Effects of Inflation – Measures to Control Inflation – Concepts of Phillips Curve, Deflation and Stagflation – Trade Cycles: Concept, Causes and Phases of trade cycle.

Reference Books:

1) Ackley, G (1976) : Macro Economics: Theory and Policy, Macmillan, New York
2) Shapiro, E (1996) : Macro Economic Analysis, Galgotia Publications, New Delhi
3) Hansen A H (1953): A Guide to Keynes, McGraw Hill, New York
4) Keynes JM (1936): The General Theory of Employment, Interest and Money.
5) MC Vaish : Macro Economic Theory
6) HL Ahuja : Macro Economic Theory & Policy
7) VanithaAgarwal: Macro Economic Theory & Policy, Pearson Education
8) HL Ahuja : Macro Economic Analysis
9) Gupta, SB : Monetary Economics: Institutions, Theory and Policy
10) M.L. Seth : Macro Economics, Lakshmi NarainAgarwal, Agra, 2006

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DEPARTMENT OF ECONOMICS
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Chairman
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Dept of Economics
Osmania University
Hyderabad-500 007

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S.

Dr.J.VENKATESWARL
Assistant Professor
Department of Economics
Dr.BRR Govt College (Auton
Dist.Mahabubnagar-509001

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B.A. 1 YEAR, CHOICE BASED CREDIT SYSTEM (2021-22)
SEMESTER-II, **MACRO ECONOMICS**, Discipline Specific Course –Paper – II

QUESTION PAPER PATTERN FOR SEMESTER EXAMINATION

Time: 2 ½ Hrs **Max. Marks: 60**

SECTION – A

I. Answer any Five out of Eight questions. Each question carries 5 marks. 5×4=20marks

1.
2.
3.
4.
5.
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7.
8.

SECTION – B

II. Answer Allquestions with Internal Choice. Each question carries 10 marks. 5×8=40marks

9. a
(or)
b

10. a
(or)
b

11. a
(or)
b

12. a
(or)
b

13. a
(or)
B

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (
NALGONDA-508 001. T.S.

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GDCW (A) BEGUMPET, HYD-16.

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Osmania University
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Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jadcherla
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PANEL OF EXAMINERS 2021-22

S.NO	Paper III	Paper IV
1	**Dr. D. Muniswamy**, Assistant Professor, BJR College, Hyderbad. Cell Number: 9550636464, 8500234870.	**Dr.Ch. Anuradha**, Assistant Professor, Govt. Degree College, Khairthabad, Hyderabad, Cell Number: 9014486435, 8919392419.
2	**Dr. BalaSreenivas** Assistant Professor of Economics N.G.College(A), Nalgonda Cell Number:9491595813	**Mr.P.VenkateswarRao**, Assistant Professor, Govt. City College(A), Hyderabad. Cell Number: 9963945825.
3	**Dr. G.M Kasturi,** Assistant Professor, Department of Economics, GDC Kukatpally, Hyderabad. Cell Number: 9441548382.	**Dr. S. Ramesh,** Assistant Professor Govt. Degree College, Malkajgiri, Hyderabad. Cell Number: 9160450077.
4	**Dr.M.A Malik**, Assitant Professor of Economics,Govt. Degree College, Kukatpally, Hyderabad. Cell Number: 9849875352.	**Dr. D.Padma** Govt. Degree College Sadasivapet Cell Number: 94930 46020
5	**K. Shoba Rani**, Lecturer in Economics, GDC, Hussaini-alam, Hyd. Cell Number: 994930246.	**Dr. S. HariKishan**, Lecturer, GDC, Sitaphalmandi, Hyderabad. Cell Number: 9246167284.

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Hyderabad-500 007

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2. P. Satya

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S.

Dr.J.VENKATESWARL
Assistant Professor
Department of Economics
Dr.BRR Govt College (Women)
Dist.Mahabubnagar-509001 (T

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B.A. II YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)
SEMESTER-III, RURAL DEVELOPMENT ,
SKILL ENHANCEMENT COURSE-II

Credits : 2 **TOTAL HOURS : 30**

Module-I Aspects of Rural Development Concept of Rural Development, RuralDevelopment vs. Agricultural Development, Role of NGOs in Rural Development, Rural Non-farm sector and Rural Development, Decentralized planning and Participatory development, role Panchayats in decentralized in rural development.

Module-II Rural Credit and Self Help Groups Role of National Bank for Agriculture and Rural Development (NABARD) for rural development, Constraints of micro-enterprises in rural areas, credit need for rural non farm sector, the concept of micro credit, Micro credit role of Grameen Bank, SHG's in India Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) and rural development.

References

1. KatarSingh , Rural Development : Principles, Policies and Management, Sage Publications, New Delhi 2. K.G. Karmakar, Rural Credit and Self-Help Groups, Sage Publications, New Delhi

3. S.Sau, Rural Industrialization –Development Trajectory in India, Farma K.L.M., Kolkata

4. Misra D. and Puri K. Indian Economy, Himalaya Publishing House

5. Datt and Sundharam (Revised by G.Datt and A. Mahajan) , Indian Economy, 70th edition, S. Chand

6. N. Narayanasami, Participatory Rural Appraisal: Principle, Methods and Applications, Sage Publications, New Delhi, 2009.

7. Vasant Desai, A Study of Rural Economics, Himalaya Publishing House, New Delhi

8. Mahi Pal, —Panchayati Raj and Rural governance, Economic and Political Weekly, Jan. 10-16, vol. XXXIX, 2004,No.2, p.13 16.

9. Raghava, D. V. Rao, Panchayats and Rural Development, Ashish Publishing House, New Delhi, 1980. 10. Ram Reddy, Pattern of Panchayati Raj in India, Heritage Publishers, New Delhi, 2

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Osmania University
Hyderabad-500 007

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S.

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College (Autonomous)
Dist.Mahabubnagar-509001 (TS)

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DEPARMENT OF ECONOMICS
B.A. IIND YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)
SEMESTER-III, RURAL DEVELOPMENT ,
SKILL ENHANCEMENT COURSE-II
MODEL QUESTION PAPER FOR SEMESTER EXAMINATION

Time: 1 Hour **Max. Marks: 40**

PART – A

I. ANSWER ANY FOUR OUT OF SIX 4X4=16M

1.

2.

3.

4.

5.

6.

PART - B

II. ANSWER ANY TWO 2X12=24M

1. (a)
   (or)
   (b)

2. (a)
   (or)
   (b)

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S.

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DEPARTMENT OF ECONOMICS
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Dept of Economics
Osmania University
Hyderabad-500 007

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jaocherla
Dist.Mahabubnagar-509301 (TS)

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B.A. II YEAR, ECONOMICS, CHOICE BASED CREDIT SYSTEM SYLLABUS(2021-22)
SEMESTER-III, **STATISTICS FOR ECONOMICS**,
Discipline Specific Course, Paper -III

Course Title: Statistics for Economics
Nature of Course: Core
Number of Credits: 5 **Total Hours: 90**

Course Objective:
This course introduces the student to collection and presentation of data. Discusses how data can be summarized and analyzed for drawing statistical inferences.

Course outcome
On completion of the Course, students will:
CO1. Understand the classification and characteristics of Census versus Sample Survey.
CO2. Specify the details of Measures of Central Tendency
CO3. Learn about the Measures of Dispersion.
CO4. Understand in depth Karl Pearson Method
CO5. Learn in details with application, Index Numbers
CO6: Learn the details of Introduction to Time series.

Module– I: Meaning andBasic Concepts of Statistics:

Population and Sample, Frequency DistributionIntroduction to Statistics, Cumulative Frequency – Graphic and Diagrammatic Representation of Data –Types of Data: Primary and Secondary Data –Methods of Collecting Data: Census and Sampling Methods (Random, Non-random Sampling Methods)

Module– II: Measures of Central Tendency and Dispersion Measures of Central Tendency:

Mean, Median, Mode – Properties of Good Average – Comparison of Different Averages – Measures of Dispersion, Absolute and Relative Measures of Dispersion: Range, Quartile Deviation, Mean Deviation, Standard Deviation, Coefficient of Variation and Variance.

Module– III: Correlation and Regression:

Meaning andTypes – Karl Pearson's Correlation Co-efficient – Spearman's Rank Correlation –Regression: Meaning and Uses of Regression.

Module– IV: Index Numbers:

Aspects and Difficulties in the Construction of Index Numbers - Types of Index Numbers: CPI and WPI – Methods of Index Numbers – Laspayer's, Paasche's and Fisher's Indices.

Dr.J.VENKATESWAR
Assistant Professor
Dept.of Economic
Dr.BRR Govt College Jadcl
Dist.Mahabubnagar-509301

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College
NALGONDA-508 001. T.

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Module– V: Analysis of Time Series:

Meaning and Uses – Components of Time Series Analysis: Secular, Seasonal, Cyclical and Irregular Variations – Methods of Measurement of Secular Trends: Graphic, Semi-Averages, Moving Averages.

Reference Books:

1. Allen, RGD : Mathematical Analysis for Economists, Macmillan Press, London.

2.Bharadwaj RS : Mathematics for Economics and Business, Excel Books, New Delhi.

3.Nagarat Das : Basic Statistics.

4. S.P. Gupta : Statistics

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Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S.

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College, Jadcherla
Dist.Mahabubnagar-509301 (TS)

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DEPARMENT OF ECONOMICS
B.A. II YEAR, ECONOMICS, CBCS(2021-22)
SEMESTER-III, **STATISTICS FOR ECONOMICS**
Discipline Specific Course, Paper -III
QUESTION PAPER PATTERN FOR SEMESTER EXAMINATION

Time: 2 ½ Hrs **Max. Marks: 60**

SECTION – A

I. Answer any Five out of Eight questions. Each question carries 5 marks. 5×4=20marks

1.
2.
3.
4.
5.
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7.
8.

SECTION – B

II. Answer All questions with Internal Choice. Each question carries 10 marks. 5×8=40marks

9. a
(or)
b

10. a
(or)
b

11. a
(or)
b

12. a
(or)
b

13. a
(or)
b

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Osmania University
Hyderabad-500 007

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S.

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College, Jadcherla
Dist.Mahabubnagar-509301 (TS)

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DEPARMENT OF ECONOMICS
B.A. II YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)
SEMESTER-IV, ENTREPRENEURSHIP DEVELOPMENT
SKILL ENHANCEMENT COURSE-IV

Credits : 2 **TOTAL HOURS : 30**

Module-I : Basic Issues of Entrepreneurship and Economic Development

Basic features of Entrepreneurship, Entrepreneurship and its linkages with economic development, Growth of entrepreneurship in India- Role of entrepreneurship in Economic Development and problems of rural entrepreneurship in India.

Module-II: Financial Resources for new ventures of an entrepreneur:

Source of finance, capital structure, Institutional support to enterprises- National Small Industries Board- State Small Industries Development Corporation- District Industrial estates- Indian Experience, Stages of growth, types of growth strategies of expansion, Diversification, joint venture, merger and subcontracting.

References:

1. S.S. Khanka Entrepreneurial Development, S Chand & Company Ltd.

2. David . H. Holt- Entrepreneurship New Venture Criterion

3. Poornima M. Entrepreneurship Development and Small Business Enterprises (2nd Edition Pearson)

4. Datt and Sundaram (Revised by A. Mahjan), Indian Economy, 70th Edition, S Chand.

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Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College (Autonomous)
Dist.Mahabubnagar-509001 (TS)

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Osmania University
Hyderabad-500 007

Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S.

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B.A. II YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)
SEMESTER-IV, ENTREPRENEURSHIP DEVELOPMENT
SKILL ENHANCEMENT COURSE-IV
MODEL QUESTION PAPER FOR SEMESTER EXAMINATION

Time: 1 Hour **Max. Marks: 40**

PART – A

I. ANSWER ANY FOUR OUT OF SIX 4X4=16M

1.

2.

3.

4.

5.

6.

PART - B

II. ANSWER ANY TWO 2X12=24M

1. (a)
(or)
(b)

2. (a)
(or)
(b)

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Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College, Jadcherla
Dist.Mahabubnagar-509301(TS)

Chairman
Board of Studies
Dept of Economics
Osmania University
Hyderabad-500 007

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S.

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DEPARMENT OF ECONOMICS
B.A. II YEAR, CHOICE BASED CREDIT SYSTEM (2021-22)
SEMESTER-IV, **INDIAN ECONOMY**, Discipline Specific Course –Paper – IV

Course Title: Indian Economy
Nature of Course: Core
Number of Credits: 5

Total Hours: 90

Course Objective:
This course examines sector-specific trends in key indicators and their implications in the Indian Economic development.

Course outcomes:
On completion of the Course, students will:
CO1. Understand the characteristics of Indian economy.
CO2. Identify the characteristics of Indian agriculture and Marketing policies.
CO3. Know the classification and characteristics of New Industrial Policy.
CO4. Specify in depth Public and Private Sector.
CO5. Identify in depth of New Economic Reforms.
CO6. Understand in depth LPG Policies.

Module – I : Structure of the Indian Economy

Indian Economy at the time of Independence. Changes in the composition of National Income and Employment; Natural Resource Base: Land, Water, Forest, Mineral and Metal Resources; Sustainable Development.

Module – II : Indian Agriculture

Importance and Role of Agriculture.Trends in Agricultural Production and Productivity.Land Reforms, Green Revolution.AgriculturalFinance.AgriculturalMarketing.Agricultural Price Policy.Food Security in India.

Module – III : Indian Industry and Service Sector

Structure, Growth and Employment of Industry; Industrial PolicyResolutions : 1948, 1956 and 1991; Growth and Problems of Small Scale Industries; Service Sector- Growing and Importance of Service Sector in India (Education, Health).

Module – IV : Planning in India

Meaning & Definition- Need of Planning – Types of Planning. Five – Year Plans- Objectives, Strategies, Resource Allocation; Evaluation and Performance of The Indian Economy under Planning Era: NITI Ayog.

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S.

Dr. J. VENKATESWARLU
Assistant Professor
Dept. of Economics
Dr.BRR Govt College Wacherla
Dist.Mahabubnagar-509301 (TS)

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DEPARTMENT OF ECONOMICS
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Dept of Economics
Osmania University

Module – V : Economic Reforms and Globalisation

New Economic Reforms: Liberalisation, Globalisation, Privatisation and their Implications in India.

References :

- SK Misra and Puri : Indian Economy, Himalaya Publishing House
- Ishwar C Dhingra : The Indian Economy: Environment and Policy, SC Chand & Sons, New Delhi RC Dutt
- KPM Sundaram : Indian Economy

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DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

Chairman
Board of Studies
Dept of Economics
Osmania University
Hyderabad-500 007

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S.

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jadcherla
Dist.Mahabubnagar-509301 (TS)

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
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DEPARMENT OF ECONOMICS
B.A. II YEAR, CHOICE BASED CREDIT SYSTEM (2021-22)
SEMESTER-IV, **INDIAN ECONOMY**, Discipline Specific Course –Paper – IV
QUESTION PAPER PATTERN FOR SEMESTER EXAMINATION

Time: 2 ½ Hrs **Max. Marks: 60**

SECTION – A

I. Answer any Five out of Eight questions. Each question carries 5 marks. 5×4=20marks

1.
2.
3.
4.
5.
6.
7.
8.

SECTION – B

II. Answer All questions with Internal Choice. Each question carries 10 marks. 5×8=40marks

9. a
(or)
b

10. a
(or)
b

11. a
(or)
b

12. a
(or)
b

13. a
(or)
b

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S.

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jadcherla
Dist.Mahabubnagar-509301 (TS)

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Dept of Economics
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Hyderabad-500 007

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B.A. III YEAR, CHOICE BASED CREDIT SYSTEM (2021-22)

INDIAN ECONOMY

QUESTION PAPER PATTERN FOR INTERNAL ASSESSMENT

Duration of exam: 1 Hr. **Max. Marks: 15**

Section – I

Answer any FIVE from the following 5×2 1/2=5 marks

1.
2.
3.
4.
5.
6.
7.
8.

Section – II

Answer any ONE from the following 1×10=10 marks

9. a.
(or)
b.

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Board of Studies
Dept of Economics
Osmania University
Hyderabad-500 007

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jaicher
Dist.Mahabubnagar-509301 (T.

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S.

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DEPARMENT OF ECONOMICS
B.A. II YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)

Certificate Course in Banking and Finance

Credits:2
Hours:30

Course Objective:

This course deals with basics of Financial Economics to equip the students with basics of financial economics to enable them to face the challenges of financial market.

Course Outcome:

1) Students will know about the financial institutions in India
2) Students will understand the basic financial structure in India.

Module 1: Banking-RBI-Functions-Commercial Banks-Credit Creation-Banking Multiplier-Bank Rate- CRR-SLR-Repo Rate-Reverse repo- Credit Control.

Module 2. Structure of the Financial System: NBFCs, -Capital Markets: Stock Markets-SEBI- Insurance Sector- IRDA- Mutual Funds-AMFI.

Reference Books:

1) Bhole, L.M. (1999), Financial Institutions and Markets, Tata McGraw Hill Company Ltd., New Delhi.
2) Johnson, H.J. (1996) Financial Institutions and Markets, Tata McGraw Hill, New Delhi.
3) Khan, M.Y. (1996) Indian Financial System, Tata McGraw Hill, New Delhi.
4) Machiraju, M.R. (1999) Indian Financial Systems, Vikas Publishing House, New Delhi.
5) Ohlson, J.A. (1987), The Theory of Financial Markets and Institutions, North Holland, Amsterdam.
6) Prasad, K.N. (2001) Development of India's Financial System, Sarup& Sons, New Delhi.

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College
NALGONDA-508 001. T.S

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DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

Chairman
Board of Studies
Dept of Economics
Osmania University
Hyderabad-500 007

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jadcherla
Dist.Mahabubnagar-509301 (TS)

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PANEL OF EXAMINERS 2021-22

S.NO	Paper III	Paper IV
1	**Dr. BalaSreenivas** Assistant Professor of Economics N.G.College(A), Nalgonda Cell Number:9491595813	**Dr. S. HariKishan**, Lecturer, GDC, Sitaphalmandi, Hyderabad. Cell Number: 9246167284
2	**Dr. D. Muniswamy**, Assistant Professor, BJR College, Hyderbad. Cell Number: 9550636464, 8500234870	**Mr.P.VenkateswarRao**, Assistant Professor, Govt. City College(A), Hyderabad. Cell Number: 9963945825.
3	**Dr. D.Padma** Govt. Degree College Sadasivapet Cell Number: 94930 46020	**Dr. S. Ramesh,** Assistant Professor Govt. Degree College, Malkajgiri, Hyderabad. Cell Number: 9160450077.
4	**Dr.M.A Malik**, Assitant Professor of Economics,Govt. Degree College, Kukatpally, Hyderabad. Cell Number: 9849875352.	**Dr. G.M Kasturi,** Assistant Professor, Department of Economics, GDC Kukatpally, Hyderabad. Cell Number: 9441548382.
5	**K. Shoba Rani**, Lecturer in Economics, GDC, Hussaini-alam, Hyd. Cell Number: 994930246.	**Dr.Ch. Anuradha**, Assistant Professor, Govt. Degree College, Khairthabad, Hyderabad, Cell Number: 9014486435, 8919392419.

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Osmania University
Hyderabad-500 007

Members of BOS

1. Mnonasimhan
2. P. Satya
3. [illegible]
4. [illegible]

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jadcherla
Dist.Mahabubnagar-509301 (TS)

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
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DEPARMENT OF ECONOMICS
B.A. III YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)
SEMESTER-V, **TELANGANA ECONOMY**
GENERIC ELECTIVE (or) INTER-DISCIPLINARY COURSE - I

Credits : 4 **TOTAL HOURS: 60**

Course Objective:
This Course provides the students with the knowledge of Telangana Economy and prepares the students with the skills required for competitive examinations.

Course Outcome:

On completion of the Course, students will:
CO1. Identify the details about the State Domestic Product
CO2. Learn the characteristics of Population.
CO3. Identify the details of trends in Agriculture.
CO4. Understand the details of Unemployment.

Module- I: Telangana Economy-Introduction

Economic Features of Telangana, Demographic Features of Telangana- Occupational Distribution of population in Telangana- Sectoral Distribution of population.

Module- II: Gross State Domestic Product, Poverty and Unemployment

Growth and Trends in Gross State Domestic Product and Per capita income in Telangana- SectoralContribution to Gross State Domestic Product. Poverty and Unemployment in Telangana: Trends,Causes& Concentration of Economic Power.

Module- III: Agriculture Sector

Growth of Agriculture in Telangana Economy- Trends in Agricultural Production and Productivity.Agrarian Structure and Land Reforms, Irrigation sources Trends- Mission Kakatiya, Agricultural Credit and Rural Indebtedness.

Module- IV: Industrial Sector and Service Sector

Structure of Telangana Industry- Its Growth and Pattern Industrial Policy of Telangana-TS iPASSSpecial Economic Zones.Importance of Service Sector in Telangana- Growth and Pattern of Development of Service Sector in Telangana.

References:

1. Rao S Kishan and Rahul A Shastry (2009): Andhra Pradesh Economy – Dynamics of Transformation with a focus on Regional Disparities, National Academy of Development,
2. HanumanthaRao and S.MahenderDev (2003); Andhra Pradesh Development – Economic Reform and Challenges Ahead, Centre for Economic and Social Studies, Hyderabad.
3. KankalathaMukund (1990); "Andhra Pradesh Economy in Transition; Centre for Economic and Social Studies, Hyderabad and Book Links Corporation, Hyderabad.

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr. BRR Govt. Degree College
Dist.Mahabubnagar-509001 (T.S.)

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College
NALGONDA-508 001. T.S.

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DEPARMENT OF ECONOMICS
B.A. III YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)
GENERIC ELECTIVE (or) INTER-DISCIPLINARY COURSE - I
SEMESTER-V, **TELANGANA ECONOMY**
MODEL QUESTION PAPER PATTERN

Time : 2 1/2 hour
Marks : 60

SECTION – A

I. Answer any Five out of Eight questions. Each question carries 4 marks. 5×4=20marks

1.
2.
3.
4.
5.
6.
7.
8.

SECTION – B

II. Answer all questions with Internal Choice. Each question carries 10 marks:: 4x10=40 marks

9. a
(or)
b

10. a
(or)
b

11. a
(or)
b

12. a
(or)
b

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S.

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

Chairman
Board of Studies
Dept of Economics
Osmania University
Hyderabad-500 007

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jaccherla
Dist.Mahabubnagar-509301 (TS)

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DEPARMENT OF ECONOMICS
B.A. III YEAR, CHOICE BASED CREDIT SYSTEM (2021-22)
TELANGANA ECONOMY
QUESTION PAPER PATTERN FOR INTERNAL ASSESSMENT

Duration of exam: 1 Hr. **Max. Marks: 20**

Section – I

Answer any Five from the following 5×2=10 marks

1.
2.
3.
4.
5.
6.
7.
8.

Section – II

Answer any ONE from the following 1×10=10 marks

9. a.
(or)
b.

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Gadwal
Dist.Mahabubnagar-509301 (TS)

Chairman
Board of Studies
Dept of Economics
Osmania University
Hyderabad-500

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DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S.

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DEPARMENT OF ECONOMICS
B.A. III YEAR, ECONOMICS, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)
SEMESTER-V, PUBLIC ECONOMICS, Discipline Specific Course – Paper – V

Course Title: Public Economics **Total Hours: 90**
Nature of Course: Core
Number of Credits: 5

Module I: Introduction **15hrs**

Meaning, Scope and Importance of Public Finance; Evolution of public finance; Public and Private finance; Public goods and Private goods; Principle of Maximum Social Advantage.

Module II: Public Expenditure **15hrs**

Meaning - Classification of Public Expenditure, Theories of Public Expenditure (Wagnar's Law and Peacock Wisemans) –Causes of increase in Public Expenditure – Effects of Public Expenditure.

Module III: Taxation and Public Debt **18 hrs**

Approaches to taxation - Benefit approach and Ability to pay approach - incidence and shifting of taxation-Types and Classification (Direct and Indirect) and VAT, GSTPublic debt- Meaning, Classifications, Causes and Effects of Public Debt.

Module– IV: Public Revenue, Fiscal Policy Federal Finance **22 hrs**

Sources of Public Revenue - Taxes, Administrative Revenues, Commercial Revenues, Gifts and Grants, Deficit Finance; Sources of Central, State Revenue in India.Fiscal Policy –Meaning - objectives of Fiscal Policy in India; Fiscal Policy Vs. Monetary Policy; Fiscal Responsibility.Federal financial structure and its main features.

Module V: Budget **20hrs**

Budget – Classification of budgets- Economic, Functional, Organisational, Classifications of budgets- performance of programming and zero based budgets- surplus, balanced and deficit budget- concepts of budget deficit and their implications- State and Central budgets; Functions of Finance Commission.

References:

- Atkinson, A Band J.E Siglitz (1980) : Lecturers on Public Economics, Tata McGraw Hill, New York.
- Auerbach, A J and M. Feldson (Eds.)(1985) : Handbook of public Economics, Vol.1, North Holland Amsterdam.
- Buchanan, J M (1970): The Public Finances, Richard D Irwin, Homewood.
- Goode, R (1986): Government Finance in Developing Countries, Tata McGraw Hill, New Delhi.
- Houghton, J M (1970): The Public Finance: Selected Readings, Penguin, Harmondsworth.
- Jha, R (1998): Modern Public Economics, Routledge, London.
- Menutt, P (1996): The Economics of Public Choice, Edward Elgar, U.K.
- Musgrave, R A and P. B Musgrave (1976): Public Finance in theory and Practice, McGraw Hill, Kogakusha, Tokyo.
- S. K. Singh, Public Economics

HEAD & CHAIRMAN, BOS
DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001, T.S.

Chairman
Board of Studies
Dept. of Economics
Osmania University
Hyd-500 007

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jaggheria
Dist.Mahabubnagar-509301 (TS)

P. Satya

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(AUTONOMOUS)
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B.A. III YEAR, CHOICE BASED CREDIT SYSTEM (2021-22))
SEMESTER-V, PUBLIC ECONOMICS, Discipline Specific Course-Paper-V
QUESTION PAPER PATTERN FOR SEMESTER EXAMINATION

Max. Marks: 60

Time: 2 ½ Hrs

SECTION – A

I. Answer any Five out of Eight questions. Each question carries 4 marks. 5×4=20marks

1.
2.
3.
4.
5.
6.
7.
8.

SECTION – B

II. Answer all questions with Internal Choice. Each question carries 8 marks 5x8-40 marks

9. a
(or)
b

10. a
(or)
b

11. a
(or)
b

12. a
(or)

13 a
(or)
b

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S.

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Chairman
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Dept of Economics
Osmania University
Hyderabad-500 007

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jaggcherla
Dist.Mahabubnagar-509301 (TS)

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DEPARMENT OF ECONOMICS

B.A. III YEAR, CHOICE BASED CREDIT SYSTEM (2021-22)

PUBLIC ECONOMICS

QUESTION PAPER PATTERN FOR INTERNAL ASSESSMENT

Duration of Exam: 1 Hr. **Max. Marks: 20**

Section – I

Answer any Five from the following 5×2=10 marks

1.
2.
3.
4.
5.
6.
7.
8.

Section – II

Answer any ONE from the following 1×10=10 marks

9. a

(or)

b

Dr. J. VENKATESWARLU

Dr. B.R. ASRINIVASTHA
Assistant Professor
Department of Economics
Regional Government College (A)
NAIGONDA-508 001, T.S.

Chairman
Board of Studies
Dept. of Economics

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DEPARMENT OF ECONOMICS
B.A. III YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)
SEMESTER-VI, INTERNATIONAL ECONOMICS
Discipline Specific Course – Paper –VI

Course Title: International Economics
Nature of Course: Core
Number of Credits: 5

Total Hours: 90

Module - I: Theories of International Trade: Theories of absolute advantage, comparative advantage and opportunity costs; Theorem of factor price equalization; - Heckscher - Ohlin theory of trade, Leointif Paradox.

Module - II: Trade and Growth Gains from Trade.-Trade as an Engine of Economic Growth. Concepts of Terms of TradeFactors affecting Terms of Trade- Singer-Prebish secular deterioration of Terms of Trade.

Module – III : Terms of Trade and Tariffs, Quotas

Gains from Trade – Trade as an Engine of Economic Growth. Concepts of Terms of Trade – Factors affecting Terms of Trade,Tariffs,Quotas,Optimum Tariff;

Module – IV :Balance of Payments

Concepts and Components of BOP, Equilibrium and Disequilibria in Balance of Payments, Types of Disequilibria.Remedial Measures to Control Disequilibrium

Module-V:International Institutions:

IMF and its functions- World Bank and its functions and WTO – Structure and functions-FDI.

References :

- Soderston B. (1990) : International Economics, Macmillan Press LTD. London
- Kindle Berger Cp (1973) : International Economics RD Irwin Concepts Wood
- Vaish MC and Sudhama Singh (2000) : International Economics, Himalaya Publishing House, New Delhi
- Salvatore, D L (1997) : International Economics, Prentice Hall NJ
- Mithani DM (2000) : International Economics, Himalaya, Mumbai

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College
NALGONDA-508 001. T.S

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College (Autonomous)
Dist.Mahabubnagar-509301 (TS)

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Dept of Economics
Osmania University
Hyderabad-500 007

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B.A. III YEAR, CHOICE BASED CREDIT SYSTEM (2021-22)
SEMESTER-VI, INTERNATIONAL ECONOMICS, Discipline Specific Course-Paper- VII
QUESTION PAPER PATTERN FOR SEMESTER EXAMINATION

Time: 2 ½ Hrs **Max. Marks: 60**

SECTION – A

I. Answer any Five out of Eight questions. Each question carries 4 marks. 5×4=20marks

1.
2.
3.
4.
5.
6.
7.
8.

SECTION – B

II. Answer all questions with Internal Choice. Each question carries 8 marks 5×8=40marks

9. a
(or)
b

10. a
(or)
b

11. a
(or)
b

12. a
(or)
b

13 a
(or)
b

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S.

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College, Jadcherla
Dist.Mahabubnagar-509301 (TS)

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Dept of Economics
Osmania University
Hyderabad-500 007

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BEGUMPET, HYDERABAD- 500016

Project/Dissertation Work- Credits 4

Project work/ Dissertation is considered as a special course involving application of knowledge insolving/analyzing/exploring a reallife situation/difficult problem. Project / Dissertation work will be of 4 credits. Studied subject specific project work can be handled, with a view to develop creative thinking, team spirit and skill. The project work at preliminary level should be assigned to students, in groups. Project report in the form of dissertation is prepared and submitted by the students. It will be evaluated by the External and Internal Examiners. Head of the Department will chair the evaluation panel and proceedings of viva voce. It carries a maximum of 100 marks.

Project guidelines:

1. Understand the subject broadly.
2. Choose a topic of interest.
3. Refer to the books; interact with subject specific experts.
4. Try to understand the basic principles of data and use the tools of Statistics.
5. Select the topic applicable locally to know the importance of the subject in daily life, markets and nearby relevant industries.
6. Put together, latest technology and methods, basic knowledge on selected theme,

Importance/need, locally applicable.

7. Summarize three years knowledge on the subject, go through skill enhancement course, correlate to real life and choose the project work.
8. Books to refer and faculty with research experience are essential to handle project.
9. Analyze your data and draw a conclusion.
10. Communicate the results.
11. Work division among the group members should be followed.
12. Maximum number of students in group should not exceed 5.

Project Evaluation:

Maximum Marks:100

1. Project Report 60 Marks
2. Seminar Presentation 40 Marks

Dr. BALA SRINIVAS
Assistant Professor
Department of Economics
Nagarjuna Government College (A)
NALGONDA-508 001. T.S.

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DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

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Board of Studies
Dept of Economics
Osmania University
Hyderabad-500 007

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jadcherla
Dist.Mahabubnagar-509301 (TS)

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DEPARTMENT OF ECONOMICS

PANEL OF EXAMINERS

S.NO	Paper V	Paper VI
1	**K. Shoba Rani**, Lecturer in Economics, GDC, Hussaini-alam, Hyd. Cell Number: 994930246.	**Dr. D. Muniswamy**, Assistant Professor, BJR College, Hyderbad. Cell Number: 9550636464, 8500234870.
2	**Dr. S. Ramesh,** Assistant Professor Govt. Degree College, Malkajgiri, Hyderabad. Cell Number: 9160450077.	**Mr.P.VenkateswarRao**, Assistant Professor, Govt. City College(A), Hyderabad. Cell Number: 9963945825.
3	**Dr. G.M Kasturi,** Assistant Professor, Department of Economics, GDC Kukatpally, Hyderabad. Cell Number: 9441548382.	**Dr. BalaSreenivas** Assistant Professor of Economics N.G.College(A), Nalgonda Cell Number:9491595813
4	**Dr.M.A Malik**, Assitant Professor of Economics,Govt. Degree College, Kukatpally, Hyderabad. Cell Number: 9849875352.	**Dr. D.Padma** Govt. Degree College Sadasivapet Cell Number: 94930 46020
5	**Dr.Ch. Anuradha**, Assistant Professor, Govt. Degree College, Khairthabad, Hyderabad, Cell Number: 9014486435, 8919392419.	**Dr. S. HariKishan**, Lecturer, GDC, Sitaphalmandi, Hyderabad. Cell Number: 9246167284.

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DEPARTMENT OF ECONOMICS
GDCW (A) BEGUMPET, HYD-16.

University Nominee

Chairman
Board of Studies
Dept of Economics
Osmania University
Hyderabad-500 007

Dr.J.VENKATESWARLU
Assistant Professor
Department of Economics
Dr.BRR Govt College Jaccherla
Dist.Mahabubnagar-509301 (TS)

Members of BOS

1.

2. P. Satya
(DR. P. SATYANARAYANA)

3. Dr. Bala Srinivas

GOVERNMENT DEGREE COLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERABAD

Re-Accredited with 'A+' Grade by NAAC

CHOICE BASED CREDIT SYSTEM

(CBCS)

BOARD OF STUDIES IN PUBLIC ADMINISTRATION

For

B A PUBLIC ADMINISTRATION I ,II & III YEARS

UNDER GRADUATE PROGRAMME

IN

DEPARTMENT OF PUBLIC ADMINISTRATION

2021-22

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERABAD

DEPARTMENT OF GEOGRAPHY
Constitution of Board of Studies 2021-22

S.NO	CATEGORY	NAME & DESIGNATION
1	Chairman Board of studies	Dr. G. Narsimulu Assistant Professor of Public Administration Government Degree College for Women (A) Begumpet, Hyderabad. 9441301961 narsimulugangi@gmail.com
2	University Nominee	Prof. Amarender Reddy Chairman Board of Studies Department of Public Administration Osmania University, Hyderabad 8919273272 Amarender1963@gmail.com
3	Subject expert from outside the University/college	Dr. Pallavi Kabde Head Department of Public Administration Dr. BR Ambedkar Open University, Hyderabad 7093320885 pallavikabde@gmail.com
4	Subject expert from outside the college	Dr. K. Sukumar Head Department of Public Administration SR&BGNR College (A), Kammam Dist. 9392452592 kongalasukumar@gmail.com
5	Representative from Industry/corporative/allied area	
6	Post Graduate Meritorious Alumnus	Kokila Kailash Pandey (MA Public Administration) HR Manager, Amazon, Hitech city, Hyderabad 9502658582 Kokila.k.pande@gmail.com

Submitted by

In-charge/Chairman BOS

Proposals approved by
Principal/Chairman academic council

GOVERNMENT DEGREE COLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERABAD
(Re-Accredited with 'B' Grade by NAAC)

Department of Public Administration

Board of Studies Meeting on - -2021

AGENDA OF THE MEETING

1. Approval of Choice Based Credit System (CBCS) and ratification of syllabus for for I, II & III year of B.A Public Administration for the AY 2021-22.
2. Approval, ratification and prescribing of syllabus for All Semesters of B.A. Public Administration, division and adoption of syllabus.
3. Scheme of Evaluation and Examination pattern to be followed.
4. Approval of Model Question Papers for All Semesters DSC, SEC and GE papers for the AY 2021-22.
5. Approval of list of panel of examiners for semesters AY 2021-22.
6. Any other matter with the permission of the chair.

University Nominee

Members of BOS

GOVERNMENT DEGREE COLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERABAD
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DEPARTMENT OF PUBLIC ADMINISTRATION

Board of Studies Meeting on - - 2021

The Board of studies meeting for the Department of Public Administration is held at hours on - -2021 in the Department of Public Administration, Govt. Degree College for Women (A), Begumpet, Hyderabad.

The following resolutions have taken in the meeting:

i) The approved and ratified syllabus for for I, II & III years ratified and Model question papers of All Semesters for AY 2021-22 have been approved.

ii) It is agreed and approved to have 100 marks for each paper in which 60 marks for external and 40 marks for internal assessment average of two (30 M for periodical test (20 q +10 MCQ CBT) + 5 Assignment+ 5 Student seminar) for All Semesters of I, II & III Years during AY 2021-22.

iii) It is agreed and approved to prepare question papers unit wise in Part – B and Questions from entire syllabus covering for part - A for all the semesters of I,II and III years.

iv) It is approved to pass end exam one has to get a minimum of 40 % marks (24 marks mandatory in external and on the whole 40 marks) in exam for each paper in all the semesters of I, II and III years for AY 2021-22.

v) It is agreed and approved the list of examiners for paper setting for AY 2021-22.

Contd…. Page … 5

The following members are present in the meeting:

S. No	NAME/ADDRESS	SIGNATURE
1.	Dr. G. Narsimulu Chairman Board of Studies Assistant Professor of Public Administration Government Degree College for Women (A) Begumpet, Hyderabad.	
2.	Prof. Amarender Reddy University Nominee Chairman Board of Studies Department of Public Administration Osmania University, Hyderabad	
3.	Dr. Pallavi Kabde Head Department of Public Administration Dr. BR Ambedkar Open University, Hyderabad	
4.	Kokila Kailash Pandey Alumnus HR Manager, Amazon, Hitech city, Hyderabad	

Dr. K. Sukumar
Head
Department of Public Administration
SR&BGNR College (A), Kammam Dist.
9392452592
kongalasukumar@gmail.com

VISITING PROFESSOR

Professor G.Hara Gopal[retired]

UNIVERSITY OF HYDERABAD

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD

PROFORMA OF INSTRUCTIONS AND EXAMINATIONS

PROGRAMME: BA in Public Administration

Sl.No	*Code*	*Course Title*	*HPW*	*Credits*	*Exam Hrs*	*Marks*
I Yr		**SEMESTER – I**				
	DSC103	Basics of Public Administration	5	5	3 hrs	60+40
		SEMESTER – II				
	DSC203	Development Dynamics and Emerging Trends	5	5	3 hrs	60+40
II Yr		**SEMESTER – III**				
	SEC1	Public Office Administration	2	2	1 ½ hrs	40+10
	SEC2	Office Processes	2	2	1 ½ hrs	40+10
	DSC303	Union Administration	5	5	3 hrs	60+40
		SEMESTER – IV				
	SEC3	Technology & Office Administration	2	2	1 ½ hrs	40+10
	SEC4	Techniques of Office Administration	2	2	1 ½ hrs	40+10
	DSC403	State Administration	5	5	3 hrs	60+40
III Yr		**SEMESTER – V**				
	GE	Indian Constitution & Administration	4	4	3 hrs	60+40
	DSC 503	a) Human Resource Management/ b) Rural Governance	**5** 5	**5** 5	3 hrs 3 Hrs	75+25 75+25
		SEMESTER – VI				
	GE	E- Governance	**4**	**4**	**3 Hrs**	**60+40**
	DSC 603	a) Financial and Materials management b) Urban governance	**5** **5**	**5** **5**	3 hrs 3 Hrs	75+25 75+25
			52	**52**		800
	Project work by students.		**4**	**4**	3Hrs	60+40

PROGRAME OUTCOMES

PO 1 Domain Expertise:

- Acquire comprehensive knowledge and skills.
- Make use of the knowledge in an innovative manner.
- Effectively apply the knowledge and skills to address various issues.

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PO 2 Modern equipment Usage

- Use ICT effectively.
- Access, retrieve and use authenticated information.
- Access, retrieve and use authenticated information. Have knowledge of software applications to analyze data.

PO 3 Computing Skills and Ethics

- Develop rationale and scientific thinking process.
- Use technology intelligently for communication, entertainment and for the benefit of mankind.
- Ensure ethical practices throughout ones endeavors for the wellbeing of human race.

PO 4 Complex problem Investigation & Solving

- Predict and analyze problems.
- Frame hypotheses.
- Investigate and interpret empirical data.
- Plan and execute action.

PO 5 Perform effectively as Individuals and in Teams

- Work efficiently as an individual
- Cooperate, coordinate and perform effectively in diverse teams/groups.
- Prioritize common interest to individual interest.

- Express thoughts in an effective manner
- Listen, understand and project views in a convincing manner.
- Decide appropriate media to share information
- Develop skills to present significant information clearly and concisely to interested groups.

PO6 Efficeint communication and life skills. * Express thoughts in an effective manner.*Listen,understand and project views in a convincing manner. *Decide appropriate media to share information. *Develop skills to present significant information clearly and concisely to interested groups.

PO 7 Environmental Sustainability

- Understand sensibly the Environmental challenges.
- Think critically on environment sustainability measures.
- Propagate and follow environment friendly practices.

PO 8 Societal contribution

- Render service for the general good of the society.
- Involve voluntarily in social development activities at Regional, National, global levels.
- Have own pride in volunteering to address societal issues viz: calamities, disasters, poverty, epidemics.
- Be a patriotic citizen to uphold the values of the nation

PO 9 Effective Project Management

- Identify the goals, objectives and components of a project and decide the appropriate time of completion.
- Plan, organize and direct the endeavors of teams to achieve the set targets in time.
- Be competent in identifying opportunities and develop strategies for contingencies.

Programme Outcome:

After completing the graduation in BA Public Administration as optional subject the students are able to:

- Understand public administration theory and concepts from multiple perspectives;
- Acquaint with the functioning of the Indian administration, at central, state and local levels and the responses of these systems in addressing the concerns of the people;
- Acquaint with India's development experience and changing role of administration;
- Understand the interface of theory and practice in Public Administration;
- Develop conceptual, analytical and problem solving abilities among the learners;
- Acquaint the learner with the required knowledge of administrative science and government in action and the contemporary issues in public affairsmanagement and,
- Understand the world of Public Administration from the public perspective and provide foundation for further studies in Public Administration
- Understand the role of Public Services in the new State of Telangana.

Specific outcome:

- To understand the nature and role of Public Administration in the changing socio-economic and political context
- Understand the impact of political dynamics on administrative processes;
- Relate the role of public administration to the dynamics of global context;
- Motivate the students to appear for civil services and state services examinations.

GOVERNMENT DEGREE COLLEGE FOR WOMEN
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(Re-accredited by NAAC with "B" Grade)
B. A I year, Revised Semester wise Syllabus (w. e. f. 2019-20)
Subject: Public Administration

Course outcome:

After study of this Course, the learner should be able to:

- To understand the nature and scope of Public Administration;
- To appreciate the methodological pluralism and synthesizing nature of knowledge in Public Administration;
- To comprehend the changing paradigms of Public Administration;
- To acquaint with the theories, approaches, concepts and principles of Public Administration;
- To understand the administrative theories and concepts to make sense of administrative practices.
- To understand the role of public services in the emergence and development of Telangana state

Specific outcome:

- Appreciate the nature, scope and changing paradigms of Public Administration;
- Understand the synthesizing nature of knowledge of public administration from public perspective;
- Grasp the administrative theories, concepts and principles to make sense of administrative practices.

Semester – I

Paper - I: **BASICS OF PUBLIC ADMINISTRATION**

Unit- I: Nature of Public Administration

1. Meaning and Importance of Public Administration
2. State and Evolution of Public Administration

Unit-II: Relationship with other Social Sciences

3. Law
4. Political Science
5. Economics
6. Psychology

Unit-III: Oriental and Classical Approaches

7. Oriental Approach –Kautilya
8. Classical Approach: Henri Fayol, Luther Gulick and Lyndall Urwick
9. Scientific Management Approach: F.W.Taylor
10. Bureaucratic Approach: Max Weber and Karl Marx

Unit-IV: Human Relations and Behavioural Approaches

11. Human Relations Approach –Elton Mayo
12. Behavioural Approach: Herbert A. Simon
13. Socio- Psychological Approach: Abraham Maslow; Mc Gregor

Unit-V: Ecological and Social Justice Approaches

14. Administrative Ecology: F.W.Riggs
15. Social Justice Approach –B.R.Ambedkar
16. Jyothirao Pule

References

Avasthi & Maheshwari (2012) Public Administration, Lakshminarayana Agarwal, Agra.

Arndt Christian and Charles Oman (2006) Uses and Abuses of Governance Indicators, OECD, Paris.
Bhattacharya, Mohit (2013), New Horizons of Public Administration, Jawahar Publishers, New Delhi.

Donald Menzel and Harvey White (eds) (2011) The State of Public Administration: Issues, Challenges and Opportunities, New York, M.E. Sharpe.

Henry, Nicholas (2006) Public Administration and Public Affairs, Prentice Hall of India, New Delhi.
Jan – Erik Lane (2000) New Public Management: An Introduction, Routledge, London.

Ravindra Prasad, D. Prasad, VS Prasad, Satyanarayana, P., and Y. Pardhasaradhi (eds) (2013) Administrative Thinkers, Sterling, New Delhi.
Frank J. Goodnow, Politics and Administration: A Study in Government, Transaction Publishers, New York, 2003.

O'Leary, Rosemary et al (2010) The Future of Public Administration around the World: The Minnowbrook Perspective, GeorgeTown University Press, D.C.

Martin Albrow (1970) Bureaucracy, MacMillan, London.

UN, Department of Economic and Social Affairs, Development Administration: Current Approaches and Trends in Public Administrationfor Development, New York, UN, 1975.

Wilson Woodrow, 'The Study of Administration' Political Science Quarterly 2 (June 1987).
Telugu Akademi, BA. Ist Year Public Administration.

Semester-II

Paper II (DSC 203): Development Dynamics and Emerging Trends

Course outcome:

After study of this Course, the learner should be able to:

- To understand the comparative studies and changing dynamics of development Administration;
- To comprehend the new public administration concepts and processes in Public Administration;
- To comprehend the changing paradigms of new Public Administration;
- To acquaint with the market theories, approaches, concepts and principles of Public choice theory;
- To understand the administrative theories and concepts to make sense of administrative management practices.
- To understand the impact of globalization on Indian administration

Specific outcome:

- Appreciate the nature, scope and changing paradigms of New Public Administration;
- Understand the synthesizing nature of knowledge of New public management;
- Grasp the role of public services in emergence and development of new state of Telangana.

Unit- I: Comparative & Development Administration

1. Comparative Administration
2. Development Administration
3. Changing Dynamics of Development Administration

Unit-II: New Public Administration

4. New Public Administration – Minnowbrook-I
5. New Public Administration – Minnowbrook-II
6. New Public Administration – Minnowbrook-III

Unit-III: Market Theories

7. Public Choice Approach
8. New Public Management

Unit-IV: Emerging Trends-I

9. Public Policy and Governance
10. Role of Public Services in the Emergence and Development of New State of Telangana

Unit-V: Emerging Trends-II

11. Globalization and Public Administration
12. Present Status of Public Administration in the context of Globalization

References

Heady F. (1996) Public Administration: A Comparative Perspective (5th ed.) New York: Marcel Dekker.

Heaphey J. (1968) Comparative Public Administration: Comments on current characteristics, Public Administration Review, 28 (3), 242-249.

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GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD

(Re-accredited by NAAC with "B" Grade)

B. A II year, Revised Semester wise Syllabus (w. e. f. 2020-21)

Subject: Public Administration

Course outcome:

- To understand the concept of Office;
- To comprehend the administrative process in office;
- To identify the challenges of public office administration in the background of ICT
- To sketch out the impact of technology in office administration

SEC 1 : Public Office Administration

Unit – I: Introduction

a) Office Administration: Meaning, Scope & Importance of Office
b) Changing Nature of Public Office
c) Basic Principles of Office Organization

Unit II: Office Organization and Management

a) Office Planning
b) Office Accommodation and Lay-out
c) Office Environment

SEC II: Office Processes

Unit I : Office filling system

a) Forms: Management and Control
b) Filing System and Classification
c) Management of Office Records

Unit II: Office Communication

a) Periodical Reports
b) Office Communication; Correspondence
c) Inventory Control; Office Stationery

References:

Pillai R.S.N. (2010) Office Management, S.Chand, New Delhi.

Sudhir Andrews (2008) Front Office Management and Operations, Tata McGraw Hill Publishing Co. Ltd,India.

Balachandran V. (2009) Office Management, Tata McGraw Hill Publishing Co. Ltd, India.Bhatia R.C. (2005) Principles of Office Management, Lotus Press, Delhi.

Gopala Krishnan and Sundaresan, M. (2000) Materials Management: An Integrated Approach, PrenticeHall, India

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Niraj Kumar (2013) Modern Office Management, New Royal Book Company. Lucknow.

Chopra, R.K. (2008) Modern Office and Its Management, Himalaya Publishing House, Hyderabad.

Semester III

Paper – III: Union Administration

Course outcomes:

- To understand the historical evolution and socio-economic, political, cultural and global context ofIndian Administration;
- To identify the transformative role of Indian Administration;

- To make out the multi-dimensionality of problems and processes of Indian Administration;
- To understand the form and substance of Indian Administration; and
- To appreciate the emerging issues in Indian Administration in the context of changing role of state, market and civil society.

Unit I: Historical background

1. Evolution of Indian Administration
2. Indian Administration after Independence: Continuity and Change
3. Indian Constitutional Moorings and Administration.4.Salient features of Indian Constitution

Unit II: Union Administration: Structure and Processes

5.Political Executive at Central Level
a) President ii) Prime Minister iii) Council of Ministers
6.Central Secretariat and other Offices 7.Legislature and Executive ; structure and functions

Unit-III: Centre-State Relations

8.Centre-State Administrative Relations
9.Central Personnel Agencies-All India Services 10. All India services

Unit-IV: Constitutional and Other National Bodies

11.Union Public Service Commission
12.(i) Election Commission; (ii) Comptroller and Auditor General of India (C&AG)
13.NITI Aayog 14.Parliamentary Financial committes

Unit-V: Public Enterprises in India

15.Forms of Public Enterprises - Department, Corporation, Company and holding Company.
16.Performance and Disinvestment

References:

Bidyut Chakravarthy, Prakash Chand (2019), Indian Administration: Evolution and Practise, Sage PublicationsKrishna K.Tummala (1996), Public Administration in India, Allied Publishers Limited.
Kuldeep Mathur (2019), Recasting Public Administration in India: Reform, Rhetoric, and Neoliberalism, OxfordUniversity Press
M.Sharma (2004), Indian Administration, Anmol Publishers.
Meredith Townsend (2019), The Annals of Indian Administration, Volume-3, Creative Media Partners.Parmar, A., A Study of Kautilya's Arthashastra, Delhi, Atma Ram & Sons, 1987
Radha Krishna Sapru (2019), Indian Administration: Foundations of Governance, Sage Publications.Ramesh K Arora, Rajni Goyal (2018), Indian Public Administration: Institutions and Issues, New AgeInternational Publishers.
S.R.Maheswari (2004), Indian Administration, Orient Longman Publishers Limited.
Siuli Sarkar (2018), Public Administration in India (Second Edition), PHI Learning Private Limited.Vaman Govind Kale (2010), Indian Administration, Kessinger Publications.
P.D. Sharma and B.M. Sharma (2009) Indian Administration: Retrospect and Prospect, Rawat Publications.

Semester-IV
Paper IV (DSC 403): State Administration

Course outcomes:

After study of the course, the learner should be able to:

- discern the connects and disconnects between structure, purpose and process and results in Indian Administration;
- Understand the Indian Administration role as the main instrument of State to achieveits developmental goals;
- Appreciate the varying historical, socio-economic, political and other conditioning factors that gave Indian Administration its distinct nature to the learner

Unit-I: State Administration: Structure and Processes

a. Administrative History of Telangana
b. Political Executive at State Level, Governor& Chief Minister
c. Council of ministers

Unit-II: State Administrative Mechanisms

a. State Secretariat & Directorates
b. Local Governance & District Administration in Telangana
c. Telangana Panchayat Raj Act - 2018

Unit- III: Emerging Issues

a. Administrative Reforms: Need and Importance
b. 2nd Administrative Reforms Commission – Features and Recommendations
c. Telangana state Planning Board

Unit-IV: Technology and Integrity in Government

a. e-Government
b. Values and Ethics in Administration
c. TS-iPASS

Unit-V: Control over Administration

a. Redressal of Citizen Grievances: Transparency, Accountabilityand Right toInformation Ac
b. Administrative Accountability: Legislative and Judicial Control
c. Lokayukta

References:

Bidyut Chakravarthy, Prakash Chand (2019), Indian Administration: Evolution and Practise, Sage Publications
Krishna K.Tummala (1996), Public Administration in India, Allied Publishers Limited.
Kuldeep Mathur (2019), Recasting Public Administration in India: Reform, Rhetoric, and Neoliberalism, Oxford University Press
M.Sharma (2004), Indian Administration, Anmol Publishers.
Meredith Townsend (2019), The Annals of Indian Administration, Volume-3, Creative Media Partners.
Parmar, A., A Study of Kautilya's Arthashastra, Delhi, Atma Ram & Sons, 1987
Radha Krishna Sapru (2019), Indian Administration: Foundations of Governance, Sage Publications.
Ramesh K Arora, Rajni Goyal (2018), Indian Public Administration: Institutions and Issues, New Age International Publishers.
S.R.Maheswari (2004), Indian Administration, Orient Longman Publishers Limited.
Siuli Sarkar (2018), Public Administration in India (Second Edition), PHI Learning Private Limited.
Vaman Govind Kale (2010), Indian Administration, Kessinger Publications.

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD
(Re-accredited by NAAC with "B" Grade)
B. A III year Revised Semester wise Syllabus (w.e.f. 2021-22)
Subject: Public Administration
Semester – V
Paper-V: (A) Human Resource Management

Course outcomes:

- To comprehend the nature, scope, structure & processes of human resource management;
- To identify the systems and processes of financial and material management;
- To appreciate institutional capacity building strategies and programmes; and
- To understand the changing paradigms of Resources management.

Unit-I: Introduction

a. Meaning and Significance of Human Resource Management
b. Human Resource Planning

Unit-II: Human Resources

a. Job Analysis, Job Description,
b. Recruitment and Promotion
c. Compensation Administration - Wage, Pay and Pay Commissions

Unit- III: Capacity Building

a. Performance and Competency Mapping System
b. Employee Capacity Building Strategies-Training
c. Sensitivity Training

Unit-IV: Reforms

a. Reddressal of Employee Grievances
b. Right sizing, Outsourcing and Consultancies
c. Interpersonal Skills

Unit V: Emerging Trends

a. Human Resource Audit
b. Total Quality Management
c. Productivity Management

References:

Armstrong, Michael (2007), A Handbook of Human Resource Management Practice, Kogan Page, London.
Aswathappa K. (2013), Human Resource Management: Text and Cases, McGraw Hill, New Delhi
Farazmand , Ali (1994), Handbook of Bureaucracy, Taylor & Francis , New York.Flippo Edvin B., (1976), Principles of Personnel Management, McGraw-Hill
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Government of India, Second ARC, Tenth Report on 'Refurbishing of Personnel Administration'
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University Press, New Delhi
Naff , Katherine C., Norma M. Riccucci, (2014) ,Personnel Management in Government: Politics and Process(Seventh Edition), CRC, Taylor & Francis, New York.
Riccucci ,Norma(2007), Public Personnel Administration and Labor Relations, M.E. Sharpe,NY

Paper-V: (B) Rural Governance (Optional)

Course outcomes:

- To understand the concept of democratic decentralisation;
- To trace the evolution of local self-government in India;
- To comprehend the institutional arrangements and processes of rural and urban governance;
- To identify the challenges of development and the administrative responses.
- To sketch out the new organisational arrangements for delivery of public welfare programmes.

Unit-I: Introduction

a. Democratic Decentralization and Local Organisations
b. Evolution of Rural Governance Institutions-Balwanth Rai Mehta
c. Ashok Mehta Committee

Unit:-II

a. Third Generation Panchayats
b. Constitutional Status of Rural Local Government- with special reference to 73rd CAA

Unit-III: Local Organisations for Rural Development

a. Panchayati Raj: Patterns, Functions and Performance
b. Finances of Panchayati Raj Institutions --- State Finance Commission

Unit-IV: Rural Development Strategies and Services

a. Rural Development: Strategies, Programs and Issues
b. Co-operatives: Structure, Functions and Performance
c. Basic Services and Welfare Measures in Rural Areas (MNREGA, NRLM, SHYAMA MUKHERJEE RURBAN MISSION)
d. State Control over Rural Local Governments

Unit V: Emerging Trends

a. Rural Unrest
b. Land Reforms
c. Corporatization of Agriculture

References:

B.D.S. Bhadouria and V.P. Dubey (1989)., Panchayati Raj and Rural Development, Commonwealth Publishers, New Delhi.
B.S. Khanna , (1992), Rural Development in South Asia Deep and Deep, New Delhi.
Danny Burns, et. al. (1994), The Politics of Decentralisation: Revitalising Local Democracy ,Macmillan, London.
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Jain L.C, et.al (1986), Grass without Roots; Rural Development Under Government Auspices, Sage
K.C. Sivaramakrishanan, et. al. (1993), Urbanisation in India: Basic Services, ISS, New Delhi.
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Mohit Bhattacharya (1976), Management of Urban Government in India: Uppal, New Delhi.
Peter Oakley (1991), Projects with People: The Practice of Participation in Rural Developent, ILO
R. C. Choudahry and S.P. Jain (eds.) (2001) Patterns of Decentralized Government in Rural India, NIRD, Hyderabad.
Ramesh K. Arora and Rajni Goyal (1996), Indian Public Administration Vishwa Prakashan, New Delhi.
S.N. Mishra (1996), New Panchayati Raj in Action, Mittal Publication, New Delhi.
S.R. Maheshwari (2003), Local Government in India, Lakshmi Narain Aggarwal.

General Elective (GE 1)
Indian Constitution and Administration (GE)

Course outcomes:

- Learn in details of social change and defining the relationship between individual citizenand the state.
- Understand in details of in-depth analysis of various basic areas of constitution is the main objective of this inter disciplinary course.
- Understanding of Indian constitution and functioning of government.

Unit 1: Indian Constitution

a) Nature of the Constitution Salient features – Preamble
b) Fundamental Rights, Directive Principles; Fundamental Duties
c) Amendments of the Constitution: Procedure for Amendment– Emergency Provisions

Unit II: Centre – State Relations and Local Self Government

a) Distinctive features of Indian Federation
b) Legislative, Administrative and Financial relations between the Union and the States
c) Decentralization Experiments in India – 73rd and 74th Amendments

Unit III: State Government

a) Governor, Chief Minister and Council of Ministers
b) Secretariat and Directorates
c) Changing Nature of District Administration and the role of District Collector

Unit IV: Accountability & Control

a) Legislative, and Executive Control
b) Judicial control and Judicial Review
c) Right to Information Act

References:

Bidyut Chakravarthy, Prakash Chand (2019), Indian Administration: Evolution and Practise, Sage Publications
Krishna K.Tummala (1996), Public Administration in India, Allied Publishers Limited.
Kuldeep Mathur (2019), Recasting Public Administration in India: Reform, Rhetoric, and Neoliberalism, Oxford

University Press
M.Sharma (2004), Indian Administration, Anmol Publishers.
Meredith Townsend (2019), The Annals of Indian Administration, Volume-3, Creative Media Partners.
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Radha Krishna Sapru (2019), Indian Administration: Foundations of Governance, Sage Publications.
Ramesh K Arora, Rajni Goyal (2018), Indian Public Administration: Institutions and Issues, New Age International Publishers.
S.R.Maheswari (2004), Indian Administration, Orient Longman Publishers Limited.
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GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD

(Re-accredited by NAAC with "B" Grade)

B. A III year Revised Semester wise Syllabus (w.e.f. 2021-22)

Subject: Public Administration

Semester – VI

Paper-VI: (A) Financial and Material Management

Course Outcomes:

- Understand the way in which the public power is exercised and public resources aremanaged and expanded;
- Unravel the varying methods of performance assessment of public institutions; and
- Appreciate the changing paradigms of human resource management

Unit- I: Financial Management

a. Meaning and Scope
b. Importance of Financial Management

Unit-II: Budget

a. Concept and Principles of Budget
b. Preparation, Enactment and Execution of Budget
c. Gender Budget and Green Budget

Unit-III: Financial Institutions

a. Organization and Functioning of Finance Ministry
b. Finance Commission
c. Union – State Financial Relations

Unit IV: Parliamentary Financial Committees

a. Financial Control Mechanisms
b. Public Accounts Committee and Estimates Committee
c. Committee on Public Undertakings

Unit- V: Materials Management

a. Meaning and Concept of Materials Management

b. Procurement, Storage and Distribution
c. Inventory Control and Management

References:

Brigham Eugene F. (2011), Financial Management : Theory and Practice, Cengage Learning
Government of India, Second Administrative Reforms Commission, Fourteenth Report, Strengthening Financial Management, Systems, April 2009.
L.K.Jha (1986), Economic Administration in India – Retrospect and Prospect, New Delhi: IIPA
Lee Robert D. Jr., et al (Eds) (2007), Public Budgeting Systems, Jones & Bartlett Learning.
Mahajan Sanjeev Kumar Mahajan (2014), Financial Administration in India,PHI, Delhi
Mikesell,John (2010), Fiscal Administration, Cengage Learning.
R.K. Lekhi and Joginder singh(2013), Public Finance, Kalyani Publishers, New Delhi.
Rabin Jack, et.al (2006) Handbook of Public FinancialManagement, Taylor & Francis Group.
Sharma M.K. (2006), Financial Administration, Anmol Publications, New Delhi.
Steppan J. Beiley (1995), Public Sector Economics: Theory, Policy and Practice, London
Wang Xiaohu (2010), Financial Management in the Public Sector,M. E. Sharpe.

Semester – VI
Paper-VI: (B) Urban Governance

Course Outcomes:

- Critically appreciate the relationship of local governance and development;
- Appreciate the rural and urban institutional arrangements for development;
- Understand the processes and results of systems of delivery of welfare programmes

Unit-I: Local Organisations for Urban Development

a. Evolution of Urban Local Bodies- Pattern, Functions and Performance
b. Constitutional Status of Urban Local Governments with special reference to 74th CAA

Unit-II: Strategies for Urban Development

a. Urban Development: Strategies, Programs and Issues
b. Finances of Urban Local Governments

Unit-III: Urban Services

a. Basic Services and Welfare Measures in Urban Areas
b. Urban Development Authorities and Parastatals
c. Sustainable Development and Future of Urban Governance

Unit-IV: Agencies and Programs for Rural and Urban Sector

a. Development Planning, District Planning Committee
b. Special Agencies Urban Development
c. Elimination of Poverty Initiatives in Urban Areas

Unit V: Emerging Trends

a. Urban Reforms in India: SMART and AMRUT Cities
b. Swachh Bharat Mission
c. Urban Unrest

References:

Aziz Abdul (ed.), (1996), Decentralised Governance in Asian Countries, Sage New Delhi.
Baud, Isa S A, J De Wit (2009), New Forms of Urban Governance in India: Shifts, Models, Networks

andContestations, SAGE Publications.
Bhattacharya , Mohit (1976), Management of Urban Government in India, Uppal, New Delhi
Burns, Danny et. al. (1994), The Politics of Decentralisation: Revitalizing Local Democracy Macmillan, London,
Chaturvedi T.N. and Abhijit Datta (1984), Local Government, IIPA, (New Delhi.
Devas Nick(2004) ,Urban Governance Voice and Poverty in the Developing World, Routledge.
Maheshwari, S.R. (2003), Local Government in India, Lakshmi Narain Aggarwal, Agra.
Oakley Peter (1991), Projects with People: The Practice of Participation in Rural Development , I.L.O., Geneva.
Oakley Peter, et. Al (1984), Approaches to participation in Development, I.L.O., Geneva.
Pierre , Jon (2011), The Politics of Urban Governance: Rethinking the Local State, Palgrave MacMillan.
Prasad , R N(2007), Urban Local Self-Government in India ; With Reference to North-Eastern States, Mittal Publications.
Rao , C. Nagaraja (2007),Accountability of Urban Local Governments in India, Atlantic, New Delhi
Sivaramakrishanan K.C., et. al. (1993), Urbanisation in India: Basic Services and People's Participation, ISS, New Delhi.

General Elective (GE 2)
E- Governance

Course outcomes:

- To explain the meaning and importance of e-governance;
- To provide the students with the analytical skills to comprehend the e-governance initiatives in India;
- To make the learner understand e-governance initiatives at national andinternational level;
- To inform the learner about the e-Governance measures initiated in Telangana state.

Unit-I: Introduction

a. Concept of Governance and Good Governance
b. Meaning, Evolution and Importance of E-Governance

Unit-II: Acts and Initiatives

a. Information Society and Community Empowerment
b. IT Acts and National E-Governance Plan
c. E-Governance Initiatives in India

Unit-III: Methods of E-Governance

a. GIS Based Management Systems
b. Citizen Database and Human Development
c. National Informatics Centre (NIC)

Unit-IV E-Governance in Public Office

a. Back Office Operations and Front Office Delivery
b. Business Process Reengineering (BPR)

References:

Bellamy, Christine, and John, A.,Taylor, (1998), Governing in the Information Age, Buckingham, Open University Press.
Bhatnagar, S.C. (2004) E-Government – from Vision to Implementation: A practical guide with case studies, Sage Publications, New Delhi.
Bhatnagar, S.C. (2009) Unlocking E-Government Potential: Concepts, cases and practical insights, Sage Publications, New Delhi.

Bouwman, Harry, and et.al., (2005), Information and Communication Technology in Organisations, Sage Publications, London.
Heeks, R. (2006) Implementing and Managing eGovernment: An international text, Sage
Marchionini, G., (1995), Information Seeking in Electronic Environments, New York, The Press Syndicate of the University of Cambridge, USA.
Michael E. Milakovich, (2012), digital governance - New Technologies for improving Public Service an Participation, Routlidge, Taylor and Francis group, New York.
Pardhasaradhi,Y. (et.al) (2009), E-Governance and Indian Society: An Impact of Study, Kanishka, New Delhi.
Satyanarayana, J, (2004), E-Government: The Science of the possible, PHI Learning Pvt Ltd, New Delhi.

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD

(Re-accredited by NAAC with "B" Grade)
MODEL QUESTION PAPER FOR THE AY- 2021-22 (Skelton)
SUBJECT: PUBLIC ADMINISTRATION
For all Semesters

Time: 2 Hrs **Max. Marks: 60**

Note: Paper consists of two parts. Questions from part-A should cover entire syllabus and part-B covering unit wise syllabus.

PART – A

Note: Answer any four of the following questions. All questions carry equal marks. 4 x 5 = 20 M

1.

2.

3.

4.

5.

6.

7.

8.

PART_B

Note: Answer all the questions. All questions carry equal marks. 5 x 8 = 40 M

Unit - I

9. A)

(or}

B)

Unit - II

10. A)

(or}

B)

Unit - III

11. A)

(or}

B)

Unit - IV

12. A)

(or}

B)

Unit-V

13. A)

(or}

B)

GOVERNMENT DEGREE COLLEGE FOR WOMEN

(AUTONOMOUS)

BEGUMPET, HYDERBAD

(Re-accredited by NAAC with "B" Grade)

MODEL QUESTION PAPER FOR THE AY- 2021-22 (Skelton)

SUBJECT: PUBLIC ADMINISTRATION

For All SEC Papers

Time: 2 Hrs **Max. Marks:** 40

Note: Paper consists of two parts. Questions from part-A should cover entire syllabus and part-B covering unit wise syllabus.

PART – A

Note: Answer any FOUR of the following. All questions carry equal marks. 4 x 4 = 16 M

1. **Unit - I**
2. **Unit - I**
3. **Unit - I**
4. **Unit - II**
5. **Unit - II**
6. **Unit - II**

PART_B

Note: Answer ALL the questions. All questions carry equal marks. 2 x 12 = 24 M

7. **Unit–I** A)

(or)

B)

8. **Unit-II** A)

(or)

B)

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD

(Re-accredited by NAAC with "B" Grade)
MODEL QUESTION PAPER FOR THE AY- 2021-22 (Skelton)
SUBJECT: PUBLIC ADMINISTRATION
For All GE Papers

Time: 2 Hrs **Max. Marks:** 40

Note: Paper consists of two parts. Questions from part-A should cover entire syllabus and part-B covering unit wise syllabus.

PART – A

Note: Answer any FOUR of the following. All questions carry equal marks. 4 x 4 = 16 M

1. **Unit - I**
2. **Unit - I**
3. **Unit - I**
4. **Unit - II**
5. **Unit - II**
6. **Unit - II**

PART_B

Note: Answer ALL the questions. All questions carry equal marks. 2 x 12 = 24 M

7. **Unit–I** A)

(or)

Unit-II B)

8. **Unit-III** A)

(or)

Unit-IV B)

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD
(Re-accredited by NAAC with "B" Grade)
DEPARTMENT OF PUBLIC ADMINISTRATION
List of Panel for Paper Setting and Evaluation- 2021-22

1. Dr. A. Shankar Kumar
   Assistant Professor of Public Administration
   Government City College (A)
   Nayapul, Hyderabad
   9110716674
   tarapubad@gmail.com

2. Dr. V.V. Mallika
   Assistant Professor of Public Administration
   BJR Government Degree College
   Narayanaguda, Hyderabad
   9291467682
   mallikavvdl@gmail.com

3. Dr. Geetha Naik
   Assistant Professor of Public Administration
   Government Degree College
   Hayathnagar, RR Dist
   9849373729
   Geethanaik0404@gmail.com

4. Dr. G. Ravi Kumar
   Assistant Professor of Public Administration
   Government Degree College
   Kukarpally, RR Dist
   7013632237
   ravikumargadhe@gmail.com

GOVERNMENT DEGREE COLEGE FOR WOMEN (AUTONOMOUS)

BEGUMPET, HYDERABAD

Re-Accredited with 'A+' Grade by NAAC

CHOICE BASED CREDIT SYSTEM

(CBCS)

BOARD OF STUDIES IN HISTORY

For

B A HISTORY

UNDER GRADUATE PROGRAMME

IN

DEPARTMENT OF HISTORY

(w.e.f. 2019-20, 2020-21)

Faculty of Social Sciences

GDCW (A), Begumpet, Hyderabad

Scheme for CBCS in BA HISTORY

Year	Semester	DSC/ GE/ DSE/ SEC	Paper	Title	Credits	Hours
I	I	DSC 101	**Paper - I**	**History of India (From Earliest Times to c.700 CE)**	5	5
	II	DSC 201	**Paper – II**	**History of India (c.700 -1526 CE)**	5	5
II	III	DSC 301	**Paper – III**	**History of India (1526-1857 CE)**	5	5
		SEC-I	**Paper-I**	**Historical and Cultural Tourism**	2	2
		SEC-2	**Paper-II**	**Common SEC**	2	2
	IV	DSC401	**Paper - IV**	**History of India (1858-1964 CE)**	5	5
		SEC-3	**Paper-III**	**Common SEC**	2	2
		SEC-4	**Paper-IV**	**Introduction to Archaeology**	2	2
III	V	DSE-501	**Paper-V**	**History of Modern World (1453-1964 CE)**	5	5
		GE	**Paper-I**	**Indian National Movement (1857-1947)**	4	4
	VI	DSE-601	**Paper-V**	**History and Culture of Telangana (From Earliest Times to 2014 CE)**	5	5
		GE/Project	**Paper-II**	**History of Telangana Movement and State Formation**	4	4

GOVERNMENT DEGREE COLLEGE FOR WOMEN
BEGUMPET, HYDERABAD
(AUTONOMOUS)

DEPARTMENT OF HISTORY
BOARD OF STUDIES MEETING FOR THE YEAR 2021-22

AGENDA OF THE MEETING:

1. Approval of choice based credit system for History for first year B.A.
2. Preparation of syllabus under choice based credit system
3. Model Question Paper
4. Prescribing the syllabus of the first and second semester of B.A. first year History, Division and adaption of syllabus
5. Scheme of evaluation, examination pattern to be followed
6. Approval of list of panel of Examiner for all the semester
7. Any other matter with permission of the chair

Board of Studies
Chairperson of BOS

Nominee

Members

1.

2.

3.

4.

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF HISTORY

MEETING OF BOARD OF STUDIES ON
MINUTES RECORD

The meeting of the board of the studies of the Department of History for B.A first year under choice based credit system (CBCS), Government Degree College for Women, Begumpet, Hyderabad held on_____ at _____ in the Department of History, Osmania University, Hyderabad.

The following resolutions were taken in the meeting are:

1. It was resolved to introduce the syllabus for the first year paper I and II under semester I- 5 credits and II- 5 credits, total 10 credits, course following UGC guidelines as per the teaching hours per week.
2. The syllabus prescribed by Osmania University for B.A first Year C/A, E.P.P & H.E.P., H.P.J, E.M is been followed under cbcs for the batch of students in the academic year 2022-23.
3. The division of syllabus for the I,II semesters consists of chapters I,II, III, IV, & V of Osmania University syllabus. The board approved the division and adoption of syllabus as mentioned above.
4. It was resolved the prescribed text books and the reference books recommended by Osmania University.
5. It was resolved to conduct one internal assessment test for 20 marks during each semester, to be considered as internal marks for the semester results.
6. The maximum marks for the end semester theory examination is 60 marks with the examination pattern.

Head of Department
Department of History

Board of Studies
Chairperson of BoS

FACULTY OF HISTORY
BOARD OF STUDIES MEETING FOR THE YEAR 2021-22

The meeting of the board of the studies of the faculty of History, Government Degree College for Women, Hyderabad was held on _____ at _____ in the Department of History.

The Following members were present:

Sl.NO	Name	Address	Signature
1	Prof. K. Arjun Rao	HoD, Dept. of History Ph: 9849415593	
2	Dr. P. Indira	Chairperson of BoS Ph: 6309416397	
2	Dr.B. Lavanya	Associate Professor & University Nominee	
3	Dr.A.Subhash	Asst.Prof in Dept of History, MAANU	
4	Dr. JanaReddy	Asst.Prof in Dept of History, Govt Degree College, Patancheru	
5	Dr. K. Vijay Kumar	Asst. Prof. of History, HOD, Govt. Degree College for Women, Begumpet	
5	Dr.I Sandhya Jyosthna	Asst. Prof in Dept of History, Govt Degree College for Women, Begumpet	

OVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF HISTORY

Members for panel of paper setting for subject History

1. **Prof. K. Arjun Rao**
   HoD, Dept. of History
   Osmania University
2. **Dr. Indira**
   Chairperson of BOS
   Dept. of History,
   Osmania University, Hyderabad.
3. **Dr.B.Lavanya**
   Associate Professor of History & University Nominee,
   Osmania University, Hyderabad.
4. **Dr. A. Subhash**
   Asst. Prof in Dept. of History
   MAAN University
5. **Dr. Janareddy**
   Asst. Prof in Dept. of History
   Govt Degree College, Patancheru
6. **Dr. D. Srinivas**
   Asst. Prof. of History,
   Govt. City College, Nayapul, Hyderabad.

Board of Studies
Chairperson of BoS

University of Nominee

Members

1.

2.

3.

4.

Programme Outcomes

After completing the graduation in BA History as optional subject the students are able to:

- Critically recognize the social, political, economic and cultural aspects of History.
- Demonstrate thinking skills by analyzing, synthesizing, and evaluating historical information from multiple sources.
- Correctly extract evidence from primary sources by analyzing and evaluating them in relation to their cultural and historical context.
- Develop an informed familiarity with multiple cultures.PO5. Emerge as a multifaceted personality who is self-dependent.
- Spread the messages of equality, nationality, social harmony and other human values.
- Comprehend the basic structures and processes of government systems and/or theoreticalunderpinnings.
- Analyze political problems, arguments, information, and/or theories.
- Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

Specific Outcomes

After completion of BA History students will:

- This Programme exerts it's Influence on life and destiny of Human beings.
- It is a stepping stone for one's success in competitive examinations.
- Understand the background of our religion, customs, institutions and so on.
- Understand the present Social, political, religious and economic conditions of the people.
- Analyze the relationship between the past and the present, is lively presented in the History
- The study of History helps to import moral education and the feeling of patriotism in the hearts of the pupils

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD
(Re-accredited by NAAC with "A+" Grade)
B. A. I year, Revised Semester wise Syllabus (w. e. f. 2019-20)
Subject: **History**
Semester – I (CBCS 2021-22)
Paper – I: History of India (From Earliest Times to c.700 CE)

Course Outcome:
On completion of the course, students will:

- Learn in details with examples Pallavas of Kanchi
- Learn in depth development of urban centres
- Learn the characteristics of Mauryan empire
- Understand in depth trade routes
- Understand in details with examples Art and architecture

Module-I: Definitions - Nature and Scope of History - History and Its Relationship with other Social Sciences - Geographical Features of India – Sources of Indian History: Pre-History – Paleolithic, Mesolithic, Neolithic, Chalcolithic and Megalithic Cultures.

Module-II: Indus Valley Civilization - Its Features & Decline; Early Vedic and Later Vedic Civilizations – Vedic Literature – Society – Economy - Polity – Religion.

Module-III: Rise of New Religious Movements – Charvakas, Lokayathas, Jainism and Buddhism; Mahajanapadas - Rise of Magadha; Alexander's Invasion and Its Impact.

Module-IV: Foundation of the Mauryan Dynasty; Ashoka and His Dharma – Polity – Administration - Society – Economy – Religion – Literature - Art and Architecture; Disintegration of the Mauryan Empire; Post-Mauryan Kingdoms - Indo-Greeks - Kushanas and Kanishka - Society – Economy – Literature – Art and Architecture; The Satavahanas; Sangam Age – Literary Development.

Module-V: Gupta Empire: A Brief Political Survey - Polity and Administration, Social and Economic Conditions, Agriculture and Land Grants - Feudalism, Caste System, Position of Women, Education, Literature, Science and Technology, Art and Architecture - Harshavardana and His Achievements.

Recommended Books:
A.L. Basham, *The Wonder that was India*, Rupa & Co., New Delhi, 2001.
Allchin, Bridget & Raymond, *The Rise of Civilization in India and Pakistan*, CUP, New Delhi,1996.
E.H. Carr, *What is History*? Penguin Books, England, 1990.
Majumdar, R.C., *History and Culture of the Indian People*, Vols. I, II &III. Romila
Thapar, *Asoka and the Decline of the Mauryas*, OUP, New Delhi, 1995.Romila
Thapar, *Early India (From the earliest to AD 1300)*.
Romila Thapar, *A History of India*, Vol. I, Penguin Books, New Delhi, 1990.Upinder
Singh, *A History of Ancient and Medieval India*.

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD

(Re-accredited by NAAC with "A+" Grade)

B. A. I year, Revised Semester wise Syllabus (w. e. f. 2019-20)

Subject: **History**

Semester – II (CBCS 2021-22)

Paper-II: History of India (c.700-1526 CE)

Course Outcome:

On completion of the course, students will:

- Understand the details of Rashtrakutas
- Write down the characteristics of Islamic intellectual traditions
- Identify the classification and characteristics of regional languages and literature
- Identify in depth Merchant guilds of south India

Module-I: The Age of Rajputs Society, Economy and Culture - Rise of Regional States: Pallavas, Chalukyas of Badami, Rashtrakutas, Cholas; Local Self Government under Cholas; Society, Economy, Literature, Art and Architecture; Bhakti Movement in South India: Shaiva Nayanars and Vaishnava Alwars.

Module-II: Arab Conquest of Sind, Ghaznavids and Ghoris; Foundation of Delhi Sultanate: Slave, Khaljis, Tughlaqs, Sayyids and Lodis – Polity, Administration, Society – Religion - Economy - Art and Architecture - Growth of Education and Literature – and the decline of Delhi Sultanate.

Module-III: Bhakti and Sufi Movements Prominent Bhakti and Sufi Saints their Preaching's - Impact on Society and Culture - Emergence of Composite Culture.

Module-IV: Kakatiyas – Polity – Administration - Society and Economy - Literature and Religion – Art and Architecture – their contribution toSouth Indian Culture.

Module-V: Vijayanagara – Polity - Administration - Society and Economy – Religion – Art and Architecture – Language and Literature - The Brief History of Bahamanis and their Contribution to the Deccan Culture.

Recommended Books:

A.L. Basham, *The Wonder that was India*, Rupa & Co., New Delhi, 2001.
Irfan Habib, *Medieval India-I*, OUP, Delhi, 1999.
K.A. Nilakanta Sastri, *A History of South India*.
Majumdar, R.C., *History and Culture of the Indian People*, Vols. I, II & III.
Romila Thapar, *Early India (From the earliest to AD 1300)*.
Satish Chandra, *Medieval India (From Sultanate to the Mughals)*, Part-I, Har-Anand Publications, New Delhi, 1997.
Upinder Singh, *A History of Ancient and Medieval India*.
Vipul Singh, *Interpreting Early and Medieval India*.

Telugu:

A. Bobbili and others, *Bharatha Desha Charitra upto A.D. 1526*, Telugu Academy, Hyderabad, 2003.
D.D. Kosambi, *Bharatha Desha Charitra Parichaya Vyasalu*, Hyderabad Book Trust, Hyderabad, 1996.
B.A. First & Second Year *Indian History* Text Books (English & Telugu Medium-CBCS) 2017-18.

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD

(Re-accredited by NAAC with "A+" Grade)

B. A. II year, Revised Semester wise Syllabus (w. e. f. 2020-21)

Subject: History

(CBCS 2021-22)
Semester - III
Paper III: History of India (1526-1857 CE)

Course Outcome:

On completion of the Course, students will:

- Write down the characteristics of Persian and turkish tradition
- Understand in depth Sultanate political structure
- Learn in details with examples Bhakti movement
- Identify the details of Sufi cult
- Understand in details with examples Monetization

Module-I: Establishment of Mughal Dynasty - Sources – Shershah Sur and His Reforms - Brief Survey of Political History of Mughals – Akbar, Shah Jahan and Aurangzeb -Polity - Administration – Society – Economy – Technological Developments - Religion – Hindu-Muslim Relations – Emergence of Composite Culture – Education – Language and Literature – Art and Architecture - Disintegration of Mughal Empire.

Module-II: Rise of Regional Powers - Marathas – Shivaji his Military Achievements, and his Administration – The Rise of Peshwas – and their role in Maratha History - The Third Battle of Panipat – The Rise of Sikhs. – Ranjit Singh – Rise of Princeley States – Hyderabad – Establishment of Asafjahi Dynasty – their contribution to political unity in Telugu Region – Mysore.

Module-III: Advent of European Powers - Portuguese, Dutch, English and French, Anglo-French Rivalry - Expansion and Consolidation of British Power – Wellesley's Subsidiary Alliance – Dalhousie's Doctrine of Lapse.

Module-IV: Three Stages of Colonialism – Mercantilism - Free Trade Policies – Finance Capital - Land Revenue Settlements – Cornwallis and Permanent Revenue Settlement; Thomas Munroe and Ryotwari; Mahalwari System – Changes in the Agrarian Economy and Condition of Peasantry – Famines.

Module-V: Decline of Rural Cottage Industries and Urban Handicrafts - Growth of Railways, Roads, Communication – Modern Industries – Coal Mines, Textiles, Iron and Steel, etc. - Anti-Colonial Upsurge - 1857 Revolt – Nature, Causes and Results – Impact of 1857 Revolt on Hyderabad state of the role of Nizams in crushing it.

Recommended Books:

A.L. Srivastava, *History of India from A.D. 1000 to 1707*.
A.R. Desai, *Social Background of Indian Nationalism*.
Bipan Chandra, *A History of Modern India*.
Harbans Mukhia, *The Mughals*.
John F. Richards, *The Mughal Empire*, CUP, New Delhi, 1995.
R.C. Majumdar (ed.), *A History and Culture of India People*, Bharatiya Vidya Bhavan Series (Relevant Vols.).
R.C. Majumdar, H.C. Raychaudhuri & K. Datta, *An Advanced History of India*, Madras, 1995.
Satish Chandra, *Medieval India*, Vol. II.
Sumit Sarkar, *Modern India (1885-1947)*, Macmillan India Ltd., Madras, 1995.
Tarachand, *A History of the Freedom Movement in India*, Four Volumes.
V.D. Mahajan, *History of Medieval India (Sultanate Period and Mughal Period)*.
V.D. Mahajan, *Modern Indian History*.

Telugu:

B. Laxminarayana Rao, *Bharatadesa Swathantra Charitra* (Part-3), (Trans.), Telugu Academy, 2005.
Bipan Chandra, *Adhunika Bharatadesa Charitra* (Translation Sahavasi), Hyderabad Book Trust.
B.A. First & Second Year Indian History Text Books (English & Telugu Medium-CBCS) 2016-17.
J. Durga Prasad and Others, *Bharatadesa Charitra (1526-1964 A.D.)*, Telugu Academy, 2006.
V. Rama Krishna Reddy, *Bharatadesa Charitralo Mukhya Ghattalu*, Telugu Academy, 2005.

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD

(Re-accredited by NAAC with "A+" Grade)

B. A. II year, Revised Semester wise Syllabus (w. e. f. 2019-20)

Subject: History

(CBCS 2021-22)
Semester - III
Historical and Cultural Tourism
(SEC – Skill Enhancement Course-II)

Course Outcome:

On completion of the Course, students will:

- Write down the characteristics of Nature and Scope of Tourism
- Understand the Importance of Tourism
- Learn in details with examples Historical Monuments
- Identify the details of Tourist Places

The main objective of this course is to make student understand the relevance of Tourism as history and its relationship with culture. This course not only deals with the various aspects of tourism industry but also deals with the impact of tourism. This course also brings out the growing trends in tourism and the demand it is generating in the present times.

Module-I: Tourism – Concept and Meaning – Nature – Scope - Tourism as an Industry - Socio-Economic Impact of Tourism - History of Tourism Development in India - Promotional Strategies of Tourism - Tools of Publicity, Role of Films, Television, Press, Poster-display, Brochures, Role of Guides - Historical Tourism - Monuments, Religious and Secular - Historical Sites - Historical Events - Impact of Tourism Development on Protection and Conservation of Historical Monuments and Sites and Vice-Versa - Socio-Cultural Tourism: Fairs and Festivals of India - Performing Arts (Dance, Drama and Music) - Museums, Art - Galleries, Yoga and Health Centers - Indian Cuisine.

Module-II: Eco-Tourism - Beaches, Hill-Resorts, Surf-Riding, Ballooning, Rafting, Gliding - Wild-life Sanctuaries - National Parks, Safaris, Mountaineering –Trekking – Skiing - Sports Tourism - Tourism in Telangana – Tourist Places - Tourism Handicrafts: Textiles – Metal Work, Stone and Wood Carvings, Furniture, Jewellery, Toys, Musical Instruments – Terracotta - Display and Sale of Handicrafts - Shops at Heritage Centers – Organizing Exhibitions – Duty Free Shops.

Recommended Books:

Dallen, J. Timothy, *Cultural Heritage and Tourism: An Introduction (Aspects of Tourism Texts)*, Channel View Publications, 2011.
INTACH, *Heritage and Development: Recent Perspectives*, Aryan Books International, 2012.
K.R. Gupta, *Concise Encyclopedia of India: (Places of Historical and Tourist Interest)*, 2010.
Melanie, K. Smith, *Issues in Cultural Tourism Studies*, Psychology Press, 2003.
P.N. Girija Prasad, *Eco-Tourism and Its Development*, Adhyayan Publishers, 2012.
S.P. Gupta & Lal Krishna (eds.), *Cultural Tourism in India: Museums, Monuments and Arts*, 2003.
V.K. Singh, *Historical and Cultural Tourism in India*, Aadi Publications, 2008.
Vaibhav Chauhan, *Heritage Tourism: Territory Unexplored*.
Vanaja Uday, *Cultural Tourism and Performing Arts of Andhra Pradesh: Prospects and Perspectives*, Research India Press, 2012.
A.K. Bhatia, *Tourism Development – Principles & Practices*, Sterling Publishers, 2016.
Sampad Kumar, Swain & Jitendra Mohan Mishra, *Principles and Practices in Tourism*, OUP, 2011.
Indira, *Tourism in Andhra Pradesh: Growth and Developments, 1956-2007*, Research India Press, New Delhi, 2014.
D. Satyanarayana, *Kotha Paryataka Sthalalu* (Telugu).

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD
(Re-accredited by NAAC with "A+" Grade)
B. A. II year, Revised Semester wise Syllabus (w. e. f. 2020-21)
Subject: History
(CBCS 2021-22)
Semester - IV
Paper – IV:History of India (1858-1964 CE)

Course Outcomes:

On completion of the Course, students will:

- Understand in depth Baburs invasion
- Understand in depth of Mughal rule under Akbar
- Learn in details with examples Art and architecture of Mughal
- Learn in depth of Conquest of Bengal

Module-I: Queen's Proclamation – Beginning of Colonial Rule – Introduction of Western Education – Role of Christian Missionaries – Press, Communication and Emergence of Middle Classes - Lytton and Rippon: Impact of their Policies.

Module-II: Socio-Religions Reform Movements – Brahma Samaj - Arya Samaj - Theosophical Society - Ramakrishna Mission - Aligarh Movement; Anti-Caste Movements - Jyotibha Phule - Narayana Guru - Periyar Ramaswamy Naicker and Dr. B.R. Ambedkar – Bagyareddy Varma – Social Service League in Hyderabad.

Module-III: Factors for the Rise of Nationalism – Formation of Indian National Congress – Three Phases of Freedom Struggle: Moderate Phase, Extremist Phase and Gandhian Era - Non-Cooperation, Civil Disobedience and Quit Indian Movement; Indian National Army and Subhash Chandra Bose – Impact of National Movement on Hyderabad State.

Module-IV: Revolutionary Movement: Gadhar Party – Bhagath Singh – Chandra Sekhar Azad and Others; Left-Wing Movement – Rise of Socialist and Communist Parties - Peasant and Workers Movements.

Module-V: Emergence of Communal Politics and Mohd. Ali Jinnah – Prelude to Partition of India - Sardar Vallabhai Patel and Integration of Princely States into Indian Union – Merger of Hyderabad in to Indian Union – Police Action - Republic of India – Jawaharlal Nehru and His Policies.

Recommended Books:

A.R. Desai, *Social Background of Indian Nationalism*, Popular Prakashan Pvt. Ltd., Mumbai, 2002.

Bipan Chandra (et.al.), *India's Struggle for Independence*, Penguin Books, Kolkata, 2001.Bipan Chandra, *A History of Modern India*.

Kenneth Jones, *Social and Religious Reform Movements in India*.

R.C. Majumdar (ed.), *A History and Culture of India People*, Bharatiya Vidya Bhavan Series(Relevant Vols.).

R.C. Majumdar, H.C. Raychaudhuri & K. Datta, *An Advanced History of India*, Macmillan, Madras,1995.

S. Gopal, *Jawaharlal Nehru – A Biography*.

Sumit Sarkar, *Modern India (1885-1947)*, Macmillan India Ltd., Madras, 1995.

Tarachand, *A History of the Freedom Movement in India*, Four Volumes.

V.D. Mahajan, *Modern Indian History*.

Telugu:

B. Vijaya Bharati, *Mahatma Jyothirao Phule* (Translation), Hyderabad Book Trust, 2004.

Bhoopati Laxminarayana Rao, *Bharatadesa Swathantra Charitra* (Part – 3), (Translation), TeluguAcademy, 2005.

Bipan Chandra, *Adhunika Bharatadesa Charitra* (Translation Sahavasi), Hyderabad Book Trust.

J. Durga Prasad and Others, *Bharatadesa Charitra (upto 1526-1964 A.D.)*, Telugu Academy, 2006.

V. Rama Krishna Reddy, *Bharatadesa Charitralo Mukhya Ghattalu*, Telugu Academy, 2005.

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD
(Re-accredited by NAAC with "A+" Grade)
B. A. II year, Revised Semester wise Syllabus (w. e. f. 2019-20)
Subject: History
(CBCS 2021-22)
Semester - IV
Introduction to Archaeology
(SEC – Skill Enhancement Course-II) – Paper-IV

Course Outcomes:

On completion of the Course, students will:

- Understand in depth Scope and Relevance of Archaeology
- Understand in depth in the Contribution of Institutions and Individuals for Archaeology
- Learn the details with examples Techniques of Archaeological Survey
- Learn in depth the Dating Methods and Uses

This course examines the significance of archaeology in retrieving the human part and its development as an important discipline in India. This course equips the students with techniques of identifying an archaeological site, its excavation, documentation and conservation methods.

Module-I:

Introduction to Archaeology – Definition – Scope – Relevance – Relation with History and Science – Terms in Archaeology – Culture – Assemblage – Uses of Archaeology – Growth of Archaeology as Scientific Discipline – History of Archaeology in Colonial India from 18th CE to 1947 – Archaeology in Independent India – Contribution of Institutions and Individuals.

Module-II:

Techniques of Archaeological Survey and Excavation – Basics of Site Recording – Stratigraphy and Excavation – Dating Methods and Uses – Documentation – Analysis – Photography – Tools for Conservation.

Recommended Books:

John, A. Bintliff, A Companion to Archaeology, Blackwell Publishers, 2004.
Dr. Chakrabarti, A History of Indian Archaeology: From the Beginning to 1947, Manohar, New Delhi, 1988.
M. Hall & WS. W. Silliman, Historical Archaeology, Blackwell, USA, 2006.
Mathew Johnson, Archaeological Theory: An Introduction, Blackwell Publishing, 2010.
Deetz, James, In Small Things Forgotten: An Archaeology of Early American Life, Revised Edition, Anchor Books, New York, 1996.
Renfrew, Colin and Paul Bahn, Archaeology Essentials: Theory, Methods, Practice, Thames and Hudson, London, 2010.
Roskams, Steve, Excavation Cambridge University Press, Cambridge, 2001.
H.C. Kushwaha, History of Indian Archaeology, Kunal Books.
D.K. Ganguly, Ancient India: History and Archaeology, Abhinav Publications, 2003.
Amalananda Ghosh, An Encyclopedia of India Archaeology, BRILL, 1990.

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD

(Re-accredited by NAAC with “”A+ Grade)

B. A. III year, Revised Semester wise Syllabus (w. e. f. 2019-20)

Subject: History

Semester – V

Paper – V: History of the Modern World (From 1453 CE to 1964 CE)

Course Outcomes:

On completion of the Course, students will:

- Learn the details of The French revolution
- Understand in depth Italian unification
- Understand in depth Napoleon -III
- Learn in depth the UNO
- Learn the classification and characteristics Soviet industrialization
- Learn in depth Formation of the USSR

Unit-I: Decline of Medieval Socio-Political, Religious, Economic conditions - Characteristic features of Renaissance - Significance of Reformation and Counter Reformation movements in Europe - Geographical Discoveries and Rise of Colonialism – Colonization of America - Mercantilism and Commercial Revolution. Emergence of Nation States in Europe – Spain – France – England – Russia – Austria – Italy and Prussia - Nature of Absolute Monarchies and Feudalism in Europe and Asia.

Unit-II: Age of Revolutions – Glorious Revolution (1688) - American Revolution (1776) - French Revolution (1789) – Napoleon – Wars – Reforms- Revolutions of 1830 and 1848 - Industrial Revolution.

Unit-II: Rise of Capitalism – Impact on Asia and Africa – Colonization of Africa - Asia and Latin America - Entry of European Powers in China – Opium Wars – Revolution in China – Boxer Revolt - Sun-Yat-Sen – Mao’s Communist Revolution - Meizi Restoration and Modernization of Japan- Unification Movements in Germany and Italy.

Unit-IV: World between 1914-1945 Rivalry among colonial powers Imperialist Hegemony - Causes and consequences of first World War – World between the Wars - League of Nations - Russian Revolution – Causes and consequences. Fascism in Italy, Nazism in Germany, Militarism in Japan – Nationalist and Communist Movements in China - Role of Sun-Yat-Sen and Mao-Tze-Dung.

Unit-V: Causes and consequences of Second World War – UNO, Its Contribution to World Peace – Decolonization and National Liberation Movements in Asia, Latin America and Africa – NAM – its Origin – Aims Importance.

Recommended Books:

Arun Bhattacharjee, *History of Modern Europe*, Vol. II.
C.J.H. Hayes, *Europe since 1870 A.D.*, Vol. II.
C.J.H. Hayes, *Europe upto 1870 A.D.*, Vol. I.Fischer, *A History of Europe*.
J.M. Roberts, *History of the World*, New York, 1976. Peter Moss, *Modern World History*, Hampshire, 1978.Taylor, A.J.P., *The Struggle for Mastery in Europe*. Thompson, D., *Europe Since Napoleon*.
V.D. Mahajan, *History of Modern Europe since 1789*.

Telugu:

Badriraju Sheshagiri Rao and Others, *Adhunika Prapancha Charitra*, Telugu Academy, 2002.
Y. Vaikuntham., *Prapancha Charitra*, Telugu Academy.

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD

(Re-accredited by NAAC with "A+" Grade)

B. A. III year, Revised Semester wise Syllabus (w. e. f. 2019-20)

Subject: History

Semester – V PAPER-I

Indian National Movement (1857-1947 CE)

(GE – Generic Elective – (Open Stream))

(2021-2022)

Course Outcomes:

On completion of the Course, students will:

- Learn the details of 1857 Revolt
- Understand in depth the causes for 1857 Revolt
- Understand in depth Indian National Movement
- Learn in depth Phases of Freedom Movement

Module-I:	1857 Revolt – Causes – Consequences – Factors for the Rise of Nationalism – English Education – Communications, News Papers – Economic Exploitation – Socio – Religious Reform Movements – Political and Administrative Unity – Emergence of Educated Intelligentsia.
Module-II:	Formation of Indian National Congress – Its Aims & Objective – Three Phases of India's Freedom Struggle – Moderates and Extremists – Their Ideology: Constitutional Type of Agitation – Vandemataram and Home Rule Agitations.
Module-III	Emergence of Gandhi – His Ideology, Non-Cooperation its importance and Civil Disobedience Dandi March – Role played by Women in National Movement – The Militant Nationalists – Their Ideology – Bagath Singh – Rise of Left Ideology.
Module-IV	Origin of Peasant and Tribal Movements – Growth of Working Class Movement – Azad Hind Fauz – Subash Chandra Bose – Origin of Communalism – Factors for the Rise of Communalism in India – All India Muslim League and Hindu Mahasabha – Their Activities – Results.
Module-V	Second World War – Quit India Movement – Course of the Quit India Movement – Second World War Its Impact on Indian National Movement – Cripps Proposals; Cabinet Mission; Factors led to the Partition of Country and Emergence of Independent India August, 1947.

Recommended Books:

A.R. Desai, Social Background of Indian Nationalism, Popular Prakashan Pvt. Ltd., Mumbai, 2002.
Bipan Chandra, Nationalism and Colonialism in Modern India, Orient Longman, New Delhi, 1979.
Bipan Chandra, India's Struggle for Independence, Penguin Books, Kolkata, 2001.
Sumit Sarkar, Modern India (1885-1947), Macmillan India Ltd., Madras, 1995.
Sekhar Bandypandhyay, National Movement in India, Oxford University Press, New York, 2009.
Sekhar Banypandhyay, From Plassey to Partition, Orient Longman Pvt. Ltd., New Delhi, 2004.
Amles Tripathi, Barun De and Bipin Chandra, Freedom Struggle, National Book Trust, 2007.
D. Rathermund, The Phases of Indian Nationalism and Other Essays, Nachiketa Publications, Bombay, 1970.
R. Suntherlingam, Indian Nationalism – An Historical Analysis, Vikas Publications House, New Delhi, 1983.
D.N. Dhanangare, Peasant Movements in India, 1920-1950, Oxford University Press, New Delhi, 1991.
Ahmed, Jinnah, Pakistan and Islamic Identity – The Search for Saladin, Routledge, London, New York, 1997.
Mushirul Hasan (Ed.)., India's Partition – Process, Strategy and Mobilization, Oxford University Press, Delhi, 1993.
Kapil Kumar (Ed.)., Congress and Classes: Nationalism Workers and Peasants, Manohar Publishers, New Delhi, 1988.
D.Argov, Moderates and Extermists in Indian Nationalist Movement, 1883-1920, Asia Publishing House, London, 1967.
Indian History, B.A., Second Year (TM & EM) Telugu Academy, Hyderabad, 2017.

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD

(Re-accredited by NAAC with "A+" Grade)

B. A. III year, Revised Semester wise Syllabus (w. e. f. 2019-20)

Subject: History

Semester – VI

Paper – V: History and Culture Telangana (From earliest times to 2014 CE)

Course Outcomes:

On completion of the Course, students will:

- Learn the details of Ancient Telangana History
- Understand in depth the Rule of Shathavahanas and other Ancient Kingdoms
- Understand in depth the Telangana Movement
- Learn in depth the two phases of Telangana Movement

Unit-I: Sources – Pre-History of Telangana – Asmaka Janapada and the Culture of Ancient Telangana – Jainism and Buddhism – Brief Political Survey of Satavahanas – Western Chalukyas – Mudigonda Chalukyas – Vemulavada Chalukyas their contribution to society economy and culture – Medieval Telangana from Kakatiyas to Qutb Shahis – Popular Revolts – Sammakka Sarakka, Sarvai Papanna – Society, Economy and Culture; Fairs, Festivals, Folk, Batukamma, Bonalu, Special focus on MAHANKALI Bonalu Jathara Secunderabad Urs, Moharram, etc Telangana Food, Festivals, Arts, Folksongs, Symbols, Musical Instruments, Composite Culture.

Unit-II: Foundation of Asaf Jahi Dynasty – A Brief Survey of The Political History of Asaf Jahis from 1724-1857 – Salarjungs Reforms and their Importance Mir Mahboob Ali Khan and Mir Osman Ali Khan – Modernization of Hyderabad under them – Growth of Transportation and Communication, Public Health, Industries and Osmania University – Public Health – Hospitals – Social, Cultural and Political Awakening in Telangana – Press, Journalism and Library Movements – Nizam Andhra Jana Sangham – Arya Samaj and Its Activities – Ittehadul Muslimin Party – Bhagya Reddy Varma and Dalit Movements.

Unit-III: Political Developments in Hyderabad State 1900 to 1942 – The Andhra Maha Sabha – Hyderabad State Congress – Mulki-Non-Mulki Issue (1930) - Vandemataram Movement – Comrades Association, Student and Workers Organisations and Movements - Communist Party and Its Activities – The Role of Women in Hyderabad Freedom Movement.

Unit-IV: Anti-Nizam and Anti-Feudal Movements - Telangana Peasants Armed Struggle – Adivasis Revolt – Kumaram Bheem – Razakars and their Activities – Police Action - Formation of Popular Ministry under Burgula Rama Krishna Rao - Assertion of Mulki Identity and the City College Incident (1952) – Gentlemen Agreement and its Previsions – Merger of Telangana and the Formation of Andhra Pradesh, (Merger of Telangana and the Formation of Andhra Pradesh, (1956).

Unit-V: Discrimination, Dissent and Protest - Violation of Gentlemen's Agreement - Agitation for Separate Telangana State: Formation of TPS – Role of Intellectuals, Students, Employees in 1969 Movement - Second Phase Movement for Separate Telangana – Formation of Various Associations – Telangana Aikya Vedika – Telangana Jana Sabha – Telangana Rashtra Samiti (2001) – Mass Mobilization – Sakala Janula Samme – Millennium March – Sagara Haram, Chalo Assembly – December 2009 Declaration – Sree Krishna Committee its recommendations and letter developments and the Formation of Telangana State, June 2014.

Recommended Books:

Bhangya Bhukya, *The Subjugated Nomads*, Hyderabad, 2010.
Goutham Pingle, *The Fall and Rise of Telangana*, Hyderabad, 2014.
H. Rajendra Prasad, *Asaf Jahis*, Hyderabad, 2006.
I. Thirumali, *Against Dora and Lord*, New Delhi, 2008.
I. Thirumali, *Telangana – Andhra*, Delhi, 2010.
Kingshuk Nag, *Battle Ground Telangana*, Hyderabad, 2010.
Lalitha & Susie Tharu, *We were Making History*, Kali for Women, New Delhi.

Sarojini Regani, *Highlights of Freedom Struggle in Andhra Pradesh*.
Sarojini Regani, *Nizam-British Relations.*
Y. Gopal Reddy, *A Comprehensive History of Andhra Pradesh*, Hyderabad, 2008.
Telangana History and Culture, B.A. Third year (TM & EM) Telugu Academy, Hyderabad, 2019

Telugu:

Anveshi, *Manaku Teliyani Mana Charitra*.
G. Chakrapani, *Telangana Jaitrayatra*, Hyderabad, 2012.
Madapati Hanmanth Rao, *Telanganalo Andhrodyamam*, Hyderabad.
Mandumula Narsing Rao, *Yabai Sanvatsarala Hyderabad*, Hyderabad, 1977.
P. Sundaraiah, *Veera Telangana – Viplava Poratam*.
Raavi Narayana Reddy, *Viplava Telangana – Naa Gnapakaalu*.
Sarojini Regani, *Nizam-British Sambandhalu*.
Sunkireddy Narayana Reddy, *Telangana Charitra*, Hyderabad, 2014.
Surepalli Sujatha, *Irusuchakra Bandilo Telangana*.
V. Manikya Rao, *Hyderabad Swatantra Charitra*, 2000.

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD

(Re-accredited by NAAC with "A+" Grade)

B. A. III year, Revised Semester wise Syllabus (w. e. f. 2019-20)

Subject: History

Semester – VI

(CBCS 2021-22)

PROJECT

Students of Semester VI are offered project for 4 credits to inculcate research orientation among them. Students will be offered different topics of final semester and asked to collect data, compile and interpret it and arrive at logical conclusions based on their hypothesis.

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD

(Re-accredited by NAAC with "A+" Grade)

B.A. I YEAR MODEL QUESTION PAPER FOR THE AY- 2019-20 (Skelton)

SUBJECT: History

For All semesters

For All Papers: I,II,III,IV,V, & VI

Time: **Max. Marks: 60**

Note: Paper consists of two parts. Questions from part-A should cover entire syllabus and part-B covering unit wise syllabus.

PART – A

Answer any four of the following. All questions carry equal marks. 4 x 5 = 20 M

1.
2.
3.
4.
5.
6.
7.

PART_B

Answer all the questions. All questions carry equal marks. 5 x 8 = 40 M

8. A) Or

   B)

9. A) Or

   B)

10. A) Or

    B)

11. A) Or

    B)

12. A) Or

    B)

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD

(Re-accredited by NAAC with "A+" Grade)
MODEL QUESTION PAPER (Skelton)
SUBJECT: History
For All SECs: I,II,III & IV

Time: **Max. Marks:** 40

Note: Paper consists of two parts. Questions from part-A should cover entire syllabus and part-B covering unit wise syllabus.

PART – A

Answer any four of the following. All questions carry equal marks. 4 x 4 = 16 M

1.
2.
3.
4.
5.
6.

PART_B

Answer all the questions. All questions carry equal marks. 2 x 12 = 24 M

7. A) Or

   B)

8. A) Or

   B)

GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
BEGUMPET, HYDERBAD
(Re-accredited by NAAC with "A+" Grade)
MODEL QUESTION PAPER (Skelton)
SUBJECT: History
For All GEs: I,II,III & IV

Time: **Max. Marks:** 40

Note: Paper consists of two parts. Questions from part-A should cover entire syllabus and part-B covering unit wise syllabus.

PART – A

Answer any four of the following. All questions carry equal marks. 4 x 4 = 16 M

1.
2.
3.
4.
5.
6.

PART_B

Answer all the questions. All questions carry equal marks. 2 x 12 = 24 M

7. A) Or

   B)

8. A) Or

   B)

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)

Re-Accredited with 'B' Grade by NAAC

BOARD OF STUDIES
CBCS (w.e.f. 2019 onwards)

of

B A Journalism UG Programme
under MOOCS/Virtual classrooms

DEPARTMENT OF JOURNALISM
(AY 2021-2022)

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET

(AUTONOMOUS)

Re-Accredited with 'B' Grade by NAAC

DEPARTMENT OF JOURNALISM

Constitution of Board (AY 2021-22)

Board of Studies Meeting on _____

The Board of studies meeting for the Department of Journalism was held at _____ on _____ in the Department of Journalism, Govt. Degree College for Women, Begumpet, Hyderabad.

The following members are present in the meeting are:

S.NO	NAME	ADDRESS	SIGNATURE
1	**T. Satish Kumar** Professor. Chairman BOS. University Nominee OU	Department of Journalism OsmaniaUniversity, Hyderabad.	
2	**K Stevenson** Professor. HoD. Department of Journalism	Department of Journalism OsmaniaUniversity, Hyderabad	
3	**G Naga Mallika** Professor. Subject Expert	Department of Journalism EFL University, Hyderabad.	
3	**Dr K Vijay Kumar (History)** **I/C dept** **Faculty members** **1. Ms. Parveen Sultana** Assistant Professor (C)	Dept. of Journalism Government Degree College for Women Begumpet, Hyderabad.	
4	**A Sanjeev J Kumar,** Chief Reporter	Saakshi TV Hyderabad	
5	**Fatima Raheem** **(Ph D) in Journalism OU**	Alumni	

BOS University Nominee

Member(s) of BOS

HEAD
Dept. of Journalism & Mass Communication
Osmania University, Hyderabad-500 007.

Faculty of Social Sciences

B A Journalism under MOOCs/Virtual Classrooms

GDCW Begumpet, Hyderabad

Scheme for CBCS in BA Journalism

Sl. No	Code	Course Title	HP W	Credits	Exam Hrs	Marks
I Yr		**SEMESTER – I**				
	DSC103	Introduction to Communication and Journalism	5	5	3 hrs	60+40
		SEMESTER – II				
	DSC203	Mass Media in India	5	5	3 hrs	60+40
II Yr		**SEMESTER – III**				
	SEC1	UGC specified English Skills	2	2	1 ½ hrs	40+10
	SEC2	Specialized Reporting	2	2	1 ½ hrs	40+10
	DSC303	Reporting and Editing in Print	5	5	3 hrs	60+40
		SEMESTER – IV				
	SEC3	UGC specified English Skills	2	2	1 ½ hrs	40+10
	SEC4	Online Journalism	2	2	1 ½ hrs	40+10
	DSC403	Broadcast Journalism	5	5	3 hrs	60+40
III Yr		**SEMESTER – V**				
	GE	TV News Anchoring presentation and script writing	4	4	3 hrs	60+40
	DSC 503	a) Media and Development/ b) Telugu Journalism	5 5	5 5	3 hrs 3 Hrs	60+40 60+40
		SEMESTER – VI				
	DSC 603	a) Media Literacy b) Advertising	5 5	5 5	3 hrs 3 Hrs	60+40 60+40
			52	52		
	Project work by students		4	4	3Hrs	60+40

BOS University Nominee

Member(s) of BOS

Dept. of Journalism & Mass Communication
Osmania University, Hyderabad-500 007.

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)

Re-Accredited with 'B' Grade by NAAC

Department of Journalism (AY 2021-22)

Board of Studies Meeting on 26|10|2021

AGENDA OF THE MEETING

1. Approval of Choice Based Credit System (CBCS) for I and II and III year B.A. Journalism under Moocs/Virtual classrooms
2. Prescribing division and adoption of Journalism syllabus for I to VI Semesters.
3. Approval of SECs for III and IV Semesters for Second year
4. Approval of GE syllabus as Inter-disciplinary course, division and adoption of syllabus.
5. Scheme of Evaluation and Examination pattern to be followed for each.
6. Approval of Model Question Paper.
7. Approval of list of panel of examiners for both semesters.
8. Any other matter with the permission of the chair.

University Nominee

Members of BOS

HEAD
Dept. of Journalism & Mass Communication
Osmania University, Hyderabad-500 007.

GOVERNMENT DEGREE COLLEGE FOR WOMEN (AUTONOMOUS)
BEGUMPET, HYDERBAD
Subject: Mass Communication and Journalism

List of Visiting Professors

1. Dr. K. Rajaram
   Assistant professor
   Department of Journalism and Mass Communica
   EFLU — Hyderabad. ph no: 9849893673

2. Dr. Suchitra
   Asst Prof
   Dept MCJ
   EFLU - OU campus.

3. PVN Srinivas.
   Asst Prof
   Dept MCJ
   EFLU - OU campus

University Nominee

Members of BOS

HEAD
Dept. of Journalism & Mass Communication
Osmania University, Hyderabad-500 007.

PROGRAME OUTCOMES

PO 1 Domain Expertise:

- Acquire comprehensive knowledge and skills.
- Make use of the knowledge in an innovative manner.
- Effectively apply the knowledge and skills to address various issues.

PO 2 Modern equipment Usage

- Use ICT effectively.
- Access, retrieve and use authenticated information.
- Access, retrieve and use authenticated information. Have knowledge of software applications to analyze data.

PO 3 Computing Skills and Ethics

- Develop rationale and scientific thinking process.
- Use technology intelligently for communication, entertainment and for the benefit of mankind.
- Ensure ethical practices throughout ones endeavors for the wellbeing of human race.

PO 4 Complex problem Investigation & Solving

- Predict and analyze problems.
- Frame hypotheses.
- Investigate and interpret empirical data.
- Plan and execute action.

PO 5 Perform effectively as Individuals and in Teams

- Work efficiently as an individual
- Cooperate, coordinate and perform effectively in diverse teams/groups.

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Osmania University, Hyderabad-500 007

- Prioritize common interest to individual interest.
- Express thoughts in an effective manner
- Listen, understand and project views in a convincing manner.
- Decide appropriate media to share information
- Develop skills to present significant information clearly and concisely to interested groups.

PO 6 Efficient communication and life skills.

* Express thoughts in an effective manner.

*Listen, understand and project views in a convincing manner.

*Decide appropriate media to share information.

*Develop skills to present significant information clearly and concisely to interested groups.

PO 7 Environmental Sustainability

- Understand sensibly the Environmental challenges.
- Think critically on environment sustainability measures.
- Propagate and follow environment friendly practices.

PO 8 Societal contribution

- Render service for the general good of the society.
- Involve voluntarily in social development activities at Regional, National, global levels.
- Have own pride in volunteering to address societal issues viz: calamities, disasters, poverty, epidemics.
- Be a patriotic citizen to uphold the values of the nation

PO 9 Effective Project Management

- Identify the goals, objectives and components of a project and decide the appropriate time of completion.

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- Plan, organize and direct the endeavors of teams to achieve the set targets in time.
- Be competent in identifying opportunities and develop strategies for contingencies.

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DSC 10: Introductions to Communication & Journalism

Unit-I: Communication: Definition-Nature Scope and Functions. Process and elements of Communication. Communication and its role in society.7Cs of communication. Types of Communication-Verbal, Non-verbal, Intra-personal, Interpersonal, Group Communication and Mass Communication. Mass communication characteristics functions and Mass Media: Print, Radio, Television and film.

Unit-II: Models of Communication – Laswell , Berlo's SMCR model, Shannon and Weaver, Osgood and Schramm. Dance Helical, NewComb ABX model.

Unit-III: Theories of Communication – Effects theories: Agenda setting theory, Uses and gratifications theory, Cognitive dissonance theory, cultivation theory. Normative media theories: Authoritain theory Libertarian theory Social responsibility and Soviet Communist theory. Knowledge Gap Hypothesis: Information rich and Information poor.

Unit-IV: Journalism- Definition, scope and nature of Journalism. Role of journalism in a democracy/ society: Creating awareness, Propaganda Publicity, building public opinion-Journalism and social change.

Unit-V: Kinds of Journalism: Print, Broadcast, On-line (Cyber) Journalism, Sports, Science, Education, Development, Community, Paid Journalism and Yellow Journalism.

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SEMESTER- II

DSC -201 Mass Media in India

Unit–I: Press

History of the Press in India: Colonial Period – Printing in India - James Augustus Hicky - James Silk Buckingham- Raja Rammohun Roy - Major English newspapers- Early Indian Language Newspapers. Press Acts and regulations in British rule. Press and Social Reforms. Press and National Freedom Movement, Gandhi as Journalists. Post Independence Era, Post Emergency Era. Changing Readership. Recent Developments in Print Media.

Unit–II: Films-Evolution

Early films- Pioneers of Indian Cinema- Dadasaheb Phelka, Satyajit Ray, Shantaram, Bimal Roy Mehboob and Guru Dutt - Parallel cinema- Commercial cinema- Regional cinema.

Unit – III: Radio

Early history of Radio in India. History of AIR: Evolution of AIR Programming. Radio in the Context of the State's Development Agenda. Patterns of State Control; the Demand for Autonomy- Formation of Prasar Bharati. FM: Radio Privatization. Community radio, Satellite and Web radio.

Unit – IV: Television

Historical perspective of television in India Development of television as a Medium of Mass Communication — Satellite and Cable Television in India and Development of networks and regional Channels.

Unit – V: Origin, growth and Present status of New Media in India.

Brief history of internet, world wide web, social media, cyber crimes, cyber law, e-governance. Online media , podcast, digital divide.

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Book list for Sem I and II:

1. Larry L.Barker : Communication
2. Mcquail, Denis : Mass Communication Theory
3. McquailandWindah I : Communication Models
4. Rogers and Singhal : India's Communication Revolution
5. Emery, Ault &Agee : Introduction to Mass Communication
6. J.N.Basu : Romance of Indian Journalism
7. RangaswamyParthaSarathi : History of Indian Journalism.
8. P.C. Chatterji :Broadcasting in India
9. Lynne Gross : An Introduction to Radio,TV and the Developing Media
10. Herbert Zettle : Television Production
11. Campbell, Meath&Johnson : A Guide to Radio, TV Writing
12. Robert McLeish : The Technique of Radio Production
13. Pane Sureyat : Broadcast News Writing
14. S.P.Jain : The Art of Broadcasting
15. Awasthy : Broadcasting in India
16. H.R.Luthra : Indian Broadcasting

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SEMESTER- III

DSC 301: Reporting & Editing for Print Media

Unit–I: Introduction to News - Definitions – Nature – Scope of News – News Values – Hard News and Soft News. Sources of News – News gathering and its importance. Qualities of a reporter - Fairness, balance, attribution.

Unit-II: News writing – Elements of news story- Inverted pyramid- Leads- types. Reporting – Politics, Crime, Finance, Science, Health and environment, beat reporting.

Unit–III: Newspaper organization structure - Organisation of Editorial Department and the News Bureau.- Hierarchy, Different roles Path of a News Copy from event to the reader-

Unit–IV: The Editing Process: Editing – News Selection – Qualities of a sub-editor Integrating Copy – Rewriting; Types of Copy- Agency, Bureau, Wire, Mofussil – Functions of Headlines – Headline Writing – Excerpts – Blurbs – Highlights – Infographics. Photo Essay – Caption writing

Unit–V: Media Ethics and Laws: Freedom of speech and expression, Article 19 (1) (a) , reasonable restrictions, Media Laws and Ethics –Defamation, Libel, slander, , Right to Information, Official secrets Act, Contempt of Court, Copyright Act of 1957, Fairness – Public Interest and privacy, Press Council of India (PCI) – Recommendations and status – Code of Ethics for Journalists.

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SEMESTER-IV

DSC 401: Broadcast and New Media Journalism

Unit-I: Introduction to Broadcast Media: Broadcasting- Radio Transmission Process, Television Transmission Process, Impact and role of Broadcast media in society, Concept of Public Broadcasting: Contribution of AIR and Doordarshan towards development, community Radio.

Unit-II: Introduction to Radio Journalism: Basic features of radio news .Sources of radio news, qualities and responsibilities of a radio reporter, criteria for selection of radio news .Radio news bulletin structure. News room set-up in a radio station. Different radio programme formats

Unit-III: Television Journalism: Basic characteristics and elements of television news, elements of a TV news bulletin .Writing style for television news. Duties, responsibilities and qualities of a TV reporter. Writing for Television, Television Programme formats, Television Script formats Interview: types and techniques of TV interview. New trends in television news reporting – Youtube/ social media as a source of news.

Unit IV: Television news based programmes, Television News Process from the event to the Screen. Hierarchy in television news channel. Ethical issues in television news.

Unit-V: New Media Journalism: Web-based newspapers, web-journalism Media Convergence. Unique features of Web Journalism, language, Internet newspaper editions, updates, Internet News Groups, e-mail, blogs. Internet as a tool for data gathering, Social Media Journalism, issues of veracity and credibility – Fake news.

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Booklist for sem III

1. VirBalaAgarwal : Essentials of Practical Journalism
2. K.M.Srivasthava : Reporting and Editing
3. TJS George : Editing
4. Maloney &Rubenstein : Writing for Media
5. .Burack : The Writers Handbook
6. A.G. Noorani : India's Constitution & Politics
7. Durga Das Basu : Constitution of India
8. Durga Das Basu : Law of the Press
9. Millerson,Gerald : Effective TV Production
10. Hilliard : Writing for Television and Radio
11. Zeltl, Herbert : Television Production.
12. B.N.Ahuja : Audio-Visual Journalism
13. Welsch : Handbook for Scriptwriters

Booklist for Sem IV

1. B.N.Ahuja : Audio-Visual Journalism
2. ThotaBhavannarayana : Television Journalism
3. Welsch : Handbook for Scriptwriters
4. Brown, Lewis : A.V. Instruction
5. Campbell : A Guide to Radio Radio – TV Writing
6. Millerson : Effective TV Production
7. Hilliard : Writing for Television and Radio
8. Zeltl, Herbert : Television Production
9. Mc.Leish, Robert : Techniques of Radio Production
10. Domaggio : How to write for television
11. Chatterji, P.C. : Broadcasting in India

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SEM – III

SEC – II

SPECIALIZED REPORTING (2020-2021)

Objectives: To define specialized reporting and identify the attributes of a typical specialized report • Distinguish between a specialist reporter and a generalist • identify and explain the special qualities of specialized reporter

Duration: 2 Hours per week

MODULE-I:

Introduction to Science Communication: Science communication- characteristics ,Media use for science communication, important science publications for popular reading- Issues like GM crops, big dams and others. Media coverage of science- print- radio- television and new media. Promotional campaigns of science communication

MODULE -II:

Environment and Media: Role of media in covering environmental issues, Governmental and non-governmental organizations and environmental campaigns- Chipko, Appiko, Narmada Bachao Andolan and others. .Environmental policy initiatives: national and international and issues Global warming, Kyoto Protocol, Rio Earth Summit, Montreal Meet, Copenhagen, Paris declaration. Polavaram, Patancheru, Flourosis.

SEMESTER-IV

DSC 401: Broadcast and New Media Journalism

Objectives:

- *To introduce broadcast media.*
- *To impart professional skills in radio and television journalism.*
- *To familiarize with web journalism.*

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Learning Outcomes:

After completion of the course, the student will be able to:

SEM - IV - SEC - IV

ONLINE JOURNALISM

SYLLABUS (2020-2021)

Objectives: To introduce and develop understanding of New Media, its evolution, theoretical underpinnings and growth and expansion • To enable students to write, produce and distribute for the digital platforms

Duration: 2 Hours per week

MODULE-I: Evolution of ICT's - its impact on journalism – Information revolution and concept of information society. Digital divide. Evolution of new media and Social media. World Wide Web and internet; URL's, HTML, Hyperlinks, Search engines, emails. Blogs- nature and purpose of blogs; How to create and manage blogs.

MODULE-II: Origin and growth of e-newspapers - e journals. Writing for the screen vs writing for print; Principles and do's and don'ts. Internet and freedom of expression. Cyber laws; Privacy Policies. Evolution of online news portals – Scroll .in, Thewire.in, thehoot.org , The Guardian, Limitations and current trends of online journalism; Future of the online journalism.

Books list

1. Dynamic Web Publishing Unleashed – Shelley Powers, Techmadia 1998

2. Assessing the State of Web Journalism.-Nath, Shyam- Authors Press, New Delhi, 2002

3. Net, Media and the Mass Communication. - Chakravarthy, Jagdish. Authors press, New Delhi, 2004

4. Mass Media and Information Revolution. - Bhargava, Gopal. - Isha Books, New Delhi,2004

5. The Communication Revolution.- Menon, Narayana. - National Book Trust.

6. Media in the Digital Age. - Pavlik J.V. -Columbia University Press.

Resolved to accept the above following pattern of examination

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THIRD YEAR

DSE 501 A. Media and Development (or)

B. Telugu Journalism

Media and Development

Unit-I: Development: Concept, Definition, Process. Mellinium Development Goals, Concept of Sustainable Development and Sustainable Development Goals.

Unit–II: Role of Media in Development Communication - Strategies in Development, Communication, Social, Cultural & Economic Barriers to Development Communication.

Unit-III: Agricultural Communication, Rural Development: Approaches, Rural Development: Extension.

Unit-IV: Development Support Communication: Population, Family Welfare & Health, Education & Environment, Problems faced in Development Support Communication.

Unit–V: Writing Development Stories for Media: Print, Radio and TV, Issues of AIDS, Trafficking, Human Rights, Dalit & Tribal Movements.

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(B): Telugu Journalism

Unit-I: History of Telugu Press - Major Phases in the evolution of Telugu Journalism. Telugu Press in Social Reform movement and freedom struggle, pioneers in the history of Telugu Press. Kandukuri Veeresha Lingam Pantulu, Kashinathuni Nageshwar Rao Pantulu, Mutnuri Krishna Rao, Suravaram Pratapa Reddy. Origin and growth of Press in Telangana, prominent publications and journalists. Role of the Press in Telangana movement.

Unit-II: Contemporary Telugu Press, its growth and contribution. Current trends in Telugu Journalism. Study of Telugu newspapers—news reporting, investigative reporting, columns, columnists, special pages and special supplements. Objectivity and editorial policies.

Unit-III: Language in Telugu Newspapers, use and misuse of English words, dialects. Problems of translation, coining of new words. Writing of News Reports and exercises in translation.

Unit-IV: Telugu Newspapers-Study of news reports, features and articles. Language and style. Writing articles and features, differences in writing articles and features.

Unit-V: News and news-based programmes in the electronic media. Writing news for radio and television. Differences in writing for Print and Electronic media.

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SEMESTER-VI

DSE 601 Media Literacy

Unit 1: Media and society. Introduction to Media Literacy. Understanding media. Media and audience. Types of media literacy. Language in media.

Unit 2: The Five Key Concepts to Media Literacy –producers of media content- techniques used to attract the attention of audience. Individual differences in understanding the messages. The lifestyles, values or points of view included or omitted from, the message. Applying Bloom's Taxonomy to Media Analysis -the 6 different levels of Bloom's Taxonomy .

Unit 3: Social Constructions of Media and Their Implications: Situating the Socio-cultural Context of Media Content ; Understanding Media Content and Its Uses-Understanding the News, Media and Information Ethics; Representation in Media and Information.

Unit 4: Creating Media Commercials. Elements of a commercial. Camera Shots and Angles Conveying Meaning. Digital Editing and Computer Retouching.

Unit 5: Critical understanding of the media. Media and economics . Media and hegemony. Media and psycho analysis. Content analysis. Film criticism. Semiotics.

(B) Advertising

Unit I: Advertising - Definition, nature and scope of advertising, social relevance of advertising and its role in communication and marketing. The function of advertising in society in India and the developing countries, effects of advertising on different sections of the society.

Unit-II: Types of advertising; Classification of different types of advertisements- Newspapers, magazines, radio, T.V., film, video, hoardings, billboards, internet etc., their relative merits and demerits. Trends in Advertising – surrogate advertising, in-film advertising.

Unit III: Structure of an advertising agency, various departments, functions. Types of agencies - Full-service agencies, Specialized agencies, in-house agencies, creative boutiques.

Unit IV: Objectives and basic principles of advertising campaign, Process of creating an advertisement: from rough sketch to final release, visualising and copy writing - Elements of an advertisement.

Unit V: Laws related to advertising - The Indecent Representation of Women's Act, 1986; The Drugs and Magic Remedies (Objection and Advertisement) Act, 1954, The Prevention of Food Adulteration Act, 1954. Unethical practices in advertising - ASCI - (Advertising Standards Council of India)

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Booklists

1) Keval J Kumar: Advertising in India

2) C N Sontakki: Theory of Advertising

3) Seethia and Chunawalla: Advertising Theory and Practice

4) Cutlip, Centre: Effective Public Relations

5) Roy: Corporate Image

6) J M Kaul: Handbook of Public Relations

7) Ahuja and Chandra: Public Relations

8) Srinivas R Melkote: Comm. and Development in Third world countries

9) Journals: Kuruksheetra, Village, Rural Development, Social Action

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GOVERNMENT DEGREE COLLEGE FOR WOMEN (AUTONOMUS)
BEGUMPET, HYDERABAD- 500016

Project/Dissertation Work- Credits 4

Project work/ Dissertation is considered as a special course involving application of knowledge in solving/analyzing/exploring a reallife situation/difficult problem. Project / Dissertation work will be of 4 credits. Studied subject specific project work can be handled, with a view to develop creative thinking, team spirit and skill. The project work at preliminary level should be assigned to students, in groups.

Project report in the form of dissertation is prepared and submitted by the students. It will be evaluated by the External and Internal Examiners. Head of the Department will chair the evaluation panel and proceedings of viva voce. It carries a maximum of 100 marks.

Project guidelines:

1. Understand the subject broadly.
2. Choose a topic of interest.
3. Refer to the books & interact with subject specific experts.
4. Try to understand the basic principles of Journalism followed by the help of allied areas of media.
5. Select the topic applicable locally to know the importance of the subject in daily life, preferably choose, sample around the institution, around home, media institutions and nearby relevant industries.
6. Put together, latest technology and methods, basic knowledge on selected theme, Importance/need, locally applicable.
7. Summarize three years knowledge on the subject, go through skill enhancement course, correlate to real life and choose the project work.
8. Laboratory facilities, books to refer and faculty with research experience are essential to handle project.
9. Analyze your data and draw a conclusion.
10. Communicate the results.
11. Work division among the group members should be followed.
12. Maximum number of students in group should not exceed 5.

Project Examination

Maximum Marks:100

1. Project Report — 60 Marks
2. Seminar Presentation — 40 Marks

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GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET (AUTONOMOUS)
B.A. II YEAR, CBCS DEPARMENT OF JOURNALISM (2021-2022)

PATTERN OF EXAMINATION

Question paper pattern for theory examination for B.A. Journalism all Semesters – I to IV papers is given hereunder

Internal Assessment

a. Two internals of 20 marks each – Average of the two internals is considered for computation in Marks Memo.
b. Internals shall be held at the end of every 10th week and 15th week of the semester.
c. The time of duration for the internal shall be 1 hour.
d. Internals consists of two parts.

PART – A : Periodical test of		20 marks.
PART- B: CBT in the forms of MCQs for		10 marks
PART – C : Co- curricular activities of 10 marks. It consists of two activities		
Assignment	-	5 Marks
Seminar	-	5 Marks
INTERNAL ASSESSMENT TOTAL:		**40 MARKS**

e. A question bank is prepared with 1 Essay and 2 short questions and MCQs from each unit.

Mid/End Semester Examination

a. Mid/End SEM examination will be conducted for 60 marks.
b. To be held in the month of October and March/April months, or as per OU Schedule.

Examination Pattern

Section – A: Essay Questions

5 out of 8 questions - each question carries 4 marks 5×4 =20 marks

Section – B: Short Questions

Internal choice from each unit. Answer all – each question carries 10 marks 5×8 =40 marks

Total = 60 marks

Resolved to accept the above following pattern of examination Board of Studies

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GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET (AUTONOMOUS)

B.A. Mass Communication & Journalism CBCS (2021-2022)

Question Paper Skelton (AY- 2021-22)

For all Semesters - DSC

Time: 2 1/2 Hrs **Max. Marks: 60**

Note: Paper consists of two parts. Questions from part-A should cover entire syllabus and part-B covering unit wise syllabus.

PART – A

Note: Answer any four of the following questions. All questions carry equal marks. 4 x 5 = 20 M

1.

2.

3.

4.

5.

6.

7.

8.

PART_B

Note: Answer all the questions. All questions carry equal marks. 5 x 8 = 40 M

Unit - I

9. A)

(or}

B)

Unit - II

10. A)

(or}

B)

Unit - III

11. A)

(or}

B)

Unit - IV

12. A)

(or}

B)

Unit-V

13. A)

(or}

B)

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(Re-accredited by NAAC with "B" Grade)
Question Paper Skelton (AY- 2021-22)
SUBJECT: MASS COMMUNICATION & JOURNALISM
For All SEC Papers

Time: 2 Hrs **Max. Marks:** 40

Note: Paper consists of two parts. Questions from part-A should cover entire syllabus and part-B covering unit wise syllabus.

PART – A

Note: Answer any FOUR of the following. All questions carry equal marks. 4 x 4 = 16 M

1. **Unit - I**
2. **Unit - I**
3. **Unit - I**
4. **Unit - II**
5. **Unit - II**
6. **Unit - II**

PART_B

Note: Answer ALL the questions. All questions carry equal marks. 2 x 12 = 24 M

7. **Unit–I** A)

(or)

Unit-II B)

8. **Unit-III** A)

(or)

Unit-IV B)

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Question Paper Skelton (AY- 2021-22)

SUBJECT: MASS COMMUNICATION & JOURNALISM

For All GE Papers

Time: 2 Hrs **Max. Marks: 60**

Note: Paper consists of two parts. Questions from part-A should cover entire syllabus and part-B covering unit wise syllabus.

PART – A

Note: Answer any four of the following questions. All questions carry equal marks. 4 x 5 = 20 M

1.
2.
3.
4.
5.
6.
7.
8.

PART_B

Note: Answer all the questions. All questions carry equal marks. 4 x 10 = 40 M

Unit - I

9. A)

(or}

B)

Unit - II

10. A)

(or}

B)

Unit - III

11. A)

(or}

B)

Unit - IV

12. A)

(or}

B)

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GOVT DEGREE COLEGE FOR WOMEN, (A) BEGUMPET, HYDERABAD

DEPARMENT OF JOURNALISMB.A. III YEAR
GE- TV NEWS ANCHORING **AND SCRIPT WRITING**
SEMESTER-V

SYLLABUS (2021-2022)

Objectives: To develop understanding of Television, its Newsroom, Organizational structure and Reporting process. Also to enable students to write news scripts for TV. The course offers basics of news reading, presentation and voice over.

MODULE- I: Basics of Television News AnchorBasic Principles of Television News Presentation, The TV News Anchor- Qualities, roles, skills and responsibilities, professional ethics, dress sense, performance, dealing with contingencies. Camera facing techniques- Grooming for camera, on camera movement, holding props, scripts, peripheral vision, cue cards and makeup etc. Tele-prompter and its functioning, Voice analysis-pitch, volume, pronunciation and vitality.

MODULE -II Programming techniques,Basic Difference between News and Non-News Programe, Non- news show anchoring, Anchoring different Journalistic genres- documentary, Interview-Based Shows, Interactive and Panel DiscussionReporting techniques Piece to camera (PTC), Vox pop, Live Reporting-working with an OB Unit, Essentials of Field Reporting and Basic of giving a Live Phone-in.

MODULE –III TV Journalism - Understanding the medium. Advantages of television journalism . The process of television journalism. Live news reports. Reporting Programme format of reporting- Suggestions for style and treatment - The story - the process - Sources - Research - News values and principles - Journalistic beats.

MODULE – IV Writing for Visuals: Principles of writing for visuals - steps for producing the perfect news story - Visual language - Script format for television scripts – Reporting – Documentaries – Interviews. Piece to Camera - Principles of delivering an effective PTC. Programme Production - Packaging for a channel - Significance and elements of packaging for news channels.

Booklist

1. P.C. Chatterji :*Broadcasting in India*

2. Herbert Zettle: *Television Production*

3. Campbell, Meath&Johnson:*A Guide to Radio, TV Writing*

4. Pane Sureyat: *Broadcast News Writing*

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5. S.P.Jain: *The Art of Broadcasting*

6. H.R.Luthra:*Indian Broadcasting*

7.The Abc of News Anchoring - Richa Jain

8. Anchoring America - Jeff Alan, James M Lane

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GOVERNMENT DEGREE COLLEGE FOR WOMEN,BEGUMPET, HYDERABAD – 16

(An Autonomous college of Osmania University)

Re-Accredited by NACC with 'B' Grade

Department of Journalism

SEC Sem-III & IV Evaluation-cum- Examination scheme **(2020-21)**

Titles:

1.SEC- Sem - III Specialized Reporting

2. SEC- Sem - IV Online Journalism

3. GE- Sem - V **INTER-DISCIPILINARY** - REPORTING AND SCRIPT WRITING

4. GE - Sem - VI **GE- INTER-DISCIPILINARY-** TV NEWS ANCHORING

a) **No of teaching hours : 2 hr per week/Total 30 hours(15 hours per sem each)**

b) **No of credits Allotted: : 2 credit for each semester 2+2= 4 credits**

c) **Syllabus : 2 units under each semester**

Scheme of Evaluation:

a) **Assignments**

Assignments of 10 marks.

b) **Semester Examination**

1) To be held in the month of October and March/April month.
2) The Time Duration of Semester examination is 1 hr.
3) 40 marks are allotted for the main exam for each semester

Section – A: Short Questions

Answer any 4 out of 6 questionsEach question carries 3 marks. **6x3=18 Marks**

Section – B: Essay Questions

From each unit 2 questions with Internal choice will be given Each question carries 6 marks 2x6=12 Marks

Total marks for the course :50 marksEnd Semester Exam: 40 marksAssignments: 10 marks

Resolved to accept the above following pattern of examination

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CERTIFICATE COURSE

PROFESSIONAL Photography

Objective:To help students fine tune their skills in Composing a Photo and Photo Journalism. Introduce them to basic photo editing and Photo capturing techniques.

Credits : 2

No. of lecture hours – 30

Unit I: History of photography – pinhole camera, Aperture, ISO, Shutter Speed. Shot Composing, Characteristics of Compositions, Camera Angles. Rule of Thirds – headroom, lead room. Types of cameras - TLR, SLR & Digital; Parts & Functions of Camera - Focal length, Types of Focus. Lens types, Nature & Characteristics of Lens, Filters and types of filters.

Unit II:

Nature and characteristics of Light. Functions of Flash. File formats, Types of Digital Storage & Retrieval – Raw image file, JPEG, TIFF, PNG, TARGA, EPS.

Assignments: Work on various assignments which will be given

On completion of the course certificate will be given

REFERENCES :

1. Tom, Ang. 2008. Fundamentals of Photography: The Essential Handbook for Both Digital and Film Cameras. Knopf: New York

2. Jones, Frances. 1983. Hamlyn Basic Guide to Photography. Hamlyn: London.

3. Wooters, David & Mulligan, Therese. 2005. History of Photography.Taschen: Germany.

4. Abel : What's Wrong with Picture

5. Harold Evans : Picture on a page

6. Jack Price : News Photography

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Panel of Examiners

COMMUNICATION AND JOURNALISM

S.No	Name & Details	Contact no:
1.	University Nominee Dr T Satish Kumar Assistant Professor, Dept of Comm and Journalism, Arts College O U, Hyderabad	9394119233
2	Dr K Raja Ram, Asst Professor Dept Mass Communication and Journalism EFL University , OU Campus	9849893673
3	Dr .PVN Srinivas, Asst. Professor Dept of Comm EFL Universtiy O U, Campus Hyd.	8332951975
4	Dr Ramakrishna AC, Dept of Comm and Journalism, Arts College O U, Hyderabad	9000247411
5	Ms. Y Nirmala.AC, Dept of Comm and Journalism, Arts College O U Hyderabad	9912616606
6	Dr. B Anita Lecturer, St Francis College, Women (Autonomous) Begumpet Hyedrabad	9581448824
7	Mr. Ravi Kumar, St Francis College, Women (Autonomous) Begumpet Hyedrabad	9440160270
8	Mr Clement, St. Francis Women (Autonomous) Begumpet Hyderabad	8341369215
9	Ms. Neetu Verghese, Lecturer, Reddy Womens,Narayanguda, Hyderabad	7045529515
10	Ms. Pavani, Reddy, St Georgia's' College, Hyderabad	9493409382

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11	Mr. Krishna. St Mary's College Yusufguda	9741363975
12	Mr Krishnaji. Koti Womens College	8978309695
13	Mr. Krishna Kumar. SVS college Vidyanagar	9246157448
14	Ms. Sujata. Andhra Mahila Sabha	9701519651

Resolved to accept the above following pattern of examination

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CERTIFICATE COURSE

Photography

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET

(AUTONOMOUS)

Re-Accredited with 'B' Grade by NAAC

DEPARTMENT OF JOURNALISM

Board of Studies Meeting on 26/10/2021

MINUTES RECORD

The Board of Studies Meeting of the Department of Journalism was held on 26/10/2021 at 2pm in the Department of Journalism, Govt. Degree College for Women, Begumpet, Hyderabad.

The following resolutions were taken in the meeting

1. It is resolved to introduce B A Journalism under MOOCs/Virtual Classroom as 5 Credit Course per Semester following UGC guidelines for allocation of Credits as per the teaching hours per week.
2. The Division of the syllabus for the I[st]Semester Discipline Specific Course Paper – I consists of Osmania University **Introduction to Communication and Journalism –I** syllabus which is as follows.
   a. Unit – I: Introduction
   b. Unit – II: Models of Communication
   c. Unit – III: Theories of Communication
   d. Unit – IV: Journalism
   e. Unit – V: Kinds of Journalism
3. The Division of the syllabus for the 2nd Semester Discipline Specific Course Paper – II consists of Osmania University **Mass Media in India** syllabus which is as follows.
   a. Unit – I: Press
   b. Unit – II: Films - Evolution

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c. Unit – III: Radio

d. Unit – IV: Television

e. Unit – V: New Media in India

4. The Division of the syllabus for the 3rd Semester Discipline Specific Course Paper – III consists of Osmania University Reporting and Editing for Print Media syllabus which is as follows.

f. Unit – I: **Introduction to News**

g. Unit – II: News writing

h. Unit – III: **Newspaper organization structure**

i. Unit – IV: **The Editing Process**

Unit – V: **Media Ethics and Laws**

The Division of the syllabus for the 4th DSC Paper – I consists of OU Broadcast and New Media Journalism syllabus which is as follows.

j. Unit – I: **Introduction to Broadcast Media**

k. Unit – II: **Introduction to Radio Journalism**

l. Unit – III: **Television Journalism:**

m. Unit – IV: **Television news based programmes**

Unit – V: **New Media Journalism**

The Division of the syllabus for the 5th DSC Paper – I consists of OU Media and Development syllabus which is as follows.

a. Unit – I: Development

b. Unit – II Role of Media in Development Communication

c. Unit – III: Agricultural Communication:

d. Unit – IV: Development Support Communication

e. Unit – V: **New Media Journalism**

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The Division of the syllabus for the 5th sem DSE Paper – I consists of OU **Telugu Journalism** syllabus which is as follows.

a. Unit – I: **History of Telugu Press**

b. Unit – II **Contemporary Telugu Press**

c. Unit – III: **Language in Telugu Newspapers:**

d. Unit – IV: **Telugu Newspapers-Study of news reports**

e. Unit – V: **News and news-based programmes**

5. The Board of Studies approved the division and adoption of syllabus as mentioned above.
6. It was resolved to follow the prescribed text books and reference books as recommended by the Osmania University.
7. It is resolved to follow the existing Osmania University syllabus prescribed for Journalism. 100 marks per semester. 60 marks to be awarded for external end evaluation and 40 marks for internal evaluation.
8. It is resolved to follow the following internal assessment scheme for 40 marks.

Internal Assessment I+II (written Test-20 Marks)

Online test MCQs – 10 marks

Assignment	-	5 Marks
Seminar	-	5 Marks
Total	-	**40 Marks**

9. The maximum marks for the end semester theory examination is 60 marks and the pattern of examination is as follows:

Section – A: Short Questions

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5 out of 8 questions. Each question carries 4 marks

5×4=20 marks

Section – B: Essay Questions

Answer all questions with Internal Choice. Each question carries 8 marks

5×8=40 marks Total =60 marks

10. The Board approved the above mentioned examination pattern and scheme of evaluation.
11. The Board approved the panel of examiners mentioned.
12. The duration of exam time for internals will be 1 hour.
13. Paper setting and valuation to be done by external examiners from the approved panel for theory papers.
14. The board approved the division and adoption of syllabus as mentioned above.
15. It was resolved to follow the prescribed text books and reference books recommended by the Osmania University.
16. It was resolved to follow and ratify the prescribed Osmania University Syllabus for B.A. Journalism Ist and 2nd year for the academic year 2020-21 onwards.
17. The model paper is prescribed for the convenience of the students.
18. The candidate has to secure minimum 40 percentage to complete any course (Paper)
19. Scheme of Evaluation and Examination pattern to be followed.
20. Approval of Model Question Paper.
21. Approval of "Skill Enhancement Course" (SEC) II and IV for Sem 3 and 4 and GE with 4 credits inr Semester 5 for III year
22. Approval of list of panel of examiners for both semesters.
23. Any other matter with the permission of the chair.

BOS University Nominee

Members of BOS

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GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)

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CHOICE BASED CREDIT SYSTEM
(CBCS)

BOARD OF STUDIES IN PSYCHOLOGY

For

B.A/B.Sc. PSYCHOLOGY

UNDER GRADUATE PROGRAMME

IN

DEPARTMENT OF PSYCHOLOGY

Under MOOCs / Virtual Classroom

(w.e.f. 2021-2022)

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET

(AUTONOMOUS)
DEPARTMENT OF PSYCHOLOGY
Constitution of Board of Studies 2021 - 22

S.NO	CATEGORY	NAME & DESIGNATION	
1	University Nominee	Dr. Anupama Head, Department of Psychology University college of Arts and Social Sciences Osmania University, Hyderabad	
2	Incharge HOD/Chairman Board of Studies	Dr. N.Vijaya Raghavi Assistant Professor Department of Economics Government Degree College for Women (A), Begumpet, Hyderabad	
3	Subject Expert	Dr. P. Swathi Chairman Board of Studies Department of Psychology University college of Arts and Social Sciences Osmania University, Hyderabad	
4	Subject expert	Dr. K. Deepthi Assistant Professor Department of Psychology University College For Women, Koti Hyderabad	
5	Member: Virtual Learning Faculty For Psychology	Ms.Vanaja Srinivas M.Sc.(Ph.D) Lecturer Virtual Classroom Department of Psychology Government Degree College for Women (A), Begumpet, Hyderabad	

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)
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Department of Psychology
Board of Studies Meeting on 14-3-2022

AGENDA OF THE MEETING

1. Approval of Choice Based Credit System (CBCS) for I st year B.A Psychology (Under MOOCs/Virtual Classes) for the AY 2021-22.
2. Adoption of syllabus for V and VIth Semesters of B.A. III year Psychology of Osmania University.
3. Scheme of Evaluation and Examination pattern to be followed.
4. Approval of Model Question Paper for Semester V & VI for the AY 2021-22.
5. Approval of list of panels of examiners for both semesters V & VI for the AY 2021-22.
6. Any other matter with the permission of the chair.

University Nominee Members of BOS

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET

(AUTONOMOUS)

Re-Accredited with 'A+' Grade by NAAC

DEPARTMENT OF PSYCHOLOGY

Board of Studies Meeting on 14-3-2022

The Board of studies meeting for the Department of Psychology is held at 12pm on 14-03-2022 in the Department of Psychology, Govt. Degree College for Women (A), Begumpet, Hyderabad.

The following resolutions have been taken in the meeting:

i) The Syllabus and Model question papers for V & VI Semesters for the year 2020-21 have been approved.

ii) It is agreed and approved to have 100 marks for each paper in which 60 marks for external and 40 marks for internal assessment average of two (20 Marks for periodical test and 10 marks (MCQ) for CBT, 20 questions + 5 Assignment+ 5 Student seminar) for Semesters V and VI.

iii) It is agreed and approved to prepare question papers unit wise in Part – B and Questions from entire syllabus covering for part - A for both the Semester V & VI semesters.

iv) It is approved to pass end exam one has to get a minimum of 40 % marks (24 marks mandatory in external and on the whole 40 marks)

v) It is agreed and approved the list of examiners for paper setting for V & VI semesters.

Programme Outcomes

PO 1 Domain Expertise:

- Acquire comprehensive knowledge and skills.
- Make use of the knowledge in an innovative manner.
- Effectively apply the knowledge and skills to address various issues.

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PO 2 Modern equipment Usage

- Use ICT effectively.
- Access, retrieve and use authenticated information.
- Access, retrieve and use authenticated information. Have knowledge of software applications to analyze data.

PO 3 Computing Skills and Ethics

- Develop rationale and scientific thinking process.
- Use technology intelligently for communication, entertainment and for the benefit of mankind.
- Ensure ethical practices throughout ones endeavors for the wellbeing of human race.

PO 4 Complex problem Investigation & Solving

- Predict and analyze problems.
- Frame hypotheses.
- Investigate and interpret empirical data.
- Plan and execute action.

PO 5 Perform effectively as Individuals and in Teams

- Work efficiently as an individual
- Cooperate, coordinate and perform effectively in diverse teams/groups.
- Prioritize common interest to individual interest.

PO 6 Efficient Communication & Life Skills

- Express thoughts in an effective manner
- Listen, understand and project views in a convincing manner.
- Decide appropriate media to share information
- Develop skills to present significant information clearly and concisely to interested groups.

PO 7 Environmental Sustainability

- Understand sensibly the Environmental challenges.
- Think critically on environment sustainability measures.
- Propagate and follow environment friendly practices.

PO 8 Societal contribution

- Render service for the general good of the society.
- Involve voluntarily in social development activities at Regional, National, global levels.
- Have own pride in volunteering to address societal issues viz: calamities, disasters, poverty, epidemics.

- Be a patriotic citizen to uphold the values of the nation

PO 9 Effective Project Management

- Identify the goals, objectives and components of a project and decide the appropriate time of completion.
- Plan, organize and direct the endeavors of teams to achieve the set targets in time.
- Be competent in identifying opportunities and develop strategies for contingencies.

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)
(Re-accredited by NAAC with "A+" Grade)
B. A/B.Sc. I year
PSYCHOLOGY, Semester – I, Paper - I
GENERAL PSYCHOLOGY (5 credits)

Course Outcomes:

1) Students will come to know about the foundations of psychology.
2) Students will understand the approaches to Psychology.
3) Students will understand the Methods of Psychology
4) Students will be able to classify the types of emotions and motivation.
5) Students are able to understand the concepts of intelligence.
6) Students will be able to Outline the types of thinking and personality.
7) Students are able to apply the theories of learning.
8) Students are able to enhance their knowledge about learning, skills and techniques in daily life.

UNIT-I**: Introduction to General Psychology**
Historical Foundations of Psychology; Nature, Goals and Fields of Psychology (Pure and Applied)
Schools of Psychology: Structuralism, Functionalism, Psychoanalysis, Behaviorism and Gestalt
Contemporary Approaches to Psychology: Cognitive Approach, Humanistic Approach and Existential Approach
Methods of Psychology: Introspection, Observation, Case Study, Interview, Survey and Experimental Method
Biological Basis of Behavior: Nervous System and its Organization – The Structure of Neuron, Central Nervous System – Brain and Spinal cord, Localization of Brain Functions, Autonomic Nervous System
Hormonal Basis of Behavior: The Major Endocrine Glands and their Functions
Mechanisms of Heredity: Chromosomes and Genes; Influence of Heredity and Environment

on Behavior

UNIT-**II: Sensation, Attention and Perception**

Sensation: Sensory Thresholds; Characteristics of sensation; Types of sensation; Measurement of sensations (Absolute Threshold, Signal Detection, Difference Threshold, Sensory Adaptation)

Attention: Nature and Concept of Attention; Different aspects of Attention – Span, Division, Shifting, Distraction and Fluctuation, Voluntary and Involuntary attention

Perception: Difference between Sensation and Perception; Principles of Perceptual Organization; Perceptual Constancies and Depth Perception (Monocular and Binocular Cues); Movement Perception; Internal and External factors influencing Perceptual Experience; Distortions in Perception: Illusions & Hallucinations; Extrasensory Perception (ESP)

UNIT-**III: Remembering, Thinking and Reasoning**

Memory and Forgetting: Meaning and significance of memory; Types of memory; Methods of measuring memory; Models of Memory: Information Processing Model, Levels of Processing Model; Curve of Forgetting; Theories of Forgetting (Decay theory and Interference Theory); Methods of improving memory.

Thinking and Reasoning: Nature and types of thinking, Theories (Bruner & Sullivan); Reasoning: Deductive Reasoning (Conditional, Syllogistic) and Inductive Reasoning (Causal Inferences, Categorical Inferences)

Problem Solving: Problem cycle, types of problem solving, Impediments to Problem Solving; Problem solving strategies (algorithm, heuristics and biases, Means-End Analysis)

Creativity: Characteristics of Creative People; Stages of Creative Thinking.

MODULE –IV: Learning and Intelligence

Learning: Concepts of Maturation and Learning; Concept of Learning Curve; Theories of Learning (Classical and Instrumental Conditioning, Sign learning, Learning by Insight and Observation); Role of Motivation, Reward and Punishment in Learning; Transfer of Learning; Efficient Methods of Learning.

Intelligence: Definition and Nature of Intelligence; Brief history of Testing Movement (Contribution of Binet); Theories of Intelligence (Thorndike, Spearman, Thurstone, Sternberg, and Gardener); Measurement of Intelligence (Concept of IQ, Types of Intelligence Tests); Variations in Intellectual Ability (Intellectually Gifted and Retarded); Factors influencing individual differences in intelligence (Heredity and Environment)

UNIT-**V: Motivation and Emotion**

Motivation: Definition and functions of motives; Types of Motives (Physiological and Psycho-Social Motives); Unconscious motivation; Maslow's Theory of Motivation.

Emotion: Definition and Nature of Emotions; Development of Emotions; Physiological basis of Emotions; Theories of Emotion (James-Lange, Cannon-Bard and Schachter-Singer); Adaptive and disruptive functions of Emotions; Measurement of Emotions

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)
(Re-accredited by NAAC with "A+" Grade)
B. A/B.Sc. I year
Psychology
Semester – II, Paper - II
PERSONALITY THEORIES AND ASSESSMENT (5 credits)

Course Outcomes:

1) Students are able to understand behavior process through psychoanalytic approach.
2) Students will understand the Freudian and Neo-freudian approaches to Psychology.
3) Students are able to understand various approaches to Psychosocial stages of development in human life.
4) Students are introduced to theoretical knowledge and methods of Personality assessments.
5) Students will be able to understand the methods of psychological testing.
6) Students able to understand the characteristics of a good test.
7) Students are able to understand the classification of personality tests.

UNIT-I: Introduction to Personality

Nature, Definition and Characteristics of Personality
Factors Influencing the Development of Personality: Biological, Social, Cultural, Psychological factors; Significant and Traumatic experiences
Approaches to Personality: Nomothetic and Idiographic
Freudian and Neo-Freudian approaches to Personality
Freud's Psycho Analytic Approach to Personality
Neo Freudians: Carl Jung, Alfred Adler, Erik Erikson

UNIT -2: Behaviouristic, Cognitive, Trait, Type and Factor Approaches

Behaviouristic Approaches: Pavlov and Skinner
Social Cognitive Approaches: Bandura and Walter Mischel
Type Approaches: Sheldon and Kretschmer
Trait Theory: Allport, Eysenck (Trait and Type theory)
Factorial Theories: Cattell's Factor-Analytic Trait Theory, The Big Five Factor Theory

UNIT -3: Humanistic, Existential and Eastern Approaches

Humanistic Approaches: Roger's Self Theory, Maslow's Theory of Self Actualization
Existential Approaches: Rollo May and Victor Frankl
Eastern Approaches: Hinduism, Buddhism and Sufism

UNIT -IV: Personality Assessment

Nature and Types of Assessment: Observation, Checklists and Rating Scales,

Personality Inventories, Questionnaires and Interviews; Projective Techniques, Sentence Completion tests.

Recent Approaches in Personality Assessment- Simulated Tests, Online Personality Testing; Advantages & Disadvantages in Personality Assessment.

UNIT -V: Psychological Testing

Concept of Psychological Testing

Characteristics of a good Psychological Test: Standardization, Reliability, Validity and Norms

Classification of Psychological Tests: Individual & Group, Verbal, Non-Verbal and Performance; Power, Speed and Dexterity tests.

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET (AUTONOMOUS)

DEPARMENT OF PSYCHOLOGY

B.A./B.Sc. CHOICE BASED CREDIT SYSTEM (2020-2021)

PATTERN OF EXAMINATION

Question paper pattern for Theory examination

Internal Assessment

a. Two internals of 20 marks each – Average of the two internals is considered for computation in Marks Memo.

b. Internals shall be held at the end of every 10th week and 15th week of the semester.

c. The time of duration for the internal shall be 1 hour.

d. Internals consists of two parts.

PART – A: Periodical test of 20 marks.

PART- B: CBT (online) in the forms of MCQs for 10 marks

PART – C: Co-curricular activities of 10 marks. It consists of two activities

Assignment	-	5 Marks
Seminar	-	5 Marks

e. A question bank is prepared with 1 Essay and 2 short questions from each unit for theory paper.

End Semester Examination

f. To be held in the month of October and March/April months, or as per OU Schedule.

g. 60 marks are allotted for the Main Exam per each semester.

Annual Examination Pattern

Section – A: Short Questions

5 out of 8 questions - each question carries 4 marks 5×4 =20 marks

Section – B: Essay Questions

Internal choice from each unit

Answer all questions – each question carries 8 marks 5× 8 =40 marks

Total = 60 marks

BOS, University Nominee Member(s) of BOS

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET

(AUTONOMOUS)
(Re-accredited by NAAC with "A+" Grade)
MODEL QUESTION PAPER FOR THE AY- 2021-22
SUBJECT: PSYCHOLOGY
Semester – I/II
PAPER: I/II

Time: **Max. Marks: 60**

Note: Paper consists of two parts. Questions from part-A should cover entire syllabus and part-B covering unit wise syllabus. **PART – A**

Answer any four of the following. All questions carry equal marks. 4 x 5 = 20 M

1.
2.
3.
4.
5.
6.
7.
8.

PART_B

Answer all the questions. All questions carry equal marks. 5x 8 = 40 M

9. A)
   Or
   B)
10. A)
    Or
    B)
11. A)
    Or
    B)
12. A)
    Or
    B)

13. A)
    Or
    B)

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET

(AUTONOMOUS)
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DEPARTMENT OF PSYCHOLOGY
List of Panel for Paper Setting and Evaluation- 2021-22
I year

Semester- I

Dr. Anupama , HOD, Department of Psychology, OU,HYD Ph: : 9866550077

Dr. P. Swathi , CBOS , Department of Psychology, OU, HYD. Ph: 9247172323

Dr. Dr. K. Deepthi , Department of Psychology, UCS, OU, HYD. Ph:90001 15128

Semester - II

Dr. Anupama , HOD, Department of Psychology, OU,HYD Ph: : 9866550077

Dr. P. Swathi , CBOS , Department of Psychology, OU, HYD. Ph: 9247172323

Dr. Dr. K. Deepthi , Department of Psychology, Koti , HYD. Ph: Ph:90001 15128

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)
DEPARMENT OF PSYCHOLOGY
B.A./B.Sc. II YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)

SEMSTER-III, SKILL ENHANCEMENT COURSE-2

APPLICATIONS OF PSYCHOLOGY IN PROFESSIONAL SETTINGS (Credits:2)

Objective: To introduce to the students the significance of Psychology and its application in various settings of life.

MODULE- 1: Nature, Definition and Scope of Psychology; Concept and Characteristicsof Behaviour; Branches of Psychology (Pure and Applied).

MODULE-2: Psychology in Professional Settings (Educational settings, Public and Private Organizations, Hospitals, Legal, Forensic, Non-Governmental Organizations, Sports, and Research Institutions).

Note: This paper needs to be taught using exercises, checklists and activities and teacher should useinteractive sessions.

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)
DEPARMENT OF PSYCHOLOGY
B.A. II YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)
SOCIAL PSYCHOLOGY (DSC-301-T) Credits:5

Course Outcomes:

1) Developing skills pertaining to mapping of social reality and understanding how people evaluate social situations.
2) Familiarizing with the concepts of social affect and affective processes including people's harming and helping behaviours.
3) Developing an understanding pertaining to social influence processes particularly the influence of others on individual behaviour and performance.
4)Students develops an understanding of the social psychological concepts like attitudes,attributions and significance of communication in social situations.
5) Students inculcate in the students, prosocial behaviour, helps in understanding the steps in developing prosocial behaviour and emphasizes on the determinants of prosocial behaviour.
6) Students will develop an understanding on group structure and group functioning and about the concepts related to group dynamics like obedience, conformity, cooperation and competition.

MODULE – I: Social Perception – Understanding Others

- Definition, Nature, Scope and Methods of Social Psychology (Observation Method,Survey Method, Correlational Method, Field Study and Experimental Method).
- **Attribution:** Theories of Attribution (Heider's Common Sense Theory, Jones and Davis's Correspondent Inference Theory, Kelly's Co-variation Model and Weiner's Three-Dimensional Model); Errors in Attribution (Fundamental Attribution Error, Actor – Observer Effect, Self Serving Bias)
- **Impression formation and Impression Management:** Techniques of Impression Management
- **Communication:** Definition, Nature and Types of Communication; Communication patterns (Circle, Wheel, Chain and Y patterns); Barriers to Effective Communication; Rumors and Propaganda

MODULE– II: Attitude & Prejudice

- **Attitude:** Nature and Definition; Distinctive Features of Attitudes
- **Formation of Attitudes:** Classical and Operant Conditioning, Social Learning Theory
- **Attitude Change:** Balance Theory, Cognitive Dissonance, Self- Perception and Psychological Reactance
- **Measurement of Attitudes:** Likert Method of Summated Ratings, Bogardus Method of Social Distance, Thurstone's Equal Appearing Intervals Method, Osgood and Tannenbum's Semantic Differential Scale

- **Prejudice and Discrimination:** Nature and Origin of Prejudice, Causes of Prejudice; Techniques of Reducing Prejudice

MODULE- III: Pro-Social Behaviour and Aggression

- **Pro-Social Behaviour:** Difference between Pro-social Behaviour and Altruism; Conceptof Bystander Effect; Steps in Pro-social Behaviour
- **Factors influencing Pro-social Behavior** (Situational & Personal factors (Self interest, moral integrity and moral hypocrisy), Emotional and Dispositional factors
- **Aggression:** Nature and Concept of Aggression
- **Determinants of Human Aggression** – Social (Frustration, Provocation, Displaced aggression, Media violence and heightened arousal, Personal (Type A and Type B, Narcissism and Gender differences) and Situational Factors (Alcohol consumption, High Temperatures)

MODULE – IV: Groups, Leadership and Socio-Cultural Psychology

- **Groups:** Nature, Types, Structure of a Group (Status, Position, Roles and Norms); Functions of a Group; Groups and Individual Performance (Social Facilitation, Social Loafing)
- Decision Making by Groups: Polarisation, Risky Shift, Group think
- Group Dynamics: Conformity, Compliance, Obedience, Cooperation, Competition and Cohesiveness
- **Leadership:** Nature of Leadership, Traits of a Leader; **Types of Leaders**: Autocratic,Democratic and Charismatic Leaders; Classic Studies on Leadership, Leader Behavior
- **Socio-Cultural Psychology in Indian Context:** Culture and cultural identity development; Understanding major cultural variables in Indian context (gender, religion,caste, social class, language and regionalism); Cultural transition; Acculturation, assimilation and alienation; Psycho-Social effects of Migration; Disadvantaged Groups; Programmes and Policies

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)
DEPARMENT OF PSYCHOLOGY
B.A. II YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)
BASICS OF STATISTICS AND EXPERIMENTAL PSYCHOLOGY (DSC-301-P)

PART-A: BASICS OF STATISTICS

Objectives:

- To familiarize students with fundamental concepts in statistics and graphicalrepresentation of data.
- To help students understand the importance of normal probability curve and descriptivestatistics.

MODULE - I: Fundamental Concepts

- Importance of statistics in psychology.
- Psychological measurement scales (Nominal scale, Ordinal Scale, Interval scale &Ratio scale).
- Introduction to Techniques of data collection (Questionnaires, Inventories, ScaleCheck Lists)

Data Representation

- Constructing a Grouped frequency distribution and Cumulative frequency distribution
- Graphical Representation of data (Frequency Polygon, Histogram, Cumulativefrequency graph, Cumulative percentage curve (Ogive) and Pie diagram)

MODULE - II: Normal Distribution and Descriptive Statistics

- **Normal distribution:** Characteristics and Applications of Normal probability curve; Deviation from normality (Skewness and Kurtosis)
- **Descriptive Statistics**
  - **Measures of central tendency (**Meaning, Computation, Advantages and Disadvantages of Mean, Median and Mode), The Effects of Linear Transformation on Central Tendency Measures.
  - **Measures of Variability (**Meaning, Computation and Uses of Range and Quartile Deviation, Average Deviation, Variance; Standard Deviation from Raw Scores and Grouped Scores)
  - Computation of Percentiles and Percentile Ranks

Note: The practical exam will be conducted for 25 marks. The test should consist ofdefinitions, short notes, calculation of problems and interpretation of statistical data.

PART-B : EXPERIMENTAL PSYCHOLOGY

Objectives:

- To teach students about understanding behaviour through experimentation in laboratory
- To train the students to analyse and report the data from experiments and see itsrelevance to the phenomenon.
- List of Experiments

Note: Conduct Eight Experiments selecting at least one from each area.

1. Psycho-Physics

a. Reaction time
b. Two-Point Threshold
c. Method of Average Error – Muller- Lyer Illusion
d. Method of Minimal Changes – Brightness discrimination
e. Constant Stimuli Method – Size Constancy

2. Attention

a. Span of Attention for visual stimuli
b. Division of Attention with similar and dissimilar tasks
c. Effect of auditory and visual distraction on Attention

3. Learning

a. Trial and error Learning
b. Insight Learning
c. Bilateral Transfer of Learning
d. Massed Vs Spaced Learning
e. Part Vs Whole Learning Method
f. Serial Learning - Positioning Effect
g. Habit Interference
h. Effect of Knowledge on Results

4. Remembering & Forgetting

a. Measuring Retention using Recognition method
b. Measuring Retention using Recall method
c. Short term Memory for Digits
d. Effect of meaning on Retention

Note: The practical exam will be conducted for 25 marks.

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)
DEPARMENT OF PSYCHOLOGY
B.A./B.Sc. II YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)
SEMSTER-IV, SKILL ENHANCEMENT COURSE- SEC-4

HEALTH BEHAVIOUR AND LIFESTYLE (2 Credits)

***Objective*:** To understand the concepts of health behavior and life style, to know the factors thataffect and enhance health behavior.

MODULE-1: Nature and Significance of Health Behaviour; Components of health behavior; Factorsaffecting health behaviours (Habits, Substance abuse, Sexual risks).

MODULE-2: Enhancing Health Behaviours (Changing attitudes, beliefs, and Life style Choices;Diet and exercise).

References:

- Sarafino, E.P. (1990). Health Psychology: Biopsychosocial Interactions (3rd Edition). JohnWiley & Sons
- Taylor, S.E. (2006). Health psychology, 6th Edition. New Delhi: Tata McGraw Hill.

Note: This paper needs to be taught using exercises, checklists and activities and teacher should useinteractive sessions.

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
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DEPARMENT OF PSYCHOLOGY
B.A./B.Sc. II YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)

SEMESTER –IV DISCIPLINE SPECIFIC CORE PAPER – IV
ABNORMAL PSYCHOLOGY

Credits:5

Course Outcomes:

1) Students will distinguish between Normality and abnormality in behaviour.
2) Students will come to know about various types of psychological disorders.
3) Students will understand the Neuro-development and neuro-cognitive disorders and other approaches.
4) Students will become familiar with research methods and ethical considerations appropriate for the study of abnormal psychology.
5) Knowledge of the psychological theories and models for the field of abnormal psychology.

MODULE- I: Understanding Normality, Abnormality and Stress

- Concepts of normality and abnormality
- Classification: DSM V and ICD 10
- **Stress:** Nature, Characteristics of Stressors, Types of Stress
- Factors Predisposing a person to stress (Personality and Social Factors)
- Immune System and Stress
- Coping with Stress
- Adjustment Disorder, Acute Stress Disorder and Post-Traumatic Stress Disorder

MODULE- II: Anxiety Disorders, Somatic Symptom and Related Disorders

- Phobias, Panic Disorder and Generalized Anxiety Disorder
- Somatic Symptom Disorder, Conversion Disorders, Dissociative Amnesia
- Obsessive Compulsive Disorder
- Dissociative Identity Disorder

MODULE- III: Mood Disorders, Schizophrenia, Personality Disorders and Suicide

- **Depression:** Characteristics and Symptoms
- **Bipolar Disorder:** Characteristics and Symptoms
- **Schizophrenia:** Criteria and Symptoms (Positive & Negative)
- **Personality Disorders**
- **Suicide:** Type of attempts, gender differences, Risk factors (Mental disorders, Negative life events, Suicide contagion, Personality and Cognitive factors, Biological

Factors),Prevention

MODULE – IV: Neuro-Developmental, Neuro-Cognitive, and Addictive Disorders, Approaches and Treatment

- **Neuro-Developmental:** ADHD, Autism Spectrum disorder
- **Neuro-Cognitive disorders:** Alzheimer's Disease, Parkinson's disease, Delirium
- **Addictive Disorders:** Alcoholism, Nicotine Dependence, Psychoactive Drugs
- **Biological Approaches:** Brain Dysfunction, Biochemical Imbalances, Genetic Abnormalities, Drug Therapies, ECT & Brain stimulation techniques, Psychosurgery.
- **Psychological Approaches:** Psychodynamic, Behavioural, Cognitive, Humanistic,Family Systems Approach
- **Socio cultural Approaches:** Cross cultural issues; Culturally specific therapies
- **Prevention:** Prevention Programs; Common elements in Effective treatments

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)
DEPARMENT OF PSYCHOLOGY
B.A./B.Sc. II YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)

SEMESTER – IV DISCIPLINE SPECIFIC CORE PRACTICUM/DSC-IV(P) (1 Credit):

INFERENTIAL STATISTICS AND EXPERIMENTATION ON BEHAVIOURAL PHENOMENA (DSC-401-P)

PART-A: INFERENTIAL STATISTICS

Objectives:

- To familiarize students with inferential statistics
- To help students understand the importance of non-parametric statistics

MODULE -1: Sampling and Inferential Statistics

- Sampling: Probability and Non-Probability Sampling
- Meaning and types of hypothesis (alternative hypothesis and null hypothesis)
- Hypothesis testing; Levels of Significance; Degrees of Freedom
- Type I and Type II Error
- t-Distribution and t-test
- Assumptions and computation of t for independent (small and large samples) andcorrelated samples.

MODULE-II: Correlation and Chi- square

- Meaning of correlation; Coefficient of correlation
- Types of Correlation: Positive and Negative Correlation, Partial and Multiple Correlation
- Assumptions and Computation of Pearson's Product Moment Correlation andSpearman's Rank Order Correlation.
- Meaning and uses of Chi-square as a test of independence; Computation of chi-square for 2x2fold contingency table
- Nature and definition of Psychological tests; Characteristics of a Psychological test; Types ofPsychological Tests.

Note: The practical exam will be conducted for 25 marks. The test should consist of definitions,short notes, calculation of problems and interpretation of statistical data.

PART-B: EXPERIMENTATION ON BEHAVIOURAL PHENOMENA

Objective: To enable the students to learn concepts pf Psychology through demonstration.

List of Experiments/ Tests

Note: Conduct Eight Experiments/ Tests selecting at least one from each area.

1. **Motivation**
   a. Level of aspiration
   b. Goal Setting
   c. Approval Motivation Scale by Tripathi & Tripathi (NPC Agra).

2. **Emotion**
   a. Judgement of Emotions
   b. Achenbach's Scale for Emotional and Behavioural Adjustment (YSR).

3. **Thinking**
   a. Mental Set (Luchin's Jar Problem)
   b. Problem Solving (Pyramid Puzzle)
   c. Concept formation

4. **Intelligence**
   a. Measuring Intelligence using Non - verbal Intelligence tests (SPM)
   b. Measuring Intelligence using Performance Intelligence tests (Alexander Passalong & Koh's Block Design Test)

5. **Social Behaviour**
   a. Conformity
   b. Sociometry
   c. Bogardus Scale
   d. Styles of Leadership Behaviour

Note: The practical exam will be conducted for 25 marks.

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET

(AUTONOMOUS)
(Re-accredited by NAAC with "B" Grade)
DEPARTMENT OF PSYCHOLOGY
List of Panel for Paper Setting and Evaluation- 2021-22
II year

Semester- III

Dr. Anupama , HOD, Department of Psychology, OU,HYD Ph: : 9866550077

Dr. P. Swathi , CBOS , Department of Psychology, OU, HYD. Ph: 9247172323

Dr. Dr. K. Deepthi , Department of Psychology, UCS, OU, HYD. Ph: Ph:90001 15128

Semester - IV

Dr. Anupama , HOD, Department of Psychology, OU,HYD Ph: : 9866550077

Dr. P. Swathi , CBOS , Department of Psychology, OU, HYD. Ph: 9247172323

Dr. Dr. K. Deepthi , Department of Psychology, Koti , HYD. Ph: Ph:90001 15128

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)
DEPARMENT OF PSYCHOLOGY
B.A./B.Sc. III YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)
SEMESTER – V
B.A (U.G) COMMON CORE SYLLABUS GENERIC ELECTIVE-GE (4 Credits)
PSYCHOLOGICAL COMPETENCIES

Credits:5

- To help students understand the importance of enhancing psychological competencies for better living

MODULE I: INTRODUCTION TO PSYCHOLOGICAL COMPETENCIES
•Meaning, importance and need of Psychological Competencies
•Enhancing Self-awareness (JOHARI Window) and self- Confidence
•Goal Setting
•Creativity

MODULE-2: EMOTIONAL AND STRESS MANAGEMENT COMPETENCIES
•Nature of Emotions, Positive and Negative Affect, managing emotions like anger and anxiety
•Enhancing emotional competencies like resilience, optimism and hope
•Nature and types of stress, Physical, Emotional and Behavioural reactions to stress, Stress management techniques (Deep breathing exercises, yoga, meditation, Thought stopping technique, Diet and Time management)

MODULE-3: COMMUNICATION AND INTERPERSONAL COMPETENCIES

Building interpersonal relationships: Nature of interpersonal relationships, Types of conflicts, Building interpersonal relationships through conflict management and assertiveness skills.

MODULE-4: PROBLEM SOLVING SKILLS
- Problem solving: Need for Problem solving; Nature of a problem, Steps in Problem-solving (Information Gathering, Problem Definition, Preparing for Brainstorming, Generating Solutions, Analyzing Solutions, Selecting a Solution, planning next steps like identifying tasks, identifying resources, implementing, evaluating and adapting).

MODULE-5: DECISION – MAKING SKILLS
- Decision-making: Need for Decision -making; Process of decision- making (Identify the decision, Gather relevant information, Identify the alternatives, Weigh the evidence, Choose among alternatives, Take action and Review your decision & its consequences), Decision-making wheel, Effective decision- making Techniques (The Kepner-Tregoe Matrix, Pareto Analysis and Force- Field Analysis).

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)
DEPARMENT OF PSYCHOLOGY
B.A. III YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)

SEMESTER-V
B.A (U.G) COMMON CORE SYLLABUS
CHILD PSYCHOLOGY

Credits:5

Objectives:

- To equip the learner with an understanding of the concept and process of child development
- To impart an understanding of the various domains of child development
- To inculcate sensitivity to socio-cultural context of child development

MODULE - I: THEORY AND RESEARCH IN CHILD DEVELOPMENT

- Definition, nature and scope of child psychology
- Concepts of human development (developmental tasks, developmental lag and developmental hazards)
- Principles of development
- Hereditary and environmental influences on development
- Research methods in child development

MODULE - II: FOUNDATIONS OF DEVELOPMENT

- Prenatal development, Prenatal environmental influences
- Development in infancy (Reflexes, Motor development in infancy, Perceptual development in infancy)
- Physical growth, factors affecting physical growth

MODULE - III: COGNITIVE AND LANGUAGE DEVELOPMENT

- **Cognitive development:** Piagetian and Vygotskian perspectives
- Language development: Components of language, Chomsky's theory of language development, prelinguistic development, phonological development, semantic development, grammatical development, pragmatic development

MODULE-IV: EMOTIONAL, MORAL, PERSONALITY AND SOCIAL DEVELOPMENT

- **Emotional development:** Functions of emotions, development of emotional expression, understanding and responding to the emotions of others
- **Moral development:** Piaget's and Kohlberg's theory of moral development
- **Personality development:** Emergence of self and development of self-concept and self esteem
- **Socio-cultural contexts:** Family, peers, media, schooling

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)
DEPARMENT OF PSYCHOLOGY
B.A. II YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)

SEMESTER – V

B.A (U.G) COMMON CORE SYLLABUSDISCIPLINE SPECIFIC ELECTIVE PRACTICUM/DSE-V(P) (1 Credit):PSYCHOLOGICAL TESTING (DSE-501-P)

Objective: To enable the students to learn concepts of child and educational psychology through psychological Testing.

Conduct Eight Tests from the following list:

1. Self-Concept Scale
2. Self- esteem
3. Self- Confidence
4. Bell's Adjustment Inventory
5. Kundu's Introversion and Extroversion Inventory (KIEI)
6. Cooperation
7. Competition
8. Parent- Child relationship
9. Achievement Test
10. Creativity test

Note: The practical exam will be conducted for 25 marks.

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)
DEPARMENT OF PSYCHOLOGY
B.A. II YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)

SEMESTER – VI

B.A (U.G) COMMON CORE SYLLABUS

DISCIPLINE SPECIFIC ELECTIVE PAPER /DSE-VIB (T)- (4 Credits):HEALTH PSYCHOLOGY
(DSE-601B-T)

Objectives:

- To help students understand the spectrum of health and illness for better health management
- To help students gain insight into mind-body relationship

MODULE - I: Introduction to Health Psychology

- Definition of Health Psychology
- Mind-body relationship
- Bio-psychosocial Model of Health
- Life styles and disease patterns
- Illness and Personality

MODULE - II: Behaviour and Health

- Characteristics of health behaviour
- Barriers to health behaviour
- Theories of health behaviour (Protective motivation theory, theory of reasonedaction) and their implications
- Pain: Meaning, Types, Assessment and Pain Management Techniques

MODULE-III: Chronic Illness and Management

- Cardiovascular Diseases, Cancer AIDS
- Living with Chronic illness
- Emotional response to chronic illness
- Psychological Interventions
- Rehabilitation

MODULE - IV: Health Compromising and Enhancing Behaviours, Patient- ProviderCommunication

- **Health Compromising Behaviours:** Smoking, Alcoholism and Substance abuse
- **Health Enhancing Behaviours**: Weight Control, Diet, Yoga and Exercise

- Nature of Patient-Provider Communication
- Improvement of Poor Patient-Provider Communication
- Improving Adherence to Treatment
- Role of Care givers, Burnout of Caregivers

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)
DEPARMENT OF PSYCHOLOGY
B.A/B.Sc. III YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)

SEMESTER – VI

B.A (U.G) COMMON CORE SYLLABUS

DISCIPLINE SPECIFIC ELECTIVE PRACTICUM/DSE-VI (P) (1 Credit): PSYCHOLOGICAL ASSESSMENT (DSE-601-P)

Objective: To enable the students to learn the tests related to areas of adolescent and health psychology.

Conduct Eight Tests from the following:

1. Life events Scale/Student Stress Scale
2. State & Trait Anxiety
3. Loneliness Scale
4. Adolescent Depression
5. Aggression Questionnaire
6. KNPI
7. Student Problem Inventory
8. Well- being
9. Health Locus of Control
10. Type A and Type B personality test

Note: The practical exam will be conducted for 25 marks.

GOVERNMENT DEGREE COLEGE FOR WOMEN, BEGUMPET
(AUTONOMOUS)
DEPARMENT OF PSYCHOLOGY
B.A./B.Sc III YEAR, CHOICE BASED CREDIT SYSTEM SYLLABUS (2021-22)

SEMESTER – VI

B.A (U.G) COMMON CORE SYLLABUS

RESEARCH IN PSYCHOLOGY AND PROJECT WORK (PR)- (4 Credits)

- Orientation on Research report as per APA 6Edition
- Brief Introduction to the identification of the problem, review of literature, sampling methods and data collection will be delivered before planning the project
- Tests or experiments that are introduced in psychology will be identified to conduct the project on a sample. These will be identified based the areas of interest of teacher and student.
- Methodology for the project will be arrived at from a Teacher – Student interaction
- Data interpretation using appropriate statistical techniques using MS Excel and SPSS
- Project will be assessed for 100 marks.

GOVERNMENT DEGREE COLLEGE FOR WOMEN, BEGUMPET

(AUTONOMOUS)
(Re-accredited by NAAC with "A+" Grade)
DEPARTMENT OF PSYCHOLOGY
List of Panel for Paper Setting and Evaluation- 2021-22
III year

Semester- V

Dr. Anupama , HOD, Department of Psychology, OU,HYD Ph: 9866550077

Dr. P. Swathi , CBOS , Department of Psychology, OU, HYD. Ph:9247172323

Dr. Dr. K. Deepthi , Department of Psychology, UCS, OU, HYD. Ph: Ph:90001 15128

Semester - VI

Dr. Anupama , HOD, Department of Psychology, OU,HYD Ph: : 9866550077

Dr. P. Swathi , CBOS , Department of Psychology, OU, HYD. Ph:9247172323

Dr. Dr. K. Deepthi , Department of Psychology, Koti , HYD. Ph: Ph:90001 15128

GOVERNMENT DEGREE COLLEGE FOR WOMENS (AUTONOMOUS), BEGUMPET, HYDERABAD

DEPARTMENT OF HINDI

- **PROGRAMME OUT COME**
- **PROGRAMME SPECIFIC OUTCOME**
- **COURSE OUT COME**

WITH EFFECT FROM 2016 ONWARDS

FOR B.A, B.COM, B.S.C (LS&PS) AND B.B.A

FOR SEM-I, SEM-II, SEM-III & SEM IV

Department of Hindi
Programme Outcomes

PO1. Domain Expertise:

- Gain thorough knowledge in the chosen domain and be able to apply it wherever necessary in an innovative manner.

PO2. Modern equipment Usage:

- Equip the students with modern technological skills, so that they are able to use software applications in their careers.

PO3. Computing Skills and Ethics:

- Students learn critical thinking and are able to analyse and solve problems rationally and ethically for communication, entertainment and for the benefit of mankind throughout ones endeavours for the wellbeing of human race.

PO4. Complex Problem Investigation & Solving

- Learn to analyse the problem, frame hypotheses, interpret empirical data and execute action

PO5. Perform effectively as Individuals and in Teams

- Be able to contribute at individual level and as team member and prioritize institutional interest over individual

PO6. Efficient Communication & Life skills

- Learn efficient communication to express, listen, understand and project views in a convincing manner clearly and concisely

PO7. Environmental Sustainability

- Understand current environmental challenges faced by the country & propagate and follow environment friendly practices.

PO8. Societal contribution

- Develop the pride in volunteering to address societal issues *viz:* calamities, disasters, poverty, epidemics and involve voluntarily in social development activities at Regional , National, global levels.

PO9. Effective Project Management

- Identify the goals, objectives and components of a project and then implementation so that deadlines are achieved, even when there are setbacks.

Programme Specific Outcome

PSO:1 Understanding the relation between society and literature and analyses the role played by Hindi literature in past and present.

PSO: 2 Understanding the strategy of converting worship into the movement of struggle for cultural freedom.

PSO:3 Developing skill of writing official letters in functional Hindi.

PSO: 4 Developing philosophy of life inspiring by the vision of eminent writers.

PSO:5 Identifying the nature and character of person through his actions.

PSO:6 Gaining socio cultural consciousness.

PSO:7 Exploring, analyzing and enriching the self knowledge.

POS: 8 Able to write and communicate effectively

POS : 9 Able to avail job opportunities in different fields as

- **Hindi officers,**

- **Translator in International Agency,**
- **Hindi assistant ,**
- **Hindi Manger,**
- **News reader**
- **Editor of New Paper**
- **Script writer in Radio in Television,**
- **Dialog writer, Reporter writer, Proof reader, Anchor, Singer, Writer,**
- **Teacher, Lecturer and Professor in Schools, Colleges and Universities ..etc.**

POS : 10 Develop research aptitude

.POS:11 Inculcate human values.

Department of Hindi
Course Outcome
Semester – I
Katha Sahitya Nibandh Evam Anya
Gadya Vidhayen

After successful completion of the course, students will be able to;

CO 1 : Understanding to built good character and develop a good personality for Youth has been explained by Dr. Babu Gulab Rai in"Uthsaa"and"Charithri Nirman"

CO 2 : Understanding the story "Bhabhi" written by Mahadevi Varma context of Widow problems and her struggle for independence in present society.

CO 3 : Understanding the vision of Premchand about middle class and Dalit problem in the story "Sadgathi"

CO 4: Understanding the change in content and style of expression in short stories indifferent periods through the stories of Premchand, Ramchandra Shukle, Gulab Rai, Dinakar, Mohan Rakesh, Hari Shankar Persayee, Usha Preyamvada, Mamtakaluiya.

CO5: Under standing the cultural consciousness of Ramdhari Singh Dinkariin "Bharathme Sanskriti sangam" .

CO 6 : Understanding the mythological as well as aesthetic aspect of nation in "Rastra ka Swaroop" through Vasudev Sharma.

CO 7 : Understanding the responsibilities and to fulfill their duties without support of parents through the story "Chota Jadhugar" by Jai Shankar Prasad.

CO 8 : Describing the dual nature of modern people in present era by Vinayak Rao in history "Hasuya Rovoo "and Bheeshm Sahani' story "Chef Ki Dawaat"

CO 9 : Understanding the struggle and failure of middle class people by Amar kanth in his story "Deputy Collectori"

CO 10 : Understanding the importance of environmental protection through "Paryavaran aur Pradushan" by Rajiv Garg.

CO 11 : Understanding the social consciousness of human values, Personality development, Duties towards society and responsibilities towards nation through their short stories of Pream Chand, Gulab Rai, Ramchandra Shukle, Mohan Rakesh, Usha Priyamvada, Susheela Tagbore

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GOVENRNMENT DEGREE COLLEGE FOR WOMENS (A), BEGUMPET, HYDERABAD
RE-ACCREDITED WITH "B+" GRADE BY NAAC
DEPARTMENT OF HINDI
SYLLABUS FOR
BA/B.Sc. /B.Com / BBA I YEAR SEMESTER - I

TEXT BOOK –**गद्य दर्पण** &कथा सिंधु – तेलुगु अकादमी (Telugu Academy-HYD)

गद्य दर्पण (PROSE),कथा सिंधु (NON-DETAIL), व्याकरण (GRAMMER)

Unit – l GADYA DARPAN (PROSE)

1. Charitra Sangathan	Babu Gulaab Raai
2. Bazaar Darshan	Jainendra Kumar

UNIT – ll GADYA DARPAN (PROSE)

3. Bhaabhi	Mahadevi Varma
4. Bharat Mein Saanskriti Sangam	Ramdhari Singh Dinkar

UNIT – lll KATHA SINDU (NON-DETAIL)

1. Sadgati	Prem Chand
2. ChotaaJaadoogar	Jai Shanker Prasad
3. Prayashchitt	Bhagwati Charan Varma
4. Chief Ki Daawat	Bheeshma Saahani

UNIT IV (GRAMMAR)

a) Antonyms
b) Sandhi vichcched
c) Correction of sentence
d) Letter writing (Personal Letters, Official Letters, Letter of Complaints, Application for Appointment.)

Reference books recommended by the committee:
*** Saral Hindi Vyaakaran: Dakshin Bharat Hindi Prachaar Sabhaa.**
*** Hindi Vyaakaran : Shyam Chandra Kapoor.**
***PrathamikVyaakaraneveamRachanaa : Harish Chandra**

GOVENRNMENT DEGREE COLLEGE FOR WOMENS: BEGUMPET, HYDERABAD - 500016.

(AUTONOMOUS)

B.A, B.COM, B.SC & B.B.A 1st year

MODEL OF QUESTION PAPER – 2020 - 2021

SEMISER – I

Time : 2.1/2 Hrs.
Max. Marks :60

SECTION-A

I. निम्नलिखित शब्दों में से किन्ही पांच के विलोम शब्द लिखिए I
1x5=5M

1) बाहर 2) सुगंध 3) अंधेरा 4) सूर्यास्त 5) नया 6) कठिन 7) असली 8) वीर

II. निम्नलिखित शब्दों में से किन्ही पांच के संधि विच्छेद कीजिए I
1x5=5M

1) तपोवन 2) नीरस 3) भानुदय 4) सदाचार 5) विद्यालय 6) रामालय 7) गिरीश 8) निर्मल

III. निम्नलिखित वाक्यों में से पांच को शुद्ध कीजिए।
1x5=5M

1) वो मेरे को नहीं बुलाता
2) मैं जाते ही वह भी चले गया
3) महेश खाना पकाया
4) तुम तुम्हारे गांव जाओ
5) उन्होंने क्या बोली
6) ये माला कौन बनाया
7) सीता पुस्तक पढ़ी
8) सुरेश ने कॉफी बनाया

IV) हिंदी भाषा का महत्व बताते हुए अपने मित्र को पत्र लिखिए।
1x5=5M

अथव

किसी समाचार पत्र में संपादक पद के लिए स्वयं को प्रस्तुत करते हुए नौकरी के लिए आवेदन पत्र लिखिए।

SECTION-B

V) किसी एक की संदर्भ सहित व्याख्या कीजिए I
10x1=10M

1) मनुष्य का मूल्य उसके चरित्र में है चरित्र में ही उसके आत्माबल का प्रकाश होता है।

अथवा

2) बाजार में एक जादू है वह जादू आंख की राह काम करता है।

VI) किसी एक प्रश्न का उत्तर लिखिए।
10x1=10M

1) भाभी के जीवन की समस्याओं पर प्रकाश डालिए।

अथवा

2) राष्ट्र का स्वरूप निबंध का सारांश सरल भाषा में प्रस्तुत कीजिए।

VII) किसी एक कहानी का सारांश लिखिए।
10x1=10M

1) सद्गति 2) प्रायश्चित 3) चीफ की दावत

VIII) निम्नलिखित में से किसी दो पात्रों का चरित्र चित्रण कीजिए।
2x5=10M

1) पंडित घासीराम 2) दुखी 3) श्यामनाथ 4) रामू की बहू

Department of Hindi
Course Outcome
Semester – II
Katha Sahitya Nibandh Evam Anya
Gadya Vidhayen

1. In the story "Taayee" written by "Vishwanath Sharma" students come to the problems of a women who is suffering from Infertility problem , every women dreams to become mother, even though he doesn't become mother she shows all her love and affection towards the children of her sister in law, this story proves that every women's heart is filled with love.
2. In the lesson "Ande Ke Chilka" written by Mohan Rakesh students understands how people in the society acts as hypocrite towards religion and shows their false feelings towards religion and culture.
3. In the story "Rajneet Ka Batwara" written by "Harishanker Parsi" students comes to understand how own brothers from one house plays tricks in political parties by joining of each member separately in each parties for their selfishness and play game in politics and flutes the society.
4. In the lesson "Swamy Vivekananda" written by Rajiv Garg" students comes to know the life history of swami Vivekananda and his services towards society , and how youth can change the nation with their services.
5. In the lesson "Paryavaran Aur Hum" students understand how our nation the is facing the problem of pollution and what are the sources to over come out of these problems, and to keep our city clean and green city.
6. In the lesson "Deputy Collector" students comes to know the struggle and problems facing by low class people for job , after hardworking they are unable to get the job and facing financial problems in their life and their dream never come true.
7. In the lesson "Hasu va Roo" students understands how people show their selfishness and see their benefit in other loss that to in funeral rites and asks tip in that emotional places too.
8. "Waapasi" is the lesson in which students come to know the problems of retired man, who's family members ignores him and treat as outsider, after 30 years when he goes home after retirement, seeing that the old man returns back the same way from where he came as he doesn't find any love and affection in his own house and works in sugar factory.
9. "Seva " is he lesson where students understand how todays youth is negating their own parents and thinking that they are burden on them and this lesson teach them, that it is duty of their children to look out their parents in the old age.
10. "Siliya" is the story of a brave girl who fights with the society against their behavior towards low caste people and proves that they are equal in the society, and one day she receives self respect and position in the society.

GOVENRNMENT DEGREE COLLEGE FOR WOMENS (A), BEGUMPET, HYDERABAD
RE-ACCREDITED WITH "B+" GRADE BY NAAC
DEPARTMENT OF HINDI
SYLLABUS FOR
BA/B.Sc /B.Com / BBA I YEAR SEMESTER - II

TEXT BOOK –गद्य दर्पण &कथा सिंधु – तेलुगु अकादमी (Telugu Academy-HYD)

गद्य दर्पण **(PROSE),**कथा सिंधु (NON-DETAIL), व्याकरण (GRAMMER)

Unit – l GADYA DARPAN (PROSE)

1. Taayee	Vishwanath Sharma
2. Ande keChhilka	Mohan Rakesh

UNIT – ll GADYA DARPAN (PROSE)

3. Rajneetika Bantwara	Harishankar Parsai
4. Swamy Vivekanand	VanshidharVidhyalankar
5. Paryaavaran aur hum	Rajeev Garg

UNIT – lll KATHA SINDU (NON-DETAIL)

1. Deputy kelektaree	Amarkanth
2.Hasoo yaroun	Vinayak Rao Vidyaalankar
3. Waapasi	Usha Priyamwadaa
4. Seva	MamataaKaaliyaa
5. Siliyaa	Susheelaa Takbhore

UNIT IV (GRAMMAR)

1. Usage of words into sentence
2. Translation of Hindi words into English
3. Translation of English words into Hindi
4. Re write of sentence as directed based on (Gender, number, Case voice, Tense)

Reference books recommended by the committee:
*** Saral Hindi Vyaakaran: Dakshin Bharat Hindi Prachaar Sabhaa.**
*** Hindi Vyaakaran : Shyam Chandra Kapoor.**
***PrathamikVyaakaraneveamRachanaa : Harish Chandra**

GOVENRNMENT DEGREE COLLEGE FOR WOMENS (A), BEGUMPET, HYD
DEPARTMENT OF HINDI
B.A, B.COM, B.SC & B.B.A 1st year
MODEL PAPER-2020 - 2021
SEMISER - II

Time : 2.1/2 Hrs. **Max. Marks :60**

SECTION-A

I. निम्नलिखित में से किन्ही पांच शब्दों का वाक्य में प्रयोग कीजिएV । **5x1=5M**

1. चरित्र 2.कायर 3.. योगदान 4. पोषण 5. अभिमान 6. प्राचीन 7. आदर्श 8. बाजार

II. निम्नलिखित में से किन्ही पांच शब्दों को अंग्रेजी से हिंदी में अनुवाद कीजिए । **5x1=5M**

1.Minister 2. cashier 3. Order 4. Office 5. Passport 6. Agreement 7. Allowances 8. Life Insurance

III. निम्नलिखित में से किन्ही पांच शब्दों को हिंदी से अंग्रेजी में अनुवाद कीजिए । **5x1=5M**

1. अध्यक्ष 2. विभाग 3. सचिव 4. राजदूत 5. लेखकार 6. सभापति 7. संपादक 8. सलाहकार

IV. निर्देश अनुसार वाक्यों को बदलकर लिखिए । **5x1=5M**

1. लेखक ने उपन्यास लिखा (लिंग बदलिए)
2. लड़का मैदान में खेल रहा है (वचन बदलिए)
3. मैं दिल्ली जाऊंगा (वर्तमान काल में लिखिए)
4. राम रावण को मारा (ने का प्रयोग कीजिए)
5. मुझसे आम खाया गया (वाच्य बदलिए)

SECTION-B

V. किसी एक की संदर्भ सहित व्याख्या कीजिए । **10x1=10M**

1. रामेश्वरी तुनक कर बोली तुम्हें तो सारा संसार झूठा ही दिखाई पड़ता है ।

अथवा

2.जब तक उन्हें कोई रेल का टिकट नहीं खरीद देता वह पैदल यात्रा करते थे ।

VI. किसी एक प्रश्न का उत्तर लिखिए । **10x1=10M**

1. अंडे के छिलके पाठ की विषय वस्तु संक्षिप्त में लिखिए

अथवा

2. पर्यावरण प्रदूषण का अर्थ क्या है अपने शब्दों में लिखिए ।

VII. किसी एक कहानी का सारांश लिखिए । **10x1=10M**

1. हॅसू या रोऊॅ 2. वापसी 3. सिलिया

VIII. किसी दो पात्रों का चरित्र चित्रण कीजिए । **10x1=10M**

1. राय छोटेलाल 2. गजाधर बाबू 3. नरोत्तम जी 4. सिलिया

Department of Hindi
Course Outcome
Paper III
Madhyakalin Hindi Kavya
Adhunik Hindi Kavya

After successful completion of the course, students will be able to;

CO 1 : Deliberate the classification and characteristics of mediva land modern Hindi kavya

CO 2: Understanding the role played by the poets of Bhakti culture in literature and society.

CO3: Describing the progressive nature of san Kabir and his writings.

CO 4 : Describing the krishnaleela poetry of Surdas by relating it with his philosophy of his life.

CO 5: Describing the Rama Bhakti poetry of Tulsidas along with the philosophy of Bhakticult.

CO6: Understanding the vision of Meera Bai in context of her Krishna Bhakti

CO 7: Describing the content and the skill of writings of Bihari in context of the socio cultural condition of his period.

CO 8: Describing the philosophy of life as well as poems of 'Chayawadi' writers Prasad,Nirala, Mahadevi, Maithali Sharan Gupt.

CO9: Describing the poems of Agey in context with his experience of life.

CO 10: Describing the nature loving as well as progressive spirit of Ayodhya Singh and along with hiss kill of writing 'Phool Aur Kanta ' in literature.

CO 11 : Describing Spirit of Nationalism as well as Duties and Responsibilities of youth to the nation and society by Maithali Sharana Gupt, Jaishankar Prasad in their poetry " Navyayuvako se and Bharath"

CO 12: Describing how to struggle and defeat the problems in life by Harivansh Rai Bachan in "Tu kuy bait gayapath par"

CO 13 : Describing the sweet memories of childhood through the poetry "Mera Naya Bachpan"by Subhadra Kumari Chowhan.

CO14: Understanding the characteristics of Hindi Aunvadh.

GOVENRNMENT DEGREE COLLEGE FOR WOMENS (A), BEGUMPET, HYDERABAD
RE-ACCREDITED WITH "B+" GRADE BY NAAC
DEPARTMENT OF HINDI
SYLLABUS FOR
BA/B.Sc /B.Com / BBA II YEAR SEMESTER - III

Kaavya Nidhi, History of Hindi Lit, Essays / काव्यनिधि,हिंदी साहित्य का इतिहास,निबंध,
Text Book kaavya Nidhi (काव्य निधि),तेलुगु अकादमी (Telugu Academy- HYD)

Unit l (POTERY)

1.Kabeer keDohe	Kabeer
2.Bal Leela	Surdas
3. Tulsi keDohe	Tulsi
4. Navayuvakaon se	MaithalisharanGupt

UNIT- II (POTERY)

5. Phool Aur Kaanta	Ayodhya Singh UpadhayayaHarioudh
6. Bharath	Jai Shanker Prasad
7.Jeevan Ka Adhikar	Sumitranandan Pant
8. Mera NayaaBachpaan	Subhadra Kumari Chawan

UNIT- III History of Hindi Literature

1. Aadi Kaal: Namakaran, Parissthitiyaan, Pravritiyaan **In semester exam question will be on Pravrittiyaan**
2. Bhakti Kaal :Namakaran, Paaristhitiyaan, Pravittiyaan **semester exam question will be on Pravrittiyaan**

UNIT- IV Brief study of the following authors and poets

1. Chand Bardai
2. Kabeer Das
3. Sur Das
4. Tulasi Das
5. Jai Shankar Prasad
6. Sumitranandan Pant
7. Bharatendu
8. Maithilsharan Gupt
9. Ramdhari Singh "Dinkar"

UNIT- V General essay on Social, Political and Literature subjects

1. Sahitya aur Samaaj
2. Vidyaarthi aur Rajneeti
3. Samaaj Mein nari ka sthan
4. AdhunikShikshaa aur Naari
5. Shikshaa par Bhoomandalikanarnkaaprabhaav
6. Jeewan meinswachchataa ka mahatva

GOVERNMENT DEGREE COLLEGE FOR WOMENS (A), BEGUMPET, HYDERABAD
RE-ACCREDITED WITH "B+" GRADE BY NAAC
DEPARTMENT OF HINDI
B.A, B.COM, B.SC & B.B.A 2ND year
MODEL PAPER-2020-2021 SEMESTER -III

Time: 2.1/2 Hrs. **Max. Marks :60**

SECTION-A

Marks=20

I. निम्नलिखित मैं से किन्ही दो की संदर्भ सहित व्याख्या कीजिए I 2x10 = 20 Marks

a. कल करे सो आज कर, आज करे सो अब I
पल में प्रलय होएगी, बहुरि करेगा कब II

b. मैया कब ही बढ़ेगी चोटी
किती बार मोही दूध पिवत भई, यह अज़हु है छोटी II
तू जो कहति बल की बेनी जो है लांबी मोटी

c. एक भरोसो एक बल, एक आस विश्वास
एक राम घन श्याम हित, चातक तुलसीदास

d. हे नवयुवकों देश भर की दृष्टि तुम पर ही लगी
है मनुज जीवन की तुमही में ज्योति सबसे जग मगी

SECTION-B

Marks=40

II. किसी एक कविता का सारांश लिखिए **1x10=10M**

a. फूल और कांटा b. जीवन का अधिकार c. मेरा नया बचपन

III. किसी एक प्रश्न का उत्तर लिखिए आदिकाल की प्रवृत्तियों पर प्रकाश डालिए **1x10=10M**

अथवा

प्रेम मार्गी शाखा की विशेषताएं लिखिए

IV. किन्ही दो कवियों पर टिप्पणी लिखिए **1x10=10M**

a. कबीर दास b. मैथिलीशरण गुप्त c. जयशंकर प्रसाद d. सुमित्रानंदन पंत

V. किसी एक विषय पर निबंध लिखिए **1x10=10M**

a. विद्यार्थी और राजनीति b. आधुनिक शिक्षा एवं नारी c. विज्ञान वरदान या अभिशाप

Department of Hindi
Course Outcome

Semester IV- Paper IV
Hindi Sahitya KaItihas

After successful completion of the course, students will be able to;

CO 1 : Understanding the origin of Hindi language and its literature.

CO2: Identifying the dialects of Hindi language family.

CO 3: Analysing the development of Khariboli Hindi.

CO4: Understanding the concept to f history of literature.

CO5: Understanding the basis of the classification of Hindi literature.

CO 6: Understanding the importance and basis of the names given to each period of Hindi literature.

CO 7: Understanding the features of Adikal, Bhakti kal, Ritikal and Adhunikkal, in context of socio-cultural and political condition of that period.

CO8: Identifying the eminent Hindi writer of each period.

CO 9: Understanding the reason of emergence of Four kaal (Adikal , Bhaktikaal, Riti Kaal, Adhnik Kaal) in Hindi literature.

CO 10: Understanding the literary trends of Adikal , Bhakti kaal, Riti Kaal ,Adhnik Kaal

CO 11: Understanding the history of development of Hindi drama, short stories and novels.

CO 12 : Understanding the discourse of women and dalits in Hindi literature.

CO13 : Understanding the importance of Translation studies.

CO14 : Understanding to write various forms of essays.

GOVENRNMENT DEGREE COLLEGE FOR WOMENS (A), BEGUMPET, HYDERABAD

RE-ACCREDITED WITH "B+" GRADE BY NAAC

DEPARTMENT OF HINDI

SYLLABUS FOR

BA/B.Sc /B.Com / BBA II YEAR SEMESTER - IV

Kaavya Nidhi, History of Hindi Lit, Essays / काव्यनिधि,हिन्दी साहित्य का इतिहास,निबंध

Text Book kaavyaNidhi (काव्य निधि),तेलुगु अकादमी (Telugu Academy-HYD)

Unit – l KAVYA NIDHI (POTERY)

1. Meera KePadh	Meera Bai
2. Raheem KeDohe	Raheem
3. Bihaari KeDohe	Bihari
4. Bhagwan Buddhke Prati	Surya kant Tripathi Nirala

UNIT – ll) KAVYA NIDHI (POTERY

5. VeMuskaatePhool Nahi	Mahadevi Varma
6. Kalam Aur Talwaar	Ramdhari Dinkar
7. Tu Kuy Baith Gayaa Hai Path Par	Harivansh Rai Bachan
8. Anubhav Paripakva	Agyeya History fo Hindi Literature

UNIT – lll History of Hindi Literature

1. Riti Kaal :Namakaran, Paristthitiyaan, Pravrittiyaan
(For semester exam question will be on pravrittiyaan only)
2. Aadhunik Kaal
   a) BhartenduYug, Dwivedi Yug, Chayaawaad Yug, Pragatiwadi Yug.
   b) Hindi Gadya ka vikas, Hindikahaani, Upanyaas aur Naatak.

UNIT—lV Brief Study of the following authors

1. Meera Bai 2. Raheem 3. Bihaari 4. Mahaveer Prasad Dwivedi 5. Premchand
6. Surya Kanth TripatiNirala 7. Mahadevi Varma 8. Harivansh Rai Bachan
9. Agyeye

UNIT – V ESSAY ON GENERAL TPOICS

1. Vidyaarthi aur Anushaasan
2. Aaj Ki Shiksha Neeti
3. Bharat Mein Beroazgaari Ki Samasayaa
4. Paryaavaran Aur Hum
5. Bharat Mein BadhatiHuyi Jan Sankhyaa
6. Bharatiya Sanskriti

Comprehension Passage: FOR INTERNAL ASSESMENT

GOVENRNMENT DEGREE COLLEGE FOR WOMENS (A), BEGUMPET, HYDERABAD
RE-ACCREDITED WITH "B+" GRADE BY NAAC
DEPARTMENT OF HINDI
B.A, B.COM, B.SC & B.B.A 2nd year
MODEL PAPER-2020-2021 SEMISER -IV

Time : 2.1/2 Hrs. **Max. Marks :60**

SECTION-A **Marks:20**

I निम्नलिखित मैं से किन्ही दो की संदर्भ सहित व्याख्या कीजिए I **2x10=20M**

a. मीरा मगन भई हरि के गुण गाय I
साँप पिटारा राणा भेज्यो मीरा हाथ दिया जाय II
न्हाय धोय जब देखने लागी सालिगराम गई पाय I
जहर का प्याला राणा भेजो अमृत दिन बनाएं II

b. रहिमन पानी राखिए, बिनु पानी सब सून I
पानी गए न उबरहि, मोती मानुष चून II

c. सीस मुकुट कटि काछनी, कर मुरली उर माला I
इहिं बानक मो मन बसो, सदा बिहारी लाल II

d. आज सभ्यता के वैज्ञानिक जड़ विकास पर I
गर्वित विश्व नष्ट होने की ओर अग्रसर II
स्पष्ट दिख रहा, सुख के लिए खिलौना जैसे I
बने हुए वैज्ञानिक साधन केवल पैसे I

SECTION-B **Marks=40**

II किसी एक कविता का सारांश लिखिए **1x10=10M**

a. वे मुस्काते फूल नहीं **b.** कलम और तलवार **c.** तू क्यों बैठ गया है पथ पर

III किसी एक प्रश्न का उत्तर लिखिए **1x10=10M**

रीतिकाल की प्रवृत्तियां लिखिए
अथवा
आधुनिक काल की प्रवृत्तियों पर प्रकाश डालिए

IV किन्ही दो कवियों पर टिप्पणी लिखिए **1x10=10M**

a. रहीम **b.** महादेवी वर्मा **c.**सूर्यकांत त्रिपाठी निराला **d.** हरिवंश राय बच्चनs

V किसी एक विषय पर निबंध लिखिए **1x10=10M**

a. विद्यार्थी और अनुशासन **b.** पर्यावरण और प्रदूषण **c.** भारत में बढ़ती हुई जनसंख्या

GOVT DEGREE COLLEGE FOR WOMENS

BEGUMPET (AUTONOMOUS)

HYDERABAD-50016

DEPARTMENT OF SANSKRIT

- PROGRAME OUTCOMES
- SPESIFIC OUTCOMES
- COURSE OUTCOMES
- LEARNING OUTCOMES

B.A B.SC & B.COM WITH SANSKRIT AS A SECOND LANGUAGE(SEM-I,SEM-II,SEM-III&SEM-IV)

PROGRAM OUTCOMES PROGRAM SPECIFIC OUTCOMES AMD LEARNING OUTCOMES OF SANSKRIT.

Sanskrit language is introduced in UG level as a second language. Program outcomes specific program outcomes and course outcomes and learning outcomes of Sanskrit language are given bellow.

Programme Outcomes:

PO1. Domain Expertise:

- Gain thorough knowledge in the chosen domain and be able to apply it wherever necessary in an innovative manner.

PO2. Modern equipment Usage:

- Equip the students with modern technological skills, so that they are able to use software applications in their careers.

PO3. Computing Skills and Ethics:

- Students learn critical thinking and are able to analyse and solve problems rationally and ethically for communication, entertainment and for the benefit of mankind throughout ones endeavours for the wellbeing of human race.

PO4. Complex Problem Investigation & Solving

- Learn to analyse the problem, frame hypotheses, interpret empirical data and execute action

PO5. Perform effectively as Individuals and in Teams

- Be able to contribute at individual level and as team member and prioritize institutional interest over individual

PO6. Efficient Communication & Life skills

- Learn efficient communication to express, listen, understand and project views in a convincing manner clearly and concisely

PO7. Environmental Sustainability

- Understand current environmental challenges faced by the country & propagate and follow environment friendly practices.

PO8. Societal contribution

- Develop the pride in volunteering to address societal issues *viz:* calamities, disasters, poverty, epidemics and involve voluntarily in social development activities at Regional , National, global levels.

PO9. Effective Project Management

- Identify the goals, objectives and components of a project and then implementation so that deadlines are achieved, even when there are setbacks.

This program will help you acquire the following skills as a basis for the study of ancient Indian knowledge systems, culture, literature and history through Sanskrit texts.

PSO1 – To improve communication skills in spoken sanskrit

PSO2 – To understand basic concepts in linguistics and their usage.

PSO3 – To make acquaintance with major literary writers, genres and periods.

PSO4 – To know variety of forms of literature, creating writing in sanskrit

PSO5 – To make critical appreciation of the masterpieces in literature.

LEARNING OUTCOMES OF SANSKRIT IN UG LEVEL

- Advanced knowledge of ancient Indian religion, literature, and history through the study of Sanskrit texts
- Advanced command of the Sanskrit language through advanced text reading, and basic knowledge of Sanskrit, or Vedic Sanskrit.
- Insight into one or more fields of specialization within the broader topic of ancient Indian religion, literature and history through Sanskrit texts.
- Ability to critically assess existing research through careful reading, analysis, and discussion.
- Practice of the textual analysis of texts in Sanskrit or Vedic Sanskrit.
- The ability to apply relevant theoretical perspectives to topics within the field of ancient Indian religion, literature and history through Sanskrit texts.
- The ability to develop a research project, including formulation of a research problem, searching for sources, and engaging in analytic discussion.
- Competence in academic writing and oral presentation skills.
- Competence in presenting academic research about ancient Indian religion, literature and history through Sanskrit texts to a broader non-academic public.
- Ability to work both independently and in groups on presentations and/or development of Projects.

Semester 1

Unit 1

Lesson 1: मुदाभिषेक्तुं वरद त्वमर्हसि

- Students will know many aspects from this lesson
- Role of leader: Through the character of Dhasharata, we get to know the administrative qualities required by a leader in policy making and approval of the subjects. This is very much required in today scenario.
- Virtuous Qualities : through the character of Lord Rama
- Poetic aesthetic sense: through the description of the incident student gets to know the appreciation of the beauty of the poetry.

Lesson 2 : हिमालयोनाम नगाधिराज:

This lesson is purely an aesthetic poetry, which reflects the imagination of the poet.

- Students will know about the ancient geographical conditions of Continents and India particularly. Himalayas
- The seasonal changes which we see normally in other parts of the country, can be seen throughout the year, in Himalayas making the place enchanting.
- Routine of the sages practiced daily and their life style can be known.
- Knowledge about various flora and fauna is known.
- Knowledge about various clans of semi gods(Kinnara, Vidhyadhara, Gandharvas) who are described only in puranas are known. Their activities which are performed in the beautiful places of Himalayas are known.
- Knowledge about various herbs and medicinal plants are known.
- The characteristics of cruel animals and tribal people life is depicted.

Unit 2

Lesson 3: धर्म बध्दो दौवारिक:

Appointment of subordinates as per Arthashastra.

- The administrative skill in protection of frontiers by posting honest and vigilant officers.
- Surveillance and monitoring of the various officers in charge of the frontiers and time to time reviewing their duties.
- Honesty and integrity of people at all levels.

Lesson 4: कृतज्ञे नास्ति निष्कृति:

- Knowledge about text of Panchatantra one of the important text in Neeti shastra.
- The lesson explains about the life skills needed to survive in the contemporary world.
- The attitude which can be imbibed to achieve success.
- The value based education based on the animal characters.
- Moral lessons of facing unprecedented situations and protecting self from dangers.
- Knowledge about choosing friends circle and advisory council for well being.

Unit 3

Lesson 5 : एष धर्म: सनातन:

- This lesson deal with human and ethical values to be imbibed by students.
- The 25 slokas are unique and are based on value education.
- Charactertistics of students, general attitudes and life skills are taught.

Unit 4 Lesson-1 सन्धय:

This is a grammar part of Sanskrit which deals in formation of words with letter combinations reducing the word size.

- The Sanskrit letters which are divide into swara and vyanjanas have natural ability to combine together to form words and sentences for easy usage and speed conversation .
- Knowledge about the usage of different sandhis is known.
- Pronounciation of letter which is important part of sandhi formations are known.

Lesson 2: शब्दा:

- The knowledge of different suffixes added to word for forming a particular word which is used in a sentence with different meanings.
- The knowledge of number, gender, case endings are known.
- Knowledge about crude word formations and their refined forms are known.

Unit 5

Lessons from Baladharsha Sanskrit text

- Reading and writing of Sanskrit script.

Semester 2

Unit 1 Lesson 1 सत्तुप्रस्थस्य महत्त्वम्

- The lesson is taken from Mahabharata hence students will be able to know about the epic written by veda vyasa
- The knowledge about Ashwamedhyaga and the rituals associated with the sacrifice.
- The various forms of vratas to be practiced by men to attain Moksha.
- The virtuous qualities to be practiced when following rituals.
- The quality of generosity and hospitality which are the core qualities of Indian tradition as depicted in epics.

Lesson 2 बुद्धस्य वैराग्योदय:

- Knowledge about Bhuddisim and its philosophy are known.
- The types of suffering and their causes.
- The life history of Bhudda and his renunciation.
- About the materialistic and impermanent life.

Unit 2

Lesson 1 : न गङ्गःदत्तः पुनरेति कूपम्

- About Panchatantra and Vishnusharma.
- Knowledge about life skills as to how one should not have contact with enemies.

- About how to protect self from natural enemies.
- To take appropriate decisions when problems arise in family.
- Knowledge about controlling emotions in dealing with family problems.

Lesson 2: वैज्ञानिक संहिता

- Knowledge about Varahamihira the ancient Indian Scientist, astronomer, and philosopher.
- Knowledge about scientific aspects as depicted of Bhrit samhita.
- Knowledge about ancient theories of calculation of time, seasons, stars, planets and earth and their authenticity according to modern theories.
- About astronomy and ancient thoughts.
- Knowledge about various aspects like formation of water bodies and how to identify them, organic farming, suitable places for farming.

Unit 3 Lesson 1 धातव:

- Knowledge about root forms of verbs and their conjugations.
- Three purushas and number is known.

- Helps in memory power and identifying different root forms of verbs and their conjugations.
- Helps to improve Sanskrit vocabulary.

Lesson 2: समासा:

- To construct sentence formations using suitable compounds.
- Different compounds are known.
- Different adjectives are formed with various words.
- Concise of words for meaning full sentences.

Unit 4

Lessons from Baladharsha Sanskrit text

- Reading and writing of Sanskrit script.

Semester 3

Unit 1 Lesson 1: प्रवर्त्ततां प्रकृतिहिताय पार्थिव:

- Knowledge about dramas
- Various concepts realted to dramas.
- About Kalidasa and his greatest work Abhignana shakuntala.

- The over all description about the story of Dhushyanta and Shakuntala found in Mahabharata.
- The description of Earth and its beautiful view from space.
- Ashrama system present in ancient India.
- The difficulties faced by Shakuntala and her determination to overcome the problems of life.

Lesson 2 :नवरत्नानि

- About the author Prof.D Ramulu.
- Knowledge about the nine gems in the court of Vikramaditya.
- Knowledge about the different ancient knowledge systems, like Ayurveda, Nyana shastra, Vedanta, vyakarana shastra, etc.
- How the kings patronized the experts of knowledge.

Unit 2 Lesson 1 शूद्रकवैशम्पायनयो: सम्भाषणम्

- Knowledge about Mahakavi Bana Bhatta.
- About Gadya kavyam and its characteristics are known.
- About the ancient kings, court affairs, intriguing story, characters in the work are known.
- About the etiquettes which are followed in front of the king.

- And the hospitality of the sages.

Lesson-2 रामदास:

- About modern sanskrit poet Sri Sannidhanam surya narayana shastri.
- Life history of Kancherala goppana.
- History of Golconda sultans who ruled Hyderabad.
- Ramadasu devotion towards Lord Rama.
- About the historical place of Badhrachalam temple.

Unit 3 Lesson 1 शब्दा:

Halanta rupani are included in this semester.

- The knowledge of different suffixes added to word for forming a particular word which is used in a sentence with different meanings.
- The knowledge of number, gender, case endings are known.
- Knowledge about crude word formations and their refined forms are known.

Lesson 2 महाकवय:

Bharavi, Sriharsha, Magha, Harshavardhana, Bhasa, Sankharacharya

- The life history of the about great poets and their exceptional works.

Unit 5

Lessons from Baladharsha Sanskrit text

- Reading and writing of Sanskrit script.

Semester 4

Unit 1 Lesson1 चित्रपटदर्शनम्

About the great Dramatist Bhasa and his works.

- About the skill of presenting the story in the form of Drama.
- Highlighting the characters of Lord Rama Sita and Lakmana, Astavakra and others.
- Nostaligic era of years spent in forest by Rama and sita
- All the highlights of Ramayana are covered in first act only.

Lesson2 मधुरोपदेशम्

- About the female author Gangadevi in Sanskrit littreature.
- Ancient history of Vijayanagara and kakathiya empires
- Herioc tale of the king Veerakanparaya
- Instruction about youth

Unit 2 Lesson1 ध्रुवोपाख्यानम्

About Modern Sanskrit laureate P.V.Kane

- About the will power of Druva.
- About puranic stories and the message underlined in it.

Lesson 2 विवेकानन्दविजयम्

About the life of Swami Vivekananda and his endeavors of bringing Indian culture and tradition on to the global forum.

- About the contemporary culture of western countries and their hospitality.
- About the journey of Vivekananda to Chicago by the blessings of his Guru Ramakrishna paramhamsa.

Unit 3 Lesson 1: शास्त्रकारविभाग:

About the life history of the Great authors and their exceptional works.

Lesson 2: कृदन्त रूपाणि

About the suffixes added to roots for formation of verbs which are being used in Sanskrit sentences in different situations.

- Knowledge about various kruth prathyayas and their usage.

Unit 4

Lessons from Baladharsha Sanskrit text
Reading and writing of Sanskrit script.

Semester -1 syllabus

1.हिमालयो नाम नगाधिराजः (Word to Word meaning and Translation & Essay)
कालिदासविरचित कुमारसम्भव महाकाव्य प्रथमसर्ग १-१०
श्लोकानि प्रतिपदार्थतात्पर्यं च लिखत, व्यासरूप प्रश्नः

2.मुदाभिषेक्तुंवरद त्वमर्हसि वाल्मीकि रामायणम् (References and Essay)
(ससन्दर्भ व्याक्ख्यानानि , व्यासरूप प्रश्नः)

3.धर्मबद्धदौवारिकः अम्बिकादत्तव्यास विरचित शिवराजविजय (व्यासरूप प्रश्नः)
(Essay)

4. कृतज्ञे नास्ति निष्कृति: विष्णुशर्मणा विरचित पञ्चतन्त्रम्
व्यासरुपप्रश्नः ससन्दर्भानि व्याक्यात(Essay & References)

A. बालादर्शः - ६ - ९ पाठम्

B. सन्धयः - सवर्णदीर्घ,गुण,वृद्धि,यणादेश,अयवायाव,
श्चुत्वा, ष्टुत्वा,लत्त्वा,झश्धा,अनुनासिक,विसर्ग,

C. शब्दाः

बालादर्शः षष्ठः पाठः !
षष्ठः पाठः। 6th Lesson

आवां शकटेन गृहं गच्छावः। युवां नौकया नदीं तरथः। नाविकः क्षेपण्या नौकां क्षिपति। शाकटिकः कशया वृषभौ ताडयति। शकटं चक्राभ्यां गच्छति। लता पुष्पैः लसति। बालकः हस्तेन चन्द्रम् आह्वयति। जनाः पादाभ्यां गच्छन्ति। नारी पत्या विलसति ।

प्रश्नाः -

१. युवां केन गृहं गच्छथः ?

२. आवां कया नदीं तरावः ?

३. लता कैः लसति?

४. शकटं काभ्यां गच्छति?

५. जनाः काभ्यां गच्छन्ति?

सप्तमः पाठः। 7th Lesson

धेनवः वत्सेभ्यः क्षीरं वितरन्ति । व्याघ्रः आहाराय भ्राम्यति। बालकाः अध्ययनाय पाठालयं गच्छन्ति। बालिकाः पुष्पाय उद्यानं व्रजन्ति। वयं जलाय नदीं गच्छामः। यूयम् अश्वेभ्यः तृणं यच्छथ। वयं ज्ञानाय पठामः। जनाः धनाय देशान्तरं गच्छन्ति। बालाः विद्यायै धनं यच्छन्ति।

प्रश्नाः ·

१. धेनवः केभ्यः क्षीरं वितरन्ति?

२. व्याघ्रः किमर्थं परिभ्रमति ?

३. बालकाः किमर्थं पाठालयं गच्छन्ति

४. बालिकाः किमर्थम् उद्यानं व्रजन्ति ?

५. यूयं किमर्थं नदीं गच्छथर

अष्टमः पाठः | - 8th Lesson

शाखायाः पर्णानि पतन्ति। मक्षिकाः पुष्पेभ्यः मधु पिबन्ति। बीजात् अङ्कुरः प्ररोहति । पात्रात् जलं स्रवति । धेनुः व्याघ्रात् त्रस्यति । अहं पीठात् उत्तिष्ठामि । त्वं तरोः अवरोहसि। पर्वतात् नदी प्रवहति । धनिकाः ग्रामात् नगरं गच्छन्ति । समुद्रात् जनाः रत्नानि आनयन्ति।

प्रश्नाः

१. कस्याः पर्णानि पतन्ति ?

२. मक्षिकाः केभ्यः मधु पिबन्ति ?

३. कस्मात् अङ्कुरः प्ररोहति ?

४. कस्मात् जलं स्रवति

५. धेनुः कस्मात् त्रस्यति ?

नवमः पाठः। 9th Lesson

दुहिता भर्तुः गृहं गच्छति। माता दुहितुः शिशुं लालयति। शिशवः मातृणां गानेन तुष्यन्ति। पत्नी पत्युः आज्ञाम् अनुसरति । पुत्रः पितुः आज्ञया जामातुः गृहात् स्वसारम् आनयति। वयं शकटस्य शब्दम् आकर्णयामः । यूयं धेनोः क्षीरं पिबथ।

प्रश्नाः -

१. दुहिता कस्य गृहं गच्छति?

२. माता कस्याः शिशुं लालयति?

३. शिशवः कासां गानेन तुष्यन्ति ?

४. पत्नी कस्य आज्ञां अनुसरति ?

५. पुत्रः कस्य गृहात् काम् आनयति ?

ISEMSESTER IPAPER SL-SANSKRIT

Time: 2 hrs Marks: 60

SECTION-A

I. एकस्य श्लोकस्य प्रतिपदार्थ तात्पर्यञ्च लिखता 1x5=5

१) अस्त्युत्तरस्यां दिशि देवतात्मा हिमालयो नाम नगाधिराजः।

पूर्वापरौ तोयनिधी वगाहास्थितः पृथिव्याम् इव मानदण्डः ॥

२) आमेखलं सञ्चरतां पनानां च्छायामधः सानुगतां निषेव्य।

उद्वेजिता वृष्टिभिराश्रयन्ते शृङ्गानि यस्यातपवन्ति सिद्धाः ॥

II. द्वयोः ससन्दर्भ व्याख्यात 2x5=10

१. जीर्णस्यास्य शरीरस्य विश्रान्तिमभिरोचये।

२. वृष्टिमन्तं महामेघं नर्दन्तमिव बर्हिणः।

३. स एव दुर्गं तरति जलस्थो वानरो यथा।

४. षड्विधं प्रीति लक्षणम्।

III. अधो निर्दिष्ट गद्यांशं पठित्वा प्रश्नानाम् उत्तराणि लिखत। 5x1=5

आवां शकटेन गृहं गच्छावः। युवां नौकया नदीं तरथः। नाविकः क्षेपण्या नौकां क्षिपति। शाकटिकः कशया वृषभं ताडयति। शकटं चक्राभ्यां गच्छति। लता पुष्पैः लसति। बालकः हस्तेन चन्द्रम् आह्वयति जनाः पादाभ्यां गच्छन्ति। नारी पत्या विलसति।

प्रश्नाः

१. युवां केन गृहं गच्छथः?

२. आवां कया नदीं तरावः ?

३. लता कैः लसति?

४. शकटं चक्राभ्यां गच्छति ?

५. जनाः काभ्यां गच्छन्ति ?

SECTION B

IV. पाठ्यक्रममनुसृत्य श्रीरामचन्द्रस्य गुणगाणान् वर्णयत 1x10=10

अथवा

हिमालयो नाम नगाधिराजः इति पाठ्यांशस्य सारांशं लिखत

V. धर्मबद्धो दौवारिकः इति पाठ्यभागस्य सारांशं लिखत 1x10=10

अथवा

वानरमकरयोः कथां विशदयत।

VI. पञ्चानां नामनिर्देशपूर्वकं विघटयत। 5x2 = 10

१) रामानुजः२) महेशः३) एकैकः ४) हरये ५) इत्यत्र ६) कवीश:

(७) तट्टीका ८) वाङ्मयम् ९) वागीशः १०) नराश्च

VII. द्वयोः सर्वासु विभक्तिषु रूपाणि लिखत। 2x5=10

१) देव २) मातृ ३) वारि ४) भानु

II SEMESTER II PAPER SL-SANSKRIT

MODULE

I. बुद्धस्य वैराग्योदयः - बुद्धचरितम् - अश्वघोषः

Word to word meaning and translation verses 1 to 10&Essay

II. सक्तुप्रस्थस्य महत्त्वम् - महाभारतम् - वेदव्यासः

Annotations & Essay

III. वैज्ञानिकसंहिता- वैज्ञानिकषाण्मुखम् - आचार्य पुल्लेल श्रीरामचन्द्रुडु

Essay

IV.न गङ्गदत्तः पुनरेति कूपम् - पञ्चतन्त्रम् विष्णु शर्मा

Essay & Annotations

V. समासाः

VI. धातुरूपाणि

VII. बालादर्शः 10th to 13th lesson

बालादर्शः ॥ SEMESTER

दशमः पाठः ।

काकः शाखायाम् उपविशति । स दिवा आकाशे डयते, नक्तं नीडे वसति । भेकाः वापीषु वसन्ति। ते वर्षासु रटन्ति। अयं भेकः भूमौ प्लवते। लतासु कुसुमानि विकसन्ति। वयं तरुषु फलानि पश्यामः । समुद्रे रत्नानि जायन्ते। नराः भूमौ वसन्ति। देवाः स्वर्गे तिष्ठन्ति।

प्रश्नाः

१. काकः कस्याम् उपविशति ?

२.स दिवा कुत्र डयते?

३. स नक्तं कुत्र वसति?

४. भेकाः कुत्र वसन्ति ?

५. ते कदा रटन्ति?

एकादशः पाठः। 11th lesson

अत्र एका वीणा अस्ति। गायकः वीणां वादयति । घण्टा तत्र वर्तते । रामः घण्टां वादयति। घण्टायाः स्वरः परुषः। वीणायाः स्वरः मधुरः। मालती सम्यक् वीणां वादयति। मालविका मधुरं गायति । कोकिला वसन्ते मधुरं कूजति । गानेन सर्वे जनाः तुष्यन्ति।

प्रश्नाः -

१. कुत्र एका वीणा अस्ति?

२. कः वीणां वादयति?

३. कः घण्टां वादयति?

४. कस्याः स्वरः मधुरः ?

५. कस्याः स्वरः परुषः?

द्वादशः पाठः- 12th lesson

इह एकं पुस्तकम् एका पेटिका च स्तः। तत् कृष्णस्य शब्दमञ्जरी पुस्तकम् । तस्य पुस्तकस्य मूल्यं एको रूप्यकः । तस्मिन् पुस्तके द्विशतं पुटानि सन्ति । मम श्रीरामोदन्तपुस्तके षष्टिः पुटानि सन्ति। अस्यां पेटिकायां वस्त्राणि भूषणानि धनानि च विद्यन्ते। इयं हरेः पेटिका। स इमां कुञ्चिकया उद्घाटयति। कुञ्चिका हरेः गोपालस्य वा करे वर्तते ।

प्रश्नाः -

१. इह के स्तः ?

२. इदं कस्य पुस्तकम् ?

३.कृष्णस्य पुस्तकस्य मूल्यम् किम् ?

४. कस्मिन् द्विशतं पुटानि सन्ति?

५. तव पुस्तके कति पुटानि सन्ति ?

त्रयोदशः पाठः। 13th Lesson

नक्षत्राणि कदा प्रकाशन्ते? नक्षत्राणि रात्रौ प्रकाशन्ते। तानि दिवा न प्रकाशन्ते । मेघैः आवृते नभसि रात्रौ च न प्रकाशन्ते। यदा सूर्यः अस्तम् अयते तदा ताराणि प्रकाशन्ते । तानि व्योम्नि हीरवत् द्योतन्ते नक्षत्राणां राजा चन्द्रः चन्द्रस्य प्रकाशः चन्द्रिका । अहं नक्षत्राणि गणयामि।किन्तु तानि गणयितुं न पारयामि। तानि असङ्ख्यानि वर्तन्ते । तत्र अश्विन्यादीनिसप्तविंशतिः नक्षत्राणि प्रधानानि ।

प्रश्नाः -

१. नक्षत्राणि कुत्र प्रकाशन्ते?

२. तानि कदा न प्रकाशन्ते?

३. तानि कुत्र हीरवत् द्योतन्ते?

४. केषां राजा चन्द्रः ?

५. तस्य प्रकाशस्य नाम किम्?

II SEMESTER II PAPER SL-SANSKRIT

Time: 2 Hrs .Marks:60

SECTION - A

1. एकस्य श्लोकस्य प्रतिपदार्थं तात्पर्यश्च लिखता 1x5=5

१) ततः कुमारो जरयाभिभूतं दृष्ट्वा नरेभ्यः पृथगाकृतिं तम्।

उवाच सङ्ग्राहकमातस्थत्रैव निष्कम्पनिविष्टदृष्टिः॥

२) रूपस्य हन्त्री व्यसनं बलस्य शोकस्य योनिर्निधनं रतीनाम् ।

नाशः स्मृतीनांरिपुरिन्द्रियाणामेषा जरा नाम ययैष भग्नः ॥

II. द्वयोः ससन्दर्भ व्याख्यात 2x5=10

१) कुडवं कुडवं सर्वे व्यभजन्त तपस्विनः।

२) स्त्रियो रक्ष्याच पोष्याश्च न त्वेवं वक्तुमर्हसि।

३) शत्रुमुन्मूलयेत् प्राज्ञः तीक्ष्णं तीक्ष्णेन शत्रुणा

४) सर्वनाशे समुपन्ने अर्धं त्यजति पण्डितः।

III. अधो निर्दिष्ट गद्यांशं पठित्वा प्रश्नानाम् उत्तराणि लिखत। 5x1=5

काकः शाखायाम् उपविशति। स दिवा आकाशे डयते, नक्तं नीडे निवसति। भेकाःवे वापीषु वसन्ति। ते वर्षासु रटन्ति। अयं भेकः भूमौ प्लवते। लतासु कुसुमानि विकसन्ति। वयं तरुषु फलानि पश्यामः समुद्रे रत्नानि जायन्ते। नराः भूमौ वसन्ति देवाः स्वर्गे तिष्ठन्ति।

प्रश्नाः -

१. काकः कस्याम् उपविशति?

२. स दिवा कुत्र डयते?

३. स नक्तं कुत्र वसति?

४. भेकाः कुत्र वसन्ति ?

५. ते कदा रटन्ति?

SECTION B

IV. सक्तुप्रस्थस्य कथां लिखत 1x10=10

अथवा

बुद्धस्य वैराग्योदयस्य कारणानि विशदयत।

V. पञ्चतन्त्रमनुसृत्य गङ्गदत्तस्य कथा विशदयत। 1x10=10

अथवा

वैज्ञानिकसंहितायाः महत्त्वं निरूपयत।

VI. पञ्चानां समासनामनिर्देशपूर्वकं विग्रहवाक्यानि लिखत 5x2=10

१) अतिहिमम् २) पूर्वकायः ६) कृष्णसर्पः ४) पापभयम् ५) अनश्वः

६) कृष्णसर्पः (७) घनश्यामः ८) नरसिंहः ९) पञ्चगवम् १०) रामकृष्णौ

VII. द्वयोः निर्दिष्टलकारेषु रूपाणि लिखत। 2x5=10

१) इष् - लट् २) लिख - लृट्

३) भाष - लोट् ४) वन्द् - विधिलिङ्

III SEMESTER III PAPER SL-SANSKRIT

MODULE

1. **" प्रवर्ततां प्रकृतिहिताय पार्थिवः"** अभिज्ञानशाकुन्तले सप्तमाङ्कः - महाकविः कालिदासः

a) निर्दिष्टश्लोकानां प्रतिपदार्थतात्पर्यम् (२. त्रिस्रोतसं..., ३. शैलानाम.., ४. स्वायम्भुवान्...

५. मनोरथाय..., ६. अर्धपीतपयो...., ११.सुतनु.., १२ पुत्रस्य..., १३. आखण्डलसमो..,

१७.रथेनानुद्धत.., १८. तव भवतु बिडौजाः……...)

b) सन्दर्भव्याख्या c) व्यासरूपप्रश्नाः

2. नवरत्नानि - आचार्यरामुलु

a) सन्दर्भव्याख्या b) व्यासरूपप्रश्नाः

3. शूद्रकवैशम्पायनयोः सम्भाषणम् -

कादम्बरीतः - बाणमहाकविः

a) सन्दर्भव्याख्या b) व्यासरूपप्रश्नाः

4. रामदासः -

आन्ध्रकाव्यकथाः - सन्निधानं सूर्यनारायणशास्त्री

a) सन्दर्भव्याख्या b) व्यासरूपप्रश्नाः

5. कवयः- भारविः, माघः, श्रीहर्षः

6. बालादर्शः - एकादशपाठतः चतुर्दशपाठपर्यन्तम् (14th lesson to 17th lesson)

बालादर्शः III SEMESTER

चतुर्दशः पाठः। 14th Lesson

अत्र एकः बालकः एका बालिका च तिष्ठतः। तौ पाठालयात् आगच्छताम्। सा बलिका तस्य बालकस्य स्वसा तौ किं कुरुतः ? तौ सल्लपतः। स बालकः ह्य: पाठं न अपठत् । उपाध्यायः तम् अताडयत्। तां वार्तां तस्य स्वसा पित्रे अकथयत्। पिता पुत्रम् अभर्त्सयत |तेन कुपितः स बालकः स्वसारम् अनिन्दत् सा भ्रातरं तर्जन्या तर्जयते ।

प्रश्नाः -

१. अत्र को तिष्ठतः ?

२. तौ कुतः आगच्छताम्

३. सा बालिका का?

४. कः ह्यः पाठं न अपठत?

५. कः तम् अताडयत?

पञ्चदशः पाठः। 15th Lesson

रामा उत्तिष्ठ तव हस्तौ दर्शय त्वं केन हस्तेन लिखसि? आर्य अहं अनेन हस्तेन लिखामि। स दक्षिणहस्तः । अन्यः वामहस्तः। एकस्मिन् हस्ते पञ्च अगुल्यः सन्ति । द्वयोः हस्तयोः दश अङ्गुल्यः सन्ति । पाणौ विविधाः रेखाः विद्यन्ते । रामः उपविशतु कृष्णः उत्तिष्ठतु |कृष्ण। त्वं हस्ताभ्यां नेत्रे स्पृश। वयं नेत्राभ्यां पश्यामः । हस्ताभ्यां कर्माणि कुर्मः। अन्येषां प्राणिनां द्वे नेत्रे विद्येते; हस्तौ न स्तः ।

प्रश्नाः –

१. एकस्मिन् हस्ते कति अङ्गुल्य: सन्ति ?

२. द्वयोः हस्तयोः कति अङ्गुल्य: सन्ति?

३. कुत्र विविधाः रेखाः विद्यन्ते ?

४. हस्ताभ्यां किं कुर्मः ?

५. द्वे नेत्रे विद्येते, हस्तौ न स्तः, केषाम् ?

षोडशः पाठः । 16th Lesson

अयं कः? सः बालकः । अस्य नाम किम्? तस्य नाम कृष्णः इति । स किं करोति? स लिखति। स भ्रात्रे पत्रिकां लिखति। त्वं किं लिखसि? अहं लेखावलिपुस्तके संस्कृतप्रतिलेखनं लिखामि। प्रतिलेखनेन अक्षराणि सुन्दराणि भवन्ति । तव नाम किम्? मम नाम राघवः इति । राघव त्वं कस्मात् न लिखसि ? आर्य मम लेखनी नास्ति । लेखन्या विना कथं लिखामि? भद्र। त्वं प्रतिदिनं लेखन्या पुस्तकेन च विना पाठालयम् आगच्छसि। एवं मा कुरु। आर्य अहं कृष्णेन सह गृहं गत्वा लेखनीम् आनयामि।

प्रश्नाः

१. अयं बालकः किं लिखति?
२. केन अक्षराणि सुन्दराणि भवन्ति ?
३. राघवः कुतः न लिखति
४. सः प्रतिदिनं पाठालयं कथम् आगच्छति?
५. त्वं केन सह कुत्र गत्वा लेखनीमानयसि ?

सप्तदशः पाठः। 17th Lesson

अस्मिन् विद्यालये चतस्रः कक्ष्याः सन्ति । एते सप्त छात्राः चतुर्थकक्ष्यायां पठन्ति। चित्रं पश्य। एको बालकः तिष्ठति। अन्ये उपविष्टाः। तिष्ठन् बलकः उपाध्यायस्य प्रश्नानाम् उत्तराणि कथयति। त्वं कस्यां कक्ष्यायां पठसि ? अहं तृतीयकक्ष्यायां पठामि कति छात्राः त्वया सह पठन्ति। मया सह चत्वारो बालकाः तिस्रो बालिकाश्च पठन्ति । आहत्य वयम् अष्टौ सहपाठिनः स्मः। द्वितीयकक्ष्यायां द्वे बालिके त्रयो बालकाश्च पठन्ति। प्रथमकक्ष्यायां पञ्च बालकाः पञ्च बालिकाश्च सन्ति।

प्रश्नाः -

१. अस्मिन् विद्यालये कति कक्ष्याः सन्ति?

२. एते सप्त छात्राः कस्यां कक्ष्यायां पठन्ति?

३. तिष्ठन् बालकः किं करोति?

४. तृतीयकक्ष्यायां के के पठन्ति?

५. आहत्य यूयं कति सहपाठिनः स्थ?

III Semester III Paper SL - Sanskrit

Model Paper

Time:2 Hours Marks: 60

I. एकस्य लघुनिबन्धं लिखत। 1x5=5

a) भारविः b) माघः

II. द्वयोः ससन्दर्भं व्याख्यात । 2x5=10

अ) सुरासुरगुरुः सोऽत्र सपत्नीकस्तपस्यति ।

आ) अतिकृपणाः खल्वमी प्राणाः।

इ) अभूत्तस्य मूलकर्म श्रीरामार्चनम्, गौणकर्म तहसीलदारपद-निर्वहणम् ।

ई) एकं सद् विप्राः बहुधा वदन्ति

III. अधो निर्दिष्टं गद्यांशं पठित्वा प्रश्नानाम् उत्तराणि लिखत। 5x1=5

अत्र एकः बालकः एका बालिका च तिष्ठतः। तौ पाठालयात् आगच्छताम्। सा बलिका तस्य बालकस्य स्वसा तौ किं कुरुतः ? तौ सल्लपतः। स बालकः ह्यः पाठं न अपठत् । उपाध्यायः तम् अताडयत्। तां वार्तां तस्य स्वसा पित्रे अकथयत्। पिता पुत्रम् अभर्त्सयत । तेन कुपितः स बालकः स्वसारम् अनिन्दत् । सा भ्रातरं तर्जन्या तर्जयते।

प्रश्नाः -

अ) अत्र को तिष्ठतः?

आ) तौ कुतः आगच्छताम्?

इ) सा बालिका का?

ई) कः ह्यः पाठं न अपठत्?

उ) कः तम् अताडयत्?

द्वयोः श्लोकयोः प्रतितिपदार्थं तात्पर्यञ्च लिखत। 2x5=10

1.सुतनु! हृदयात्प्रत्यादेशव्यलीकमुपैतु ते
किमपि मनसः संमोहो मे तदा बलवानभूत् ।
प्रबलतमसामेवप्रायाः शुभेषु हि वृत्तयः
स्रजमपि शिरस्यन्धः क्षिप्तां धुनोत्यहिशङ्कया॥

2.आखण्डलसमो भर्ता जयन्तप्रतिमः सुतः ।
आशीरन्या न ते योग्या पौलोमीसदृशी भव ॥

3.सुतनु! हृदयात्प्रत्यादेशव्यलीकमुपैतु ते
किमपि मनसः संमोहो मे तदा बलवानभूत् ।
प्रबलतमसामेवंप्रायाः शुभेषु हि वृत्तयः
स्रजमपि शिरस्यन्धः क्षिप्तां धुनोत्यहिशङ्कया॥

4.वसने परिधूसरे वसाना नियमक्षाममुखी धृतैकवेणिः।
अतिनिष्करुणस्य शुद्धशीला मम दीर्घं विरहव्रतं बिभर्ति ॥

IV. अभिज्ञानशाकुन्तले सप्तमाङ्कस्य सारांशं लिखत 10x1 = 10

अथवा

"नवरत्नानि" इति पाठ्यांशस्य सारांशं लिखत।

VI. "शूद्रकवैशम्पायनयोः सम्भाषणम्" पाठ्यभागस्य सारांशं लिखत 10x1 = 10

अथवा

रामदासस्य कथां संक्षेपेण लिखत

VII. द्वयोः शब्दयोः सर्वासु विभक्तिषु रूपाणि लिख। 5x2 = 10

1) जलमुक् 2) मरुत् 3) राजन् 4) अस्मद्

IV SEMESTER IV PAPER SL-SANSKRIT

MODULE

1. चित्रपटदर्शनम् -उत्तररामचरितम् - भवभूतिः

a) निर्दिष्टश्लोकानां प्रतिपदार्थतात्पर्यम् (२.विश्वम्भरा, ३. लौकिकानां.., ५. स्नेह दयां.... ६. उत्पत्तिपरिपूतायाः, १० जीवत्सु तात.., १३. स्मरसि सुतनु.... १४. अथेदं रक्षोभिः.., १६.आ विवाहसमयाद्, १७. इयं गेहे लक्ष्मी... १८. अद्वैतं सुखदुःखयोः)

b) सन्दर्भव्याख्या c) व्यासरूपप्रश्नाः

2. विवेकानन्दम् -श्रीधरभास्करवर्णेकर:

b) सन्दर्भव्याख्या c) व्यासरूपप्रश्नाः

3. विश्रुतचरितम् -दशकुमारचरितम्- दण्डिमहाकविः

b) सन्दर्भव्याख्या c) व्यासरूपप्रश्नाः

4. ध्रुवोपाख्यानम् -पि.वि. काणे

b) सन्दर्भव्याख्या c) व्यासरूपप्रश्नाः

5. कवयः भासः, शङ्कराचार्यः, हर्षवर्धनः

6. कृदन्तरूपाणि

7. बालादर्शः - पञ्चदशपाठः तः अष्टादशपाठपर्यन्तम् (18th lesson to 21st lesson)

बालादर्शः IV SEMESTER

अष्टादशः पाठः।- 18th Lesson

इदानीं सायाह्नः । पश्य। अस्मिन् क्रीडाङ्गणे षट् बालकाः कन्दुकेन क्रीडन्ति । कन्दुकः चर्मणा निर्मितः वातेन पूरितश्च । अतः स ताड्यमानः उत्पतति । ते बालकाः इतस्ततो धावन्तः हस्तेन पादेन च कन्दुकं ताडयन्ति। एको बालकः भूमौ उपविशति । स चिरं क्रीडनेन श्रान्तोऽभवत्। तस्य गात्रं स्विद्यति । स मुहूर्तं विश्रम्य भूयोऽपि क्रीडिष्यति । यदा सूर्यः अस्तं गमिष्यति तदा प्रकाशः न वर्तिष्यते। तदानीम् एते गृहं व्रजिष्यन्ति।

प्रश्नाः

१. इदानीम् कः समयः ?

२. बालकाः कुत्र केन क्रीडन्ति?

३. कन्दुकः केन निर्मितः केन पूरितश्च?

४. स ताड्यमानः किं करोति?

५. ते बालकाः किं कुर्वन्तः कन्दुकं ताडयन्ति?

एकोनविंशः पाठः।- 19th Lesson

अत्र एकः पुष्पगुच्छो वर्तते। अयं रमणीयः पुष्पगुच्छः । अयं रूपेण नेत्रं गन्धेन घ्राणं च आनन्दयति। पश्य! तस्मिन एको भृङ्गः तिष्ठति स पुष्पेभ्यः मकरन्दं पिबति । तस्मात् भृङ्गस्य मधुपः इत्यपि नाम। भृङ्गाः मकरन्दं पिबन्तः मधुरं गुञ्जन्ति । पुष्पात् पुष्पं चलन्तः विहरन्ति । भृङ्गानां वर्णः नीलः ।

प्रश्नाः -

१. अयं कीदृशः पुष्पगुच्छः?

२. भृङ्गः किं करोति?

३. के किं कुर्वन्तः मधुरं गुञ्जन्ति

४. ते कथं विहरन्ति ?

५. भृङ्गानां वर्णः कीदृशः ?

विंशः पाठः ।- 20th Lesson

इदानीं वर्षाकालः । पश्य आकाशं मेघैः सञ्छन्नम्। सर्वत्र वृष्टेः धाराः पतन्ति । जनः स्वीयानि कर्माणि त्यक्त्वा गृहं गताः। पक्षिणः शैत्येन पीडिताः वृक्षाणां शाखासु तिष्ठन्ति । कृषीवलाः परं क्षेत्राणि कर्षन्ति । ते कृष्टेषु क्षेत्रेषु धान्यानि वपन्ति । वर्षाकाले कूपाः सरांसि च जलेन पूर्णानि भवन्ति । नद्योऽपि कूलानि भञ्जयन्त्यः प्रवहन्ति । भूमौ सर्वत्र तृणानि उत्पद्यन्ते वृक्षा लताश्च पल्लविताः भवन्ति ।

प्रश्नाः

१. जनाः किं कृत्वा कुत्र गच्छन्ति ?

२. पक्षिणः शैत्येन पीडीताः कुत्र तिष्ठन्ति ?

३. के क्षेत्राणि कर्षन्ति ?

४. कुत्र धान्यानि वपन्ति ?

५. कस्मिन् काले कानि जलेन पूर्णानि भवन्ति?

एकविंशः पाठः।- 21st Lesson

पूर्वं चोलदेशे द्वौ सखायावास्ताम्। तयोरेक विद्याप्रियः, अन्ये धनप्रियः। तयोः पितरौ अतीव दरिद्रौ । अतस्तौ पित्रोराज्ञया विदेशं गतौ । विद्याप्रियस्तत्र विद्यालयं प्रविश्य विद्यामधीतवान्। अन्यः कस्यापि श्रेष्ठिनः आपणे व्यापृतः प्रभूतं वित्तमार्जयति स्म। दशभ्यो वर्षेभ्यः परं तौ स्वदेशं प्रति प्रस्थितौ । वनमार्गेण गच्छतोस्तयोः धनप्रियस्य धनभाण्डं चोराः अपाहरन् । तेन स निर्धनो जातः । यदा तो स्वदेशमागतौ तदा विद्याप्रियं कृतविद्यं वीक्ष्य तद्देशीयो राजा तं मन्त्रिपदे न्ययोजयत्। धनप्रियस्तु जीविकार्थं गत्यन्तरम् अपश्यन् तस्यैव मन्त्रिणः सेवकोऽभवत्।

प्रश्नाः

१. कदा कुत्र द्वौ सखायावास्ताम्?

२. तौ कीदृशौ ?

३. कुतः तौ विदेशं गतौ ?

४. विद्यप्रियस्तत्र किं कृतवान् ?

५. अन्यः किमकरोत् ?

IV SEMESTER IV –PAPER SL-SANSKRIT

Model Paper

I. एकस्य लघुनिबन्धं लिखत। 1x5 = 5

a) भासःb) शङ्कराचार्यः

II. योः ससन्दर्भं व्याख्यात। 2x5 = 10

अ) ऋषीणां पुनराद्यानां वाचमर्थोऽनुधावति ।

आ) तात क एष बलः को वा भवान्, कथं चेयमापदापन्ना?

इ) सर्वथा अपूर्ववेशो अपि सत्पुरुषोऽयं दृश्यते ।

ई) तीर्थोदकं च वह्निश्च नान्यतः शुद्धिमर्हतः ।

III. अधो निर्दिष्टं गद्यांशं पठित्वा प्रश्नानाम् उत्तराणि लिखत। 5x1 = 5

अत्र एकः पुष्पगुच्छो वर्तते । अयं रमणीयः पुष्पगुच्छः । अयं रूपेण नेत्रं गन्धेन घ्राणं च आनन्दयति । पश्य तस्मिन् एको भृङ्गः तिष्ठति । स पुष्पेभ्यः मकरन्दं पिबति । तस्मात् भृङ्गस्य मधुपः इत्यपि नाम। भृङ्गाः मकरन्दं पिबन्तः मधुरं गुञ्जन्ति । पुष्पात् पुष्पं चलन्तः विहरन्ति । भृङ्गानां वर्णः नीलः ।

प्रश्नाः -

अ) अयं कीदृशः पुष्पगुच्छः?

आ) भृङ्गः किं करोति?

इ) के किं कुर्वन्तः मधुरं गुञ्जन्ति ?

ई) ते कथं विहरन्ति?

उ) भृङ्गानां वर्णः कीदृशः ?

IV. द्वयोः श्लोकयोः प्रतितिपदार्थतात्पर्यञ्च लिखत। 2x5 = 10

अ) इयं गेहे लक्ष्मीरियममृतवर्तिनि नयनयो

रसावस्याः स्पर्शो वपुषि बहुलश्चन्दनरसः ।

अयं बाहुः कण्ठे शिशिरमसृणो मौक्तिकसरः

किमस्या न प्रेयो यदि परमसह्यस्तु विरहः ॥

आ) जीवत्सु तातपादेषु नूतने दारसंग्रहे।

मातृभिश्चिन्त्यमानानां ते हि नो दिवसो गताः॥

इ) आ विवाहसमयाद गृहे वने शैशवे तदनु यौवने पुनः।
स्वापहेतुरनुपाश्रितोऽन्यया रामबाहुरुपधानमेष ते ॥

ई) विश्वम्बरा भगवती भवतीमसूत
राजा प्रजापतिसमो जनकः पिता ते ।
तेषां वधूस्त्वमसि नन्दिनि! पार्थिवानां
येषां कुलेषु सविता च गुरुर्वयं च ॥

V. चित्रपटदर्शनम् इति पाठ्यभागस्य साराशं लिखत। 10x1 = 10

अथवा

भवभूतिमहाकवेः परिचयं कारयत।

VI. "विश्रुतचरितम्" इति पाठ्यभागस्य सारांशं लिखत 10x1 = 10

अथवा

विवेकनन्दविजयम् इति पाठ्यभागस्य सारांशं लिखत।

VII. पञ्च कृदन्तरूपाणि प्रत्यभिजानीत । 5x2 = 10

1) ज्ञात्वा2) आनीय3) पठितुम्4) लब्धुम्

5) लिखितवत्6) नृत्यन्ती7) श्रूयमाणा8) स्थातव्यम्

GOVERNMENT DEGREE COLLEGE FOR WOMEN (AUTONOMOUS)

BEGUMPET, HYDERABAD-16

Affiliated To Osmania University, Re-Accredited With 'A^{+}' Grade by NAAC

DEPARTMENT OF ENGLISH

SYLLABUS, POs, PSOs & COs

CHOICE BASED CREDIT SYSTEM (2021-22)

Programme Outcomes

PO1. Domain Expertise:

- Gain thorough knowledge in the chosen domain and be able to apply it wherever necessary in an innovative manner.

PO2. Modern equipment Usage:

- Equip the students with modern technological skills, so that they are able to use software applications in their careers.

PO3. Computing Skills and Ethics:

- Students learn critical thinking and are able to analyse and solve problems rationally and ethically for communication, entertainment and for the benefit of mankind throughout ones endeavours for the wellbeing of human race.

PO4. Complex Problem Investigation & Solving

- Learn to analyse the problem, frame hypotheses, interpret empirical data and execute action

PO5. Perform effectively as Individuals and in Teams

- Be able to contribute at individual level and as team member and prioritize institutional interest over individual

PO6. Efficient Communication & Life skills

- Learn efficient communication to express, listen, understand and project views in a convincing manner clearly and concisely

PO7. Environmental Sustainability

- Understand current environmental challenges faced by the country & propagate and follow environment friendly practices.

PO8. Societal contribution

- Develop the pride in volunteering to address societal issues *viz:* calamities, disasters, poverty, epidemics and involve voluntarily in social development activities at Regional , National, global levels.

PO9. Effective Project Management

- Identify the goals, objectives and components of a project and then implementation so that deadlines are achieved, even when there are setbacks.

Program specific outcomes:

- Help the students to create the ability to distinguish and understand the various genres like short fiction, prose, poetry and drama
- Helps the students for all academic purposes including writing project reports, Newspaper Reports.
- Student experience the pleasure of reading
- Strengthen the writing skills for specific purposes
- Soft skills helps to mould the inherent attitudes
- Students can identify common communication problems

Government Degree College for Women, Begumpet

(Autonomous - Affiliated to Osmania University)

Subject: English (First Language)

BA/B.Sc/B.Com and other UG courses

With effect from: AY 2021–22

Credits 4 **4 hours of instruction per week**

Prescribed textbook for Semesters I and II: ***The English Turf***, edited by C. Muralikrishna and Y.L. Srinivas, published by Orient Blackswan, 2021.

SEMESTER I

Unit 1

POEM: 'In the Bazaars of Hyderabad' by Sarojini Naidu × PROSE: 'The Eyes are Not Here' by Ruskin Bond × VOCABULARY: Word Roots × GRAMMAR: Nouns × SPEAKING: Getting Someone's Attention and Interrupting × POST- READING: Creativity

Unit 2

POEM: 'If–' by Rudyard Kipling × PROSE: 'On Saying Please' by A.G. Gardiner × VOCABULARY: Prefixes and Suffixes × GRAMMAR: Pronouns × SPEAKING: Giving Instructions and Seeking Clarifications × POST-READING: Interpersonal Skills

Unit 3

POEM: 'Ulysses' by Alfred Tennyson × PROSE: 'Seeing People Off' by Max Beerbohm
× VOCABULARY: Homonyms, Homographs, Homophones × GRAMMAR: Adjectives × SPEAKING: Asking for and Giving Opinions × POST-READING: Motivation

Unit 4

POEM: 'On His Having Arrived at the Age of Twenty-three' by John Milton × PROSE: 'Shyness My Shield' by M.K. Gandhi × VOCABULARY: Collocation GRAMMAR: Articles × SPEAKING: Agreeing and Disagreeing with Opinions × POST-READING: Self-analysis

SEMESTER II

Unit 5

POEM: 'The Felling of the Banyan Tree' by Dilip Chitre × PROSE: 'The Bet' by Anton Chekhov × VOCABULARY: Oxymoron and Hyperbole × GRAMMAR: Main Verbs and Tenses × WRITING: Paragraph Writing Essentials × POST- READING: Decision-making

Unit 6

POEM: 'A Walk by Moonlight' by Henry Derozio × PROSE: 'How the Coronavirus Sparked a Wave of Innovation in India' by Sreevas Sahasranamam × VOCABULARY:

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Loan Words × GRAMMAR: Auxiliary Verbs × WRITING: Sequencing × POST-READING: Holistic Health

Unit 7

POEM: 'A Different History' by Sujata Bhatt × PROSE: 'Nobel Lecture, 7 December 1993' (extract) by Toni Morrison × VOCABULARY: Portmanteau Words × GRAMMAR: Non-finite Verbs × WRITING: Descriptive Writing × POST-READING: Conflict Resolution

Unit 8

POEM: Lady Macbeth's Speech from *Macbeth* Act I, Scene 5 by William × Shakespeare × PROSE: 'How I Became a Public Speaker' (abridged) by G.B. Shaw × VOCABULARY: Simile and Metaphor × GRAMMAR: Adverbs WRITING: Argumentative Writing × POST-READING: Ethical Behaviour.

Course Objectives and outcomes

Semester I and II

Course Objectives

- To understand the varieties of cultures, languages, poetic diction, use of language, imagery, etc., through exposure to various Poems, Prose lessons and Short Stories.
- To acquire the knowledge of language skills, poetic diction, vocabulary and strengthen the writing and speaking abilities.
- To read and appreciate the prescribed literary selections for pleasure, and to analyze and interpret the given poem, essay, short stories for narrative technique and moral behind them.
- To apply the acquired knowledge of grammar and vocabulary to the real time situations through practice of conversation, writing activities and exercises.
- Student would be able to speak and write grammatically correct sentences on learning all parts of speech and tenses.

Course Outcomes

- It would enhance the language competence of the students.
- Students develop their creative writing skills through writing activities like paragraph writing, descriptive and argumentative writing.
- Students become self confident and would be able to speak confidently and sustain a conversation in any context.
- A positive mindset would be developed among the students by knowing about themselves, their strengths and the areas where they could develop themselves for a successful life.

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Government Degree College for Women, Begumpet
(Autonomous- Affiliated to Osmania University)

Department of English
General English (2021-22)
Scheme of Evaluation (Semesters I & II)

External Maximum marks: 60

- Section A: 20 marks (5 x 4 = 20 marks)
- Section B:16 marks (4 x 4 = 16 marks)
- Section C:24 marks (4 x 6 = 24 marks)

Duration of exam: 3 hours

Section A (20 marks) (20 X 1= 20)

- 5 questions of objective to be set from each unit
- All 4 units to be covered
- Each question carries 1 mark (1 x 20= 20 marks)
- All questions are compulsory.

Section B (16 marks) (4 X 4= 16)

- 6 questions of paragraph answers to be set.
- All 4 units to be covered
- Each question will carry 4 mark (4 x 4 = 16 marks)
- Answer any 4 out of 6 questions.

Section C (24 marks) (4 X 6= 24)

4 questions of essay answers to be set with internal choice

- All 4 units to be covered
- Each question will carry 6 mark (6 x 4 = 24 marks)
- All questions are compulsory.

Internal Maximum Marks – 40

- Average of two Internal Assessment Tests – 20 Marks
- Written Project with oral presentation – 10 Marks
- Multiple Choice Questions – 10 Marks

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General English (2021-22) Semester III Syllabus

B.A./B.Sc./B.Com and other UG Courses
Prescribed CBCS General English Textbook for Second Year Undergraduate Courses of Osmania University: *English in Use*: *A Textbook for College Students.*
Dr. T Vijay Kumar, Dr. K Durga Bhavani, Dr. YL Srinivas. Macmillan, 2020

Semester III

Credits 3 3 hours of instruction per week

Unit I	Poem Prose Vocabulary Grammar	Charlotte Bronte "Life" Rabindranath Tagore "A Wrong Man in Workers' Paradise" Synonyms, Antonyms Prepositions (including Prepositional Phrases) Degrees of Comparison
Unit II	Poem Prose	Kamala Das "Punishment in Kindergarten" R K Narayan "Toasted English"
	Vocabulary	British and American English (Common Words)
	Grammar	Voice
	Pronunciation:	Production of Sounds- Place and Manner of Articulation
Unit III	Essay Writing	Discursive Essay and Argumentative Essay
	Vocabulary	Idioms
	Grammar	Connectives Modals

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General English (2021-22)
Semester IV Syllabus

B.A./B.Sc./B.Com and other UG Courses
Prescribed CBCS General English Textbook for Second Year Undergraduate Courses of Osmania University: *English in Use*: *A Textbook for College Students.*
Dr. T Vijay Kumar, Dr. K Durga Bhavani, Dr. YL Srinivas. Macmillan, 2020

Semester IV

Credits 3 3 hours of instruction per week

Unit IV	Poem	As I Grew Older by Langston Hughes
	Prose	Grammar of Anarchy. (Excerpt) by B.R. Ambedkar
	Vocabulary	Phrasal Verb
	Grammar	Concord
	Pronunciation	Word Stress
Unit V	Poem	Alfred Tennyson "The Flower"
	Prose	Ruskin Bond "The Kitemaker"
	Vocabulary	Commonly Confused Words, Dictionary Skills
	Grammar	Determiners
Unit VI	Report Writing:	Business Reports, Media Reports
	Vocabulary	Technical Vocabulary (Business and Media)
	Grammar	Reported Speech (Including Reporting Verbs)
		Affirmative and Negative sentences

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General English (2021-22)
Scheme of Evaluation (Semester III and IV)

External Maximum marks: 60

- Section A:20 marks (10 x 2 = 20 marks)
- Section B: 16 marks (4x 4 = 16 marks)
- Section C: 24 marks (3x8= 24 marks)

Duration of exam: 3 hours

Section A (20 marks)

- 10 short answer questions to be set
- All 5 units to be covered
- Each question carries 2 marks (10 x 2 = 20 marks)
- All questions are compulsory, no choice

Section B (16 marks)

- 4 paragraph answer questions to be set.
- All 3 units to be covered
- Each question will carry 4 marks (4x4= 16 marks)
- Answer any 4 out of 6 questions.

Section C (24 marks)

- 3 essay answer questions to be set with internal choice.
- All 3 units to be covered.
- Each question carries 8 marks (3 x 8 = 24 marks)
- All questions are compulsory, no choice

Internal Maximum Marks – 40

- Average of two Internal Assessment Tests – 20 Marks
- Written Project with oral presentation – 10 Marks
- Multiple Choice Questions – 10 Marks

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General English (2021-22)

Semester V Syllabus

(With effect from AY 2021-22)

Prescribed textbook for Semesters V & VI: *English in Action: A Textbook for College Students*. Eds. T Vijay Kumar, K Durga Bhavani, YL Srinivas. Macmillan, 2021.

Semester V

3 Credits **3 hours of instruction per week**

Unit I	Poem	AK Ramanujan "Ecology"
	Prose	Henry Hitchings "What's the Language of the Future?" (Excerpt)
	Vocabulary	Indianisms
	Grammar	Framing Questions (including tag questions)

Unit II Gender Sensitization

A Note to the Teachers

Prose Poem	Jamaica Kincaid "Girl"
Prose	Emma Watson "Gender equality is your issue too"
Vocabulary	Analogy and Odd Word Out
Grammar	Verbs

Unit III	Writing Reviews	Film Review, Book Review
	Vocabulary	Technical vocabulary (Film, Literature)
	Grammar	Conditionals

Semester VI

Unit IV	Poem	Roald Dahl "Television"
	Prose	JK Rowling "The Fringe Benefits of Failure and the Importance of Imagination" (Excerpt)
	Vocabulary	One-word Substitutes
	Grammar	Relative Clauses

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Unit V Gender Sensitisation

	Poem	Elizabeth Ralph Mertz "Accomplishments"
	Prose	Chimamanda Ngozi Adichie "Third Suggestion"
	Vocabulary	Formal and Informal Vocabulary
	Grammar	Sentence Types
Unit VI	CV Writing	Chronological CV, Functional CV
	Vocabulary	Appropriacy
	Grammar	Common Errors

Semester V and VI

Course Objectives

- To enhance speaking, writing and reading skills.
- Improve language proficiency and minimize grammatical errors.
- To enable students to experience the pleasures of reading.
- To inculcate the habit of formal writing and achieve proficiency in writing.
- To highlight the need for Gender Equality.
- To make the students read the text with understanding and think beyond the text.

Course Outcomes

- The students would be equipped with language skills and critical thinking capabilities.
- Enables students to use English effectively in real-world contexts.
- Enriches students with vocabulary skills and making them use the right word at the right time.
- Provides wide exposure on appropriacy of language use in different contexts.

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Syllabus for SEC (Skill Enhancement Course) (2021-22)
Communication Skills in English

Credits 2 **Hours per week 2** **Total: 30 Hours**

Context and Justification: Communication plays an important role in shaping an individual's life, personal as well as professional. Success in life to a considerable extent depends on effective communication skills. In today's world of computers and digital media, a strong communication skill base is essential for learners and also for smooth functioning of any organization.

Objectives of the Course:

- Identify common communication problems that may be holding learners back.
- Identify what their non-verbal messages are communicating to others.
- Understand the role of communication in teaching-learning process.
- Learning to communicate through the digital media.
- Understand the importance of empathetic listening.
- Explore communication beyond language.

THE SYLLABUS:

Module 1: Listening	4 Hours
Module 2: Speaking	6 Hours
Module 3: Reading	3 Hours
Module 4: Writing and different modes of writing	4 Hours
Module 5: Digital Literacy	4 Hours
Module 6: Effective use of Social Media	4 Hours
Module 7: Non-verbal communication	5 Hours

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Module Outline:

Module I: Listening

- Techniques of effective listening
- Listening and comprehension
- Probing questions
- Barriers to listening Module

Module II: Speaking

- Pronunciation
- Enunciation
- Vocabulary
- Fluency
- Common Errors

Module III: Reading

- Techniques of effective reading
- Gathering ideas and information from a given text
- Evaluating these ideas and information
- Interpret the text

Module IV: Writing and different modes of Writing

- Clearly state the claims
- Avoid ambiguity
- Provide background information
- Effectively argue the claim
- Provide evidence for the claims
- Use examples to explain concepts
- Follow convention
- Proper sequencing
- Well-structured sentences
- Use proper signposting techniques
- Different modes of Writing

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Module V: Digital Literacy

- Role of Digital Literacy in professional life.
- Trends and opportunities in using digital technology in workplace
- Internet Basics
- Introduction to MS Office tools

Module VI: Effective use of Social Media

- Introduction to social media websites
- Advantages of social media
- Ethics and etiquette of social media
- How to use Google search better
- Effective ways of using social media
- Introduction to Digital Marketing

Module VII: Non-verbal Communication

- Meaning of Non-verbal Communication
- Introduction to modes of Non-verbal Communication
- Breaking the misbeliefs
- Open and closed Body language
- Eye contact and facial expression
- Hand Gestures
- Do's and Don'ts
- Learning from experts
- Activity-Based Learning

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Government Degree College for Women, Begumpet

(Autonomous- Affiliated to Osmania University)

Syllabus for SEC (Skill Enhancement Course) (2021-22)
Professional Skills in English

Credits 2 Hours per week 2 Total: 30 Hours

Context and Justification: One of the outcomes of Higher Education is to prepare an individual for entering the employment market. Besides knowledge and skills required for a particular job, professional skills are also required for an individual to be gainfully employed for a successful life. An individual should be able to demonstrate intuitive, logical and critical thinking, communication and interpersonal skills not limited to logical and creative thinking. The career skills empower an individual with ability in preparing an appropriate resume, addressing the gaps for facing interviews and participating in Group Discussions.

Objectives of the Course: Career Skills and Team Skills

- Acquire career skills and pursue to partake in a successful career path..
- Prepare a good resume, prepare for interviews and group discussions.
- Explore desired career opportunities in the employment market in consideration of an individual SWOT.
- Understand the significance of Team skills and help in acquiring them.
- To help them design, develop and adapt to situations as an individual and as a team.

THE SYLLABUS: Career Skills

Module 1: Resume Skills	3 Hours
Module 2: Interview Skills	5 Hours
Module 3: Group Discussion Skills	4 Hours
Module 4: Exploring Career Opportunities.	3 Hours

THE SYLLABUS: Team Skills

Module 1: Presentation Skills	4 Hours
Module 2: Trust and Collaboration	2 Hours
Module 3: Listening as a Team skills	2 Hours
Module 4: Brainstorming	2 Hours
Module 5: Social and Cultural Etiquette	2 Hours
Module 6: Internal Communication	2 Hours

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Course 1: Communication Skills

Context and Justification :

Communication plays an important role in shaping an individual's life, personal as well as professional. Also it is the backbone of any organisation/institution. Success in life to a considerable extent depends on effective communication skills. In today's world of computers and digital media, a strong communication skill base is essential for learners and for smooth functioning of an organisation.

Objectives :

This course has been developed with the following objectives:

1. Identify common communication problems that may be holding learners back
2. Identify what their non-verbal messages are communicating to others
3. Understand role of communication in teaching-learning process
4. Learning to communicate through the digital media
5. Understand the importance of empathetic listening
6. Explore communication beyond language.

Expected Outcome :

By the end of this program participants should have a clear understanding of what good communication skills are and what they can do to improve their abilities.

Credit: 02

Duration: 30 Hours

Number & Titles of Modules:

Total of 7 Modules

Module 1	**Listening**	**4 Hours**
Module 2	**Speaking**	**6 Hours**
Module 3	**Reading**	**3 Hours**
Module 4	**Writing and different modes of writing**	**4 Hours**
Module 5	**Digital Literacy**	**4 Hours**
Module 6	**Effective use of Social Media**	**4 Hours**
Module 7	**Non-verbal communication**	**5 Hours**

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Module Outline :

Module 1: Listening **4 Hours**

- Techniques of effective listening
- Listening and comprehension
- Probing questions
- Barriers to listening

Module 2: Speaking **6 Hours**

- Pronunciation
- Enunciation
- Vocabulary
- Fluency
- Common Errors

Module 3: Reading **3 Hours**

- Techniques of effective reading
- Gathering ideas and information from a given text
    i. Identify the main claim of the text
    ii. Identify the purpose of the text
    iii. Identify the context of the text
    iv. Identify the concepts mentioned
- Evaluating these ideas and information
    i. Identify the arguments employed in the text
    ii. Identify the theories employed or assumed in the text
- Interpret the text
    i. To understand what a text says
    ii. To understand what a text does
    iii. To understand what a text means

Module 4: Writing and different modes of writing **4 Hours**

- Clearly state the claims
- Avoid ambiguity, vagueness, unwanted generalisations and oversimplification of issues
- Provide background information
- Effectively argue the claim
- Provide evidence for the claims
- Use examples to explain concepts
- Follow convention
- Be properly sequenced
- Use proper signposting techniques
- Be well structured
    i. Well-knit logical sequence
    ii. Narrative sequence
    iii. Category groupings

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- Different modes of Writing
    i. E-mails
    ii. Proposal writing for Higher Studies
    iii. Recording the proceedings of meetings
    iv. Any other mode of writing relevant for learners

Module 5: Digital Literacy **4 Hours**

- Role of Digital literacy in professional life
- Trends and opportunities in using digital technology in workplace
- Internet Basics
- Introduction to MS Office tools
    i. Paint
    ii. Office
    iii. Excel
    iv. Powerpoint

Module 6: Effective use of Social Media **4 Hours**

- Introduction to social media websites
- Advantages of social media
- Ethics and etiquettes of social media
- How to use Google search better
- Effective ways of using Social Media
- Introduction to Digital Marketing

Module 7: Non-verbal communication **5 Hours**

- Meaning of non-verbal communication
- Introduction to modes of non-verbal communication
- Breaking the misbeliefs
- Open and Closed Body language
- Eye Contact and Facial Expression
- Hand Gestures
- Do's and Don'ts
- Learning from experts
- Activities-Based Learning

Pedagogy : Instructor-Led Training, Supplemented by Online Platform (SWAYAM)

Materials : Teaching & Learning

Assessment : Paper-Based or Online Assessment

Bibliography &Suggested Reading including audio video material :

Books

- Sen Madhucchanda (2010), *An Introduction to Critical Thinking*, Pearson, Delhi
- Silvia P. J. (2007), *How to Read a Lot*, American Psychological Association, Washington DC

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Expected Outcomes :

At the end of this course the students will be able to:

1. Prepare their resume in an appropriate template without grammatical and other errors and using proper syntax
2. Participate in a simulated interview
3. Actively participate in group discussions towards gainful employment
4. Capture a self - interview simulation video regarding the job role concerned
5. Enlist the common errors generally made by candidates in an interview
6. Perform appropriately and effectively in group discussions
7. Explore sources (online/offline) of career opportunities
8. Identify career opportunities in consideration of their own potential and aspirations
9. Use the necessary components required to prepare for a career in an identified occupation (as a case study).

Duration: 15 Hours

Number & Titles of Modules:

Module 1	**Resume Skills**	**3 Hours**
Module 2	**Interview Skills**	**5 Hours**
Module 3	**Group Discussion Skills**	**4 Hours**
Module 4	**Exploring Career Opportunities**	**3 Hours**

Module Outline :

Module 1: Resume Skills — **3 Hours**

i. **Resume Skills : Preparation and Presentation**
- Introduction of resume and its importance
- Difference between a CV, Resume and Bio data
- Essential components of a good resume

ii. **Resume skills : common errors**
- Common errors people generally make in preparing their resume
- Prepare a good resume of her/his considering all essential components

Module 2: Interview Skills — **5 Hours**

i. **Interview Skills : Preparation and Presentation**
- Meaning and types of interview (F2F, telephonic, video, etc.)
- Dress Code, Background Research, Do's and Don'ts
- Situation, Task, Approach and Response (STAR Approach) for facing an interview
- Interview procedure (opening, listening skills, closure, etc.)
- Important questions generally asked in a job interview (open and closed ended questions)

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ii. **Interview Skills : Simulation**
- Observation of exemplary interviews
- Comment critically on simulated interviews

iii. **Interview Skills : Common Errors**
- Discuss the common errors generally candidates make in interview
- Demonstrate an ideal interview

4 Hours

Module 3: Group Discussion Skills

- Meaning and methods of Group Discussion
- Procedure of Group Discussion
- Group Discussion- Simulation
- Group Discussion - Common Errors

3 Hours

Module 4: Exploring Career Opportunities

- Knowing yourself – personal characteristics
- Knowledge about the world of work, requirements of jobs including self-employment.
- Sources of career information
- Preparing for a career based on their potentials and availability of opportunities

Pedagogy : Besides Face to Face lectures (theory would be limited only to 20% of the component and remaining 80% would be practical oriented), the focus would be primarily on blended /hybrid learning. This could include a flipped classroom approach that leverages project-based learning, demonstration, group discussion, simulations etc.

Materials : Audio video materials, Online Platform (SWAYAM), FutureSkills Platform, Used Cases & Case Studies etc.

Assessment: Online evaluation, demonstration, assignments : Some components could be aligned to NOS (SSC/N9005) IT-ITeS Sector . The questions posed to the students would be a mix of MCQs, scenario-based, logical reasoning, comprehension, simulations, etc. Do check the assessment model and sample assessment at (http://nac.nasscom.in/)

Bibliography & Suggested Reading including audio video material :
Please check IT-ITeS Sector Skills Council readiness programs namely

- Foundation Skills In IT (FSIT) - Refer the websites like https://www.sscnasscom.com/ssc-projects/capacity-building-and-development/training/fsit/ and
- Global Business Foundation Skills (GBFS) – Refer websites like https://www.sscnasscom.com/ssc-projects/capacity-building-and-development/training/gbfs/

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B. Team Skills

Objectives :

The objectives of the course is to make learners:

1. Understand the significance of Team Skills and help them in acquiring them
2. To help them design, develop and adapt to situations as an individual and as a team.

Expected Outcomes :

By the end of this course the learners/candidates will be able to:

1. Use common technology messaging tools that are used in enterprises for flow of information and transition from command and control to informal communication during an online/offline team session
2. Actively use and operate online team communication tools: Webinar, Skype, Zoom, Google hangout etc
3. Appreciate and demonstrate Team Skills
4. Participate in a digital lifestyle conversant with computers, applications, Internet and nuances of cyber security
5. Explore (online) and identify career opportunities in consideration of their own potential and aspirations.
6. Discuss and articulate the key requirements of an entrepreneurial exercise
7. Empathise and trust colleagues for improving interpersonal relations
8. Engage in effective communication by respecting diversity and embracing good listening skills
9. Distinguish the guiding principles for communication in a diverse, smaller internal world
10. Practice interpersonal skills for better relations with seniors, juniors, peers and stakeholders
11. Project a good personal image and social etiquette so as to have a positive impact on building of one's chosen career
12. Generate, share and maximise new ideas with the concept of brainstorming and the documentation of key critical ideas/thoughts articulated and action points to be implemented with timelines in a team discussion (as MOM) in identified applicable templates.

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Duration: 15 Hours

Number & Titles of Modules:

Module 1	**Presentation Skills**	**5 Hours**
Module 2	**Trust and Collaboration**	**2 Hour**
Module 3	**Listening as a Team Skill**	**2 hour**
Module 4	**Brainstorming**	**2 Hour**
Module 5	**Social and Cultural Etiquettes**	**2 Hour**
Module 6	**Internal Communication**	**2 Hour**

Module Outline :

Module 1: Presentation Skills **5 Hours**

- Types of presentations
- Internal and external presentation
- Knowing the purpose
- Knowing the audience
- Opening and closing a presentation
- Using presentation tools
- Handling questions
- Presentation to heterogenic group
- Ways to improve presentation skills over time

Module 2: Trust and Collaboration **2 Hours**

- Explain the importance of trust in creating a collaborative team
- Agree to Disagree and Disagree to Agree – Spirit of Team work
- Understanding fear of being judged and strategies to overcome fear

Module 3: Listening as a Team Skill **2 Hours**

- Advantages of Effective Listening
- Listening as a team member and team leader. Use of active listening strategies to encourage sharing of ideas (full and undivided attention, no interruptions, no pre-think, use empathy, listen to tone and voice modulation, recapitulate points, etc.).

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Module 4: Brainstorming **2 Hour**

- Use of group and individual brainstorming techniques to promote idea generation.
- Learning and showcasing the principles of documentation of team session outcomes

Module 5: Social and Cultural Etiquette **2 Hour**

- Need for etiquette (impression, image, earn respect, appreciation, etc)
- Aspects of social and cultural/corporate etiquette in promoting teamwork
- Importance of time, place, propriety and adaptability to diverse cultures

Module 6: Internal Communication **2 Hour**

- Use of various channels of transmitting information including digital and physical, to team members.

Pedagogy : Besides Face to Face Lectures (as theory would be limited only to 20% of the component and remaining 80% would be practical oriented), the focus would be primarily on blended learning/hybrid learning. This could include a flipped classroom approach that leverage project based learning, demonstration, group discussion, simulation as well as coaching, seminars and tutorials.

Materials : Audio video materials, Online Platform (SWAYAM), Future Skills platform

Assessment: Written evaluation, demonstration, assignments: Some components aligned to NOS (SSC/N9005) IT-ITeS . The questions posed to the students would be a mix of MCQs, Scenario-based, logical reasoning, comprehension, simulations, etc. Do check the assessment at website like (http://nac.nasscom.in/)

Bibliography & Suggested Reading including audio video material : Please check IT-ITeS Sector Skills Council readiness program namely Global Business Foundation Skills (GBFS) in website (https://www.sscnasscom.com/ssc-projects/capacity-building-and-development/training/gbfs/),and Generic and the entrepreneurial NOS at NSQF Level 4 -7.

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Government Degree College for Women, Begumpet
(Autonomous- Affiliated to Osmania University)

Skill Enhancement Course (SEC)
Communication Skills in English

Scheme of Evaluation (2021-22)

External Exam: 40 marks **Duration: 2 Hours**

- Section A: 10 marks (2x5= 10M)
- Section B : 30 marks (2x15 = 30M)

Section A

- 2 Questions to be answered from the given six. (2X5= 10M)
- Questions should be given from the total syllabus.
- Each question carries 5 marks.

Section B

- 2 questions to be set with internal choice (2X15=30M)
- Questions should be given from the total syllabus.
- Each question carries 15 marks

Internal examination: 10 marks

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GOVERNMENT DEGREE COLLEGE FOR WOMEN (A),
BEGUMPET
HYDERABAD-500016
(AUTONOMOUS)

DEPARTMENT OF TELUGU

SYLLABUS 2021-2022

Course Structure: BA/B.Com./B.Sc./BCA/BBA

Semester	Course Title	Course Type	No. of credits			
			L	T	P	Total
I	Poetry, Prose, and Basic Grammar	Core	2	2	-	4
II	Poetry, Prose, Stories and Prosody	Core	2	2	-	4
III	Poetry, Prose, History of Telugu Literature I, and Figures of Speech	Core	2	1	-	3
IV	Poetry, Prose, and History of Telugu Literature II	Core	2	1	-	3
IV	Communicative Skills	Certificate Course	2	-	-	2
IV	Communicative Skills	Certificate Course	2	-	-	2

Programme Outcomes:

PO1. Domain Expertise:

- Gain thorough knowledge in the chosen domain and be able to apply it wherever necessary in an innovative manner.

PO2. Modern equipment Usage:

- Equip the students with modern technological skills, so that they are able to use software applications in their careers.

PO3. Computing Skills and Ethics:

- Students learn critical thinking and are able to analyse and solve problems rationally and ethically for communication, entertainment and for the benefit of mankind throughout ones endeavours for the wellbeing of human race.

PO4. Complex Problem Investigation & Solving

- Learn to analyse the problem, frame hypotheses, interpret empirical data and execute action

PO5. Perform effectively as Individuals and in Teams

- Be able to contribute at individual level and as team member and prioritize institutional interest over individual

PO6. Efficient Communication & Life skills

- Learn efficient communication to express, listen, understand and project views in a convincing manner clearly and concisely

PO7. Environmental Sustainability

- Understand current environmental challenges faced by the country & propagate and follow environment friendly practices.

PO8. Societal contribution

- Develop the pride in volunteering to address societal issues *viz:* calamities, disasters, poverty, epidemics and involve voluntarily in social development activities at Regional , National, global levels.

PO9. Effective Project Management

- Identify the goals, objectives and components of a project and then implementation so that deadlines are achieved, even when there are setbacks.

Program specific outcomes:

After completing the graduation, Telugu students are able to:

PSO 1) How secured a woman needs to be in society

PSO 2) How must she deal with the injustice done to her

PSO 3) Logical Defence in critical situations

PSO 4) Innocence and Determination in Children

PSO 5) Purity and Obedience

PSO 6) What is known to be called wealth

PSO 7) All human relations are bound up with love

PSO 8) Poet shifts the paradigm of monarchic governance

First Semester **60Hrs**

(4hrs/week)

Course outcomes

CO 1) How secured a woman needs to be in society

CO 2) How must she deal with the injustice done to her

CO 3) Logical Defence

CO 4) Innocence in Children

CO 5) Determination

CO 6) Purity

CO 7) Obedience

మొదటి సెమిస్టర్ సిలబస్

యూనిట్ 1. ప్రాచీన కవిత్వం

1. శకుంతలోపాఖ్యానం -- నన్నయ

2. గొడగూచి కథ -- పాల్కురికి సోమనాథుడు

యూనిట్ 2. ఆధునిక కవిత్వం

1. కాసులు-గురజాడ అప్పారావు

2. రాజు - కవి -- గుఱ్ఱం జాషువా

3. జయభేరి-శ్రీశ్రీ

యూనిట్ 3.

మిత్రలాభం ప్రారంభం, లఘుపతనకము హిరణ్యకుని యొద్దకేగుట, పులికంకణము-బాటసారి, పావురములన్నియు వలలో దగులు కొనుట, హిరణ్యకుడు పావురములను విడిపించుట,

లఘుపతనకము హిరణ్యకుని సఖ్యము గోరి వచ్చుట,

మృగకాకముల కథ, జరద్గవము కథ, జింక-నక్క మోసము. (9 పేజీలు)

యూనిట్ 4.

వ్యాకరణం -- భాషాభాగాలు, పర్యాయపదాలు, నానార్థాలు, సంధులు, సమాసాలు, తెలుగు వాక్యం.

Second Semester
60Hrs(4hrs/week)

Course outcomes:

CO 1) One shouldn't have pride
CO 2) Only god could save us on verge of death
CO 3) Behaviour
CO 4) Personality Development
CO 5) Significance of Education
CO 6) Stay away from the wicked
CO 7) Greatness of our motherland
CO 8) Being conscious about the nation's development
CO 9) Letting the whole world know its glory

రెండవ సెమిస్టర్ సిలబస్

యూనిట్ 1. కవిత్వం

1. గజేంద్ర మోక్షం -- పోతన
2. సుభాషితములు -- ఏనుగు లక్ష్మణ కవి
3. జన్మభూమి -- రాయప్రోలు సుబ్బారావు
4. అంతర్నాదము -- దాశరథి కృష్ణమాచార్యులు
5. ప్రపంచ పదులు -- డా.సి.నారాయణ రెడ్డి

యూనిట్ 2.

1.ఎంకన్న -- ఆచార్య పాకాల యశోదా రెడ్డి
2.మామిడి పండు -- సురవరం ప్రతాపరెడ్డి

యూనిట్ 3.

మిత్రభేదం ప్రారంభం, వర్ధమానుడు వ్యాపారార్థమేగుట, పింగళకుడు, కరటక దమనకులు, కోతి - చేవదూలము, కుక్క - గాడిద,
ఉత్తమాధమ జీవితము, పండిత పామరుల భేదము, రాజసేవ,సేవావిధములు.
(11పేజీలు)

యూనిట్ 4.

ఛందస్సు -- ఉత్పలమాల, చంపకమాల, శార్దూలము, మత్తేభము, ఆటవెలది, తేటగీతి, సీసం, ద్విపద, కందం, ఉత్సాహం, తరళం, స్రగ్ధర, మహాస్రగ్ధర, ముత్యాల సరాలు

Third Semester

60Hrs(4hrs/week)

Course outcomes:

CO 1) Communication skills

CO 2) How to tackle tough situations

CO 3) Parenting

CO 4) Pampering

CO 5) Problems faced by such kids

CO 6) Students focus must be on their teacher

CO 7) A payback must teach a lesson but it shouldn't turn into a bloodsheding revenge

మూడవ సెమిస్టర్ సిలబస్

యూనిట్ 1. కవిత్వం

1. ధర్మజుని వాక్చాతుర్యం -- తిక్కన

2.గుణనిధి -- శ్రీనాథుడు

3. గురుదక్షిణ -- అంబటి లక్ష్మీ నరసింహ రాజు

4. గుడిసెలు కాలిపోతున్నై -- డా.బోయి భీమన్న

యూనిట్ 2. తెలంగాణ సాహిత్య చరిత్ర డా.సుంకిరెడ్డి నారాయణ రెడ్డి

1.శాతవాహన యుగం

2.చాళుక్య యుగం

3.కాకతీయ యుగం

4.పద్మ నాయక యుగం

యూనిట్ 3. అలంకారాలు

1.**శబ్దాలంకారాలు** - వృత్త్యనుప్రాస, ఛేకానుప్రాస, లాటానుప్రాస, అంత్యానుప్రాస, ముక్తపదగ్రస్తం, యమకం.

2.**అర్థాలంకారాలు** - ఉపమ, రూపక, ఉత్ప్రేక్ష, ఉల్లేఖ, అర్థాంతరన్యాస, శ్లేష, దృష్టాంత, స్వభావోక్తి.

Fourth Semester
60Hrs(4hrs/week)

Course outcomes:

CO 1) Jealous must gear up the competitive spirit among students
CO 2) None should think that they are undefeatable
CO 3) God graces knowledge upon us all
CO 4) Personality development
CO 5) Social responsibility
CO 6) Responsibility of the household
CO 7) We must will for the wellbeing of others
CO 8) Compassionate for people
CO 9) Humanity is the most important of all
CO 10) Grievance in our society has to be seen
CO 11) We need to realize what we are doing now without glorifying the past history

నాలుగవ సెమిస్టర్ సిలబస్

యూనిట్ 1. కవిత్వం

1. నారదగాన మాత్సర్యం -- పింగళి సూరన

2. నారసింహ శతకం -- శేషప్ప కవి

3. నరుడనేను,నరుడనేను -- కాళోజి

4. ఆర్తగీతం -- దేవరకొండ బాలగంగాధర తిలక్

యూనిట్ 2. వచన విభాగం

1. సి.పి.బ్రౌన్ సాహిత్య సేవ -- జానమద్ది హనుమచ్ఛాస్త్రి

2. కొండమల్లెలు -- ఇల్లిందల సరస్వతీ దేవి

యూనిట్ 3. తెలంగాణ సాహిత్య చరిత్ర-సుంకిరెడ్డి నారాయణ రెడ్డి

1. కుతుబ్ షాహీల యుగం

2. అసఫ్ జాహీలు - సంస్థానాల యుగం

3. సాహిత్యం (1724-1900)

4. ఆధునిక యుగం

5. తెలంగాణ ఆధునిక సాహిత్యం

రచనారీతులు:

మొదటి మరియు రెండవ సెమిస్టర్లలో

1. ఉపోద్ఘాతము

2. వ్యాసరచన

3. సంక్షిప్త రచన

4. విపులీకరణ

మూడు మరియు నాలుగు సెమిస్టర్ల లో

1. లేఖా రచన

2. కరపత్ర రచన

3. ప్రకటన రచన

4. సృజనాత్మక రచన