TARA GOVT.COLLEGE(A), SANGAREDDY.

PROGRAMME OUTCOMES/COURSE OUTCOMES

Programme Outcomes of BA

1. The BA Program enables the students acquire knowledge in the field of social sciences, literature and humanities which make them sensitive and sensible.

2. The graduates of BA will be acquainted with the social, economical, historical, geographical, political, ideological and philosophical tradition and thinking.

3. The program also empowers the graduates to appear for various competitive examinations or choose the post graduate programme of their choice.

4. The BA program enables the students to acquire the knowledge with human values framing the base to deal with various problems in life with courage and humanity.

5.The students will be ignited enough to think and act over for the solution of various issues prevailed in the human life to make this world better than ever.

6. Programme provides the base to be the responsible citizen.

Programme Outcomes of BCom

1. The BCom graduates would be able to acquire basic and fundamental knowledge and skills for doing business and commercial activities of their choice.

2. The program also empowers the graduates to appear for various competitive exams or choose a profession of their choice such as CA, CS, ICWA, MBA, M.Com etc.

3. The program enables the students to aquire the accounting knowledge, management principles, retail trading, banking and insurance transactions, business economics and financial management.

4. The students also acquire knowledge in the field of management accounting, corporate accounting, statistical and mathematical techniques and knowledge relating to corporate law and business laws.

5. The students become capable of doing a business of their chioce or chosing a profession or can become employees having basic knowledge and skill required for such activities.

Programme Outcomes of BSc

1. The BSc Programme develops scientific temperament and attitude among the science graduates.

2. The qualities of a science – observation, precision, analytical mind, logical thinking, clarity of thought and expression, systematic approach, qualitative and quantitative decision making are enlarged.

3. The program also empowers the graduates to appear for various competitive examinations or choose the post graduate programme of their choice.

4. This programme trains the learners to extract information, formulate and solve problems in a systematic and logical manner.

5. This programme enables the learners to perform the jobs in diverse fields such as science, engineering, industries, survey, education, banking, development-planning, business, public service, self business etc. efficiently.

BA/BSc/BCom English:

Course Objectives

The 20-credit, six-semester course seeks to enhance the English language skills of undergraduate students by

- Strengthening their grammar and vocabulary
- Improving their reading and writing skills
- Enhancing their listening and speaking skills
- Imparting to them important life skills and human values
- Encouraging them to think creatively and critically
- Exposing them to a variety of content-rich texts
- Expanding their emotional intelligence
- Developing gender sensitivity among them.

Course Outcomes

On successful completion of the 20-credit, six-semester course, an undergraduate student will be able to

• Read, understand, and interpret a variety of written texts
• Undertake guided and extended writing using appropriate vocabulary and correct grammar
• Listen with comprehension and speak with confidence in both formal and informal contexts with reasonable fluency and acceptable pronunciation
• Become employable with requisite professional skills, ethics and values.

BA Economics:

Objectives and Expected Outcomes of BA Economics:

The purview of Economics is widespread and it flanks almost every field related to human beings.

The Objectives of the BA Economics (UG) Course are:

1. To understand the nature and scope of Economics;

2. To appreciate and comprehend the changing paradigms of Economics;

3. To acquaint with the theories, approaches, concepts and principles of Economics;

4. To understand the role of Economics in the emergence and development of Telangana state and Indian Economy.

Expected Outcomes After study of the BA Economics; the learner should be able to:

- Appreciate the nature, scope and changing paradigms of Economics
- Grasp the economic policies, concepts and principles to make sense of Economics practices.
- The real understanding of the subject content of B.A. Economics help in the character building of students and makes them responsible citizens. They are exposed to national and international problems and hence they will have a thorough understanding of national and international economic events.

MA Economics:

Objectives and Expected Outcomes of M.A Economics:

THE OBJECTIVES OF THE M.A ECONOMICS (PG) COURSE ARE:

1. To understand the nature, scope and importance of Economics and to appreciate the changing paradigms of Economics;

3. To acquaint with the theories, approaches, concepts and principles of Economics and policies of various economies;

4. To understand the role of Economics in the emergence and development of Telangana state, Indian Economy and World Economy and to promote the students of Economics for higher studies in the fields of Economics, Business Administration and Computer Application, etc.

PROGRAM OUTCOME FOR M.A ECONOMICS:

The purview of Economics is widespread and it flanks almost every field related to human beings:

- The introduction, development and advancement of new subjects associated with economics and their analytical applications interpret many unknown behaviours of human beings.
- By the introduction of the conditions of rationality in the areas of Consumption, Production and distribution, it tries to nurture rational thinking.
- The students of Economics can go for higher studies in the fields of Economics, Business Administration and Computer Application after attaining post-graduation in economics.
- The subject matter of M.A Economics programme covers the fields of Demography, Agriculture, Industry, Planning and Development, Environmental Economics, Development Economics, Econometrics/Quantitative Techniques, Banking, Financial Markets, Public Finance, International Trade and

the functioning of international organisations such as IBRD (World Bank), International Monetary Fund, International Development Association, etc.

- Since these are the main subject content of State Level and National Level competitive examinations, banking service, railway service examinations and other competitive examinations, the students of Economics can easily crack such examinations and can become successful in getting employment opportunities.
- Completion of PG Degree in Economics with good knowledge open up research opportunities in the national level premier Educational Institutes like IITs, IISc, Delhi School of Economics, BITs Pilani, etc.
- The real understanding of the subject content of M.A. Economics help in the character building of students and makes them responsible citizens. They are exposed to national and international problems and hence they will have a thorough understanding of national and international economic events.

MSc Botany:

Course Objectives

• Students will gain and understand the Thallus structure,classification, reproduction useful nature indian flora

• Enhance and develop scientific research inbuilt among them

• Exposing them to interdisciplinary knowledge

• Learn about practical technique in lab for detail study of plants diversity

• Encouraging them to think creatively and critically

• Maintain a high level of scientific excellence in botanical research with specific emphasis on the role of plants.
• equip the students for competitive exams like CSIR NET, SET etc.
• Develop the attitude of writing research proposals for grants.

Course Outcomes

PROGRAM OUTCOMES OF POSTGRADUATE DEGREE PROGRAM IN BOTANY

Students would be benefited with knowledge of core subjects like plant diversity, physiology and biochemistry, embryology taxonomy molecular cytogenetic and application of statistics Bioinformatics etc. which are offered in these subjects Modules on analytical techniques, plant tissue culture and photochemistry would make them obtain skills in doing research. All the courses in the program are carefully designed to equip the students for competitive exams like CSIR NET, SET etc. and to write research proposals for grants.
• Enhance knowledge about phytogeographical thinking
• Best problem-solving skills in students would encourage them to carry out innovative research projects thereby making them to use knowledge creation in depth.
• Ability to convey the concept clearly that develops analytical and integrative problem-solving approaches.
• As a botanist aware of Environmental and Sustainability
• succeed in career opportunities and job opportunities

BSc Physics:

Outcome of B.Sc Physics

- Study the general equation of wave motion in general and TM waves in stretched strings and longitudinal waves in gases
- Learn the fundamentals of harmonic oscillator model, including damped and forced oscillators and grasp the significance of terms like quality factor and damping coefficient
- Learned conservation laws of energy and linear and angular momentum and apply them to solve problems
- Learn the basics of potentials and fields, central forces and Kepler's laws
- Fundamental ideas of special theory of relativity such as length contraction and time dilation and mass –energy invariance
- Study in depth about Polarization, bound charges and boundary condition.
- To become familiar with Blackbody radiation, Ultraviolet catastrophe,PhotoElectric effect and Compton Effect and hence be aware how quantum theory emerged
- Expected to gain knowledge of superconductivity,,its underlying principles and its applications in modern world
- Have a deep knowledge about Radio activity,nuclear Fission and Nuclear Fusion,the relevance of nuclear transformation.

MSc Physics:

Outcome of M.Sc Physics

- Detailed study the general equation of wave motion in general and TM waves in stretched strings and longitudinal waves in gases
- Study deeply harmonic oscillator model, including damped and forced oscillators and grasp the significance of terms like quality factor and damping coefficient
- Learned conservation laws of energy and linear and angular momentum and apply them to solve problems
- Learn more detailed about potentials and fields, central forces and Kepler's laws
- Detailed study of special theory of relativity such as length contraction and time dilation and mass –energy invariance
- Study in depth about Polarization, bound charges and boundary condition.
- Study in depth with Blackbody radiation, Ultraviolet catastrophe,PhotoElectric effect and Compton Effect and hence be aware how quantum theory emerged
- Expected to gain knowledge of superconductivity,,its underlying principles and its applications in modern world
- Study in depth about electronic components and its applications.

MA Telugu

Course Objectives

The 20-credit, four-semester course seeks to enhance the Telugu language skills of undergraduate students by

- తెలుగు భాషా నిర్మాణం, దాని వ్యాకరణం అవగాహన కలిగించడం.
- తెలుగు పద్యాలు, కథలు, వచన రచనల వల్ల భాషా సామర్థ్యాన్ని పెంచడం.
- పఠనం, రచనా నైపుణ్యాలను మెరుగుపరచడం.
- వినడం, మాట్లాడడంలో గల నైపుణ్యాలను మెరుగుపరచడం
- మానవజీవన పరమార్థాన్ని తెలుసుకొనేటట్లు చేయడం,
- దానివల్ల మానవీయ విలువలను పెంపొందేలా చేయడం.
- సృజనాత్మకంగా, విమర్శనాత్మకంగా ఆలోచించడానికి వారిని ప్రోత్సహించడం
- ఉత్తమ సాహిత్యాన్ని గుర్తించి, దాన్ని చదివేటట్లు ప్రోత్సహించడం
- సమాజాన్ని అవగాహన చేసుకోవడానికి, తగిన ఉపాధి అవకాశాల్ని సృష్టించుకునేలా చేయడం
- కుల, మత, లింగ, ప్రాంతీయ భేదాల్ని మనసులోకి రాకుండా జాతీయ సమగ్రతను పెంపొందేలా చేయడం.

Course Outcomes

On successful completion of the 20-credit, four-semester course, an undergraduate student will be able to

• ఈ కోర్సులు చదివిన తర్వాత తెలుగు భాషను స్పష్టంగా ఉచ్చరించగలుగుతున్నారు.

తెలుగు భాషలో వ్యాకరణ దోషాలు లేకుండా రాయగలుగుతున్నారు

పుస్తకాల్లో ఉండే భాషకూ, నిత్య వ్యవహారంలో ఉండే భాషకూ మధ్య గల భేదాలను గుర్తించగలుగుతున్నారు.

సందర్భోచితంగా తెలుగు భాషను ఔచిత్యమంతగా ప్రయోగిస్తున్నారు.

తెలుగు భాషలోకి వచ్చిన ఇతర భాషాపదాలను గుర్తించి, ఆదాన ప్రదానాల అవసరాన్ని చాటుతున్నారు

కవిత్వం, కథలు, వ్యాసాలు మొదలైన రచనలు చేయగలుగుతున్నారు.

ఉత్తమ రచనలను చదవడానికి ఆసక్తి చూపిస్తున్నారు.

తెలుగు పండుగలు, సంస్కృతుల్లో ఉన్న ప్రాధాన్యాన్ని తెలుసుకుంటున్నారు.
భారతీ జాతీయ సమగ్రతకు వివిధ భాషలు, భిన్న సంస్కృతుల సమైక్యతను గుర్తిస్తున్నారు.
ఉపాధి అవకాశాలను పొందగలుగుతున్నారు.
వ్యక్తిత్వ వికాసంతో పాటు, ఆత్మవిశ్వాసాన్ని ప్రదర్శిస్తున్నారు.

BSc Biotechnology

Course objectives

- To create competency, who can employ the knowledge to the applicability level.
- To provide broad training in technical and practical Skills.
- To make the biotechnologists, socially committed and adaptable to changing socio ethical implications.
- To nurture the young minds towards research in the field of Biological science.
- To create awareness about the opportunities and potentials of the biotechnology field.
- To generate quality workplace, leading to holistic understanding of the practices in Biotechnology.

Course outcome: On successful completion of the B.Sc. Biotechnology Course, the students will be

- Empowered with the ability to think, solve the biological problems with innovative ideas.
- Responsible biotechnologists, who can explore the interdisciplinary professions in the related field.
- Updated with latest technologies, current scientific research areas and latest web based information.
- They are encouraged to pursue career in research and development.

Statistics for BA/BSc and other UG Courses

Course Objectives

The 30-credit, six-semester course seeks to enhance the Statistics of undergraduate students by

- Statistics help to design data collection plans, analyze data appropriately and interpret and draw conclusions from those analyses.
- The central objective of undergraduate major in statistics is to equip students with consequently requisite quantitative skills that they can employ and build in flexible ways.
- Learning concepts and tools of working with data and have experience in analyzing real data.
- Have a good knowledge in the fundamentals of probability theory, statistical reasoning and inferential methods, statistical computing, statistical modelling and its limitations and have skill in description, interpretation and exploratory analysis of data by graphical and other means.
- This course has aims provide a practical approach to in the use of statistics in order for the students to gain an understanding about basic statistical theory.

Course Outcomes

It is intended for the student to gain an understanding:

• How to use computers to undertake statistical tasks.

•How to explore and understand data.

• How to display data.

.How to use and select basic statistical hypothesis tests

.Knowing the statistical techniques and have some basic understanding of statistics is useful in daily life.
.Know what a statistical model is and why we use them.
.Know what the 'fit' of model is and why it is important.
.Distinguish models for samples and populations.
• How to investigate the relationship between variables about statistical confidence intervals.

BSc Mathematics

Course Objectives

1.The course differential calculus is aimed at exposing the students to some basic notions in differential calculus.
2.To understand the maximum and minimum behavior of a function of two variables.
3. Introduce students to how to solve linear Partial Differential with different methods.
4. To understand Different indeterminate forms of limit.
5. To train and apply their skills in solving some of the problems of engineering and science

6. Create and analyze mathematical models using higher order differential equations

7. The course differential equations are aimed at exposing the students to the foundations of analysis which will be useful in understanding various physical phenomena.

8. Students learn to describe some of the surfaces by using analytical geometry.
9. The main objective of numerical analysis course is to provide students with an introduction to the field of numerical analysis and errors approximations

10. Vector Calculus describes the use of Stokes' theorem to give a physical interpretation of the curl of a vector field and use the divergence theorem to give a physical interpretation of the divergence of a vector field.

Course Outcomes

1. An undergraduate student will be able to learn about the basic principles of multi-variable calculus with proofs
2. Apply partial derivative equation techniques to predict the behavior of certain phenomena.
3. Apply specific methodologies, techniques and resources to conduct research and produce innovative results in the area of specialization.
4. To know Relationship between the increasing and decreasing behavior of function and the sign of function

5. After learning the course the students will be equipped with the various tools to solve few types differential equations that arise in several branches of science

6. Student will be able to solve first order differential equations utilizing the standard techniques for separable, exact, linear, homogeneous, or Bernoulli cases.

7. After the completion of sequence/series students will be in a position to appreciate beauty and applicability of the course.

8. Characterize a set of vectors and linear systems using the concept of linear independence.
9. Students understand the concepts & advance topics related to two & three dimensional geometry and applications of Conics.

10. Students proficient in implementing numerical methods for a variety of multidisciplinary applications.

MSc Mathematics

Course Objectives

1. The course Mathematical analysis describe fundamental properties of the real numbers that lead to the formal development of real analysis and construct rigorous mathematical proofs of basic results in real analysis.

2. The course Mathematical methods describes the connections between the mathematical series and other scientific and humoristic disciplines.

3. Elementary Number Theory is the study of the basic structure and properties of integers and helps improving one's ability of mathematics

4. The course Galios theory explains the fundamental concepts of advanced algebra and their role in modern mathematics and applied contexts.

5. Discrete mathematics demonstrates the ability to write and evaluate a proof.

6. Study of Complex Analysis appreciates the existence of special functions and their use in a range of contexts.

7. Understand to apply the general principles of measure theory and integration in such concrete subjects as the theory of probability or financial mathematics.

8. Develop the skills while doing/solving the various problems by using integral equations in all engineering sciences and etc.

9. Develop a working knowledge of concepts and methods related to designing and managing operations and supply chains by the study of operation research.

10. Apply problem-solving using functional analysis technique applied to diverse situations in physics, engineering and other mathematical context.

Course Outcomes

At the end of the programme, the students will be able to:

1. Apply knowledge of Mathematics, in all the fields of learning including higher research and its extensions.
2. Innovate, invent and solve complex mathematical problems using the knowledge of pure and applied mathematics.
3. To solve one dimensional Wave and Heat equations employing the methods in Partial Differential equations.
4. To develop problem-solving skills and apply them independently to problems in pure mathematics.
5. To develop abstract mathematical thinking.
6. Demonstrate familiarity with emerging mathematical techniques appropriate in banks and other financial institutions.
7. Master course that form the academic pillars .
8. Crack lectureship and fellowship exams approved by UGC like CSIR – NET and SET.

B.Sc. Zoology

Course Objectives

The 36-credit, six-semester course seeks to enhance the knowledge, understanding of subject and to improve the skills of drawing, doing dissections, conducting experiments and applying the acquired knowledge in day to day life of undergraduate students by

- Strengthening the knowledge of the structural, physiological, bio-chemical and molecular aspects of biological entities
- Encouraging them to apply the acquired knowledge to lead a healthy life

 Making them understand the diversity of fauna and appreciating the beauty of it

 Sensitizing them to understand the interdependency of the biotic and abiotic components of the ecosystems

• Developing the proactive attitude towards the conservation of bio-diversity and envioronment

• Imparting to them the skills of drawing, conducting scientific experiments and doing dissections

• Encouraging them to develop interest in future prospects of animal sciences and build a career in that field

• Enhancing their ability to acquire the best of the knowledge from various information resources

• Exposing them to a variety of issues and encouraging them to try to get solutions of those issues by giving project works

• Expanding their understanding of origin of life and organic evolution

• Inculcating scientific attitude

Course Outcomes

On successful completion of the 36-credit, six-semester course, an undergraduate student will be able to

 Gain the knowledge of structural, physiological, bio-chemical and molecular aspects of humans and other animals

 Explain the Underlying reasons of various diseases and disorders

 Utilize the acquired knowledge to stay healthy and fit

 Perform some basic scientific experiments

 Appreciate the beauty of the faunal diversity

 Committed to conserve the bio-diversity and environment

 Equipped with requisite referral abilities to enhance the knowledge and understanding of the subject

 Become employable with requisite professional skills

 Understand the philosophy of life

BA Public Administration

Course Objectives

- Make the learner to understand the nature and the role of public administration

  In the changing socio economic and political context and the historical background
- Understand the impact of political dynamic on administrative processes;

  Relate the role of public administration to the dynamic global context;
- Motivate the students to appear for civil service examinations.

Expected Outcomes

- Appropriate the nature, scope and changing paradigms of public administration ; Understand the synthesizing nature of knowledge of public administration from Public prospective
- Grasp the administrative theories, concept and principles to make sense of Administrative practices.
- Understand the Indian administration role as the main instrument of state to Achieve its departmental goals;
- Appreciate the varying historical, socio- economic, political and other Conditioning factors that gave Indian administration

- Unravel the varying methods of performance assessment of public Institutions; and
- Appreciate the changing paradigms of human resource management. Critically appreciate the relationship of local governance and development; Understand the processes and result of system of delivery of welfare programmes

B.A Political Science

Course objectives

Develops understanding the content and significance of political ideas and the role of formal and informal institutions, power, authority and the operation of society.

Enables an understanding of the fundamental principles and theories of politics which include foundations of political community, the structure and process of government, citizenship and forms of political participation, and the public policy process.

Gain an understanding of current political issues and concerns and their impact upon the contemporary political environment.

Understand the decisions human beings make in political settings, including those regarding the forms of government available and understand the philosophical underpinnings of political systems, major ideologies, and political parties.

Foster an understanding of political methodology and analysis and the ability to construct basic political theories used to explain political and governmental behaviour.

Develop the ability to research, analyse, and evaluate political data and information

Develop the ability to communicate effectively and clearly in written and oral form.

The student develops and utilizes the techniques of critical thought.

Course outcome

Students acquaint with the theories, approaches, concepts and principles of political theory.

understand the philosophy of Indian constitutions. know the salient features in making of Indian constitution To understand the constitutional orderings and institutional arrangement.

understand the nature, methods and significance of political thought and analyse the theory of ancient & medieval political thought of Greek and India.

understand the evolution, scope and significance of international relations and the rise of sovereign state system. To acquaint with the international organizations and their modules nations.

Students completing the requirements for a B.A. degree in Political Science will be able to:

write clearly and with purpose on issues of international and domestic politics and public policy;

participate as a civically engaged member of society;

Analyse political and policy problems and formulate policy options;

Demonstrate critical thinking, including the ability to form an argument, detect fallacies, and martial evidence, about key issues of public policy and politics

Discuss the major theories and concepts of political science and its subfields; andDeliver thoughtful and wellarticulated presentations of research findings.

M.A Political Science

Course objectives

provides an opportunity to a student to know the political ideas in ancient, medieval and modern periods reflecting India's diversity, pluralism in social, political and economic spheres.

Enhance the students' understanding of politics, state, government, democracy, development, civil society, parties and interest groups, social movements from a comparative perspective

It provides understanding on the historical processes, the agencies and social forces that contributed to the formation of Telangana state

It teachesthe significance of Regionalism from a theoretical perspective; provides a brief historical overview of the origin and evolution of several regional organizations; their challenges and the areas of concern.

The course deals with the perspectives of decentralization, institutional aspects

Understand the global environmental issues and the national environmental policies.

It introduces the students to the theoretical perspectives, provides them global and national level, institutional level and developmental mechanisms of human rights

The course provides Social Science research perspective to the students.

Aims at providing a comprehensive view of issues, policy making processes, decision making related to policy matters

A student of this course studies India's Foreign Policy; its determinants; the role played by different institution in the policy formulation as well as implementation.

The course seeks to bring out various aspects of politics and media relationship. It begins with conceptual understanding of relationship between the two.

. Course has immense potential in the political, economic, business and trade offices of the Corporate and Ministries. There is a great potential for employment in the government and the voluntary sector.

If the region specific language skills are acquired, it can offer employment in translation departments and business hours also.

Potential for further research in non-governmental sectors, both nationally and globally.

Job potential in the district level, state and central level and Disaster Management divisions

Encourage students to take up research in the area and may provide an opportunity as join as consultants to NGOs and law firms.

Computer Science and Applications

(BA CA/BSc CS/BCom CA and other UG Courses)

Course Objectives

- Communicating computer concepts and solutions effectively to address the gap between experts in the computer industry and business leaders to create and promote innovation
- Using their understanding of computing concepts and mathematical theory effectively to establish sustainable solutions to current and potential challenges in computing.
- Showing their computing knowledge through corporate leadership, entrepreneurship, and/or advanced graduate research within the computing community
- Develop and incorporate systems and/or processes focused on solutions that resolve problems and/or improve current systems within a computing-based industry.

Course Outcomes:

Outcome 1 - Communication

Students can communicate in written and oral forms, in order to demonstrate clearly, logically and critically their ability to present information.

Outcome 2 - Mathematics and Theory

In solutions for common calculation applications such as the computing order of an algorithm, students may use mathematical and computational theoretical concepts.

Outcome 3 - Programming

Students can complete small-to-mid-size programmes on their own successfully. Good practises such as good variable names, the use of computer units, appropriate comments strategies will require sufficient programming skills.

Outcome 4 - Systems Design and Engineering

Students can use system design ratings appropriately and apply system design engineering to design, plan and implement software systems.

Outcome 5 - Depth of Knowledge

Students show a depth of expertise suited for studying and/or lifelong learning in a self-chosen field of computing. Students should be able to read materials beyond those assigned to the course for understanding in that area.

Outcome 6 - Preparation for Career and/or Graduate Study

Students are prepared either for their careers in business or industry oriented information technology or for their degree programmes in computer science or other scientific or technical fields.

BSc Botany

Course Objects

- Imparting knowledge about the structure, function, classification and evolution of plants.
- Creating awareness about the plant names and their uses.
- To develop a strong foundation in plant sciences (taxonomy, anatomy, plant pathology, microbiology, plant physiology, plant biochemistry, ecology, cytology, genetics, molecular biology and plant biotechnology).

- Providing training in scientific skills through study projects, written work, seminars and supervisions.
- To encourage students towards scientific research.
- Enhancing creative thinking, professional skills, ethics and values.

Course Outcomes

Students who successfully complete this course will be able to

- Identify plants and their role in various environments
- Apply practical skills in the field and laboratory experiments
- Having knowledge about biodiversity exploration, estimation and conservation.
- Succeed in Career opportunities and job opportunities.

BSc Chemistry

Course Objectives

1. To understand the shapes of different aspects of Chemical bonding.
2. To understand basic principles of structural aspects of Organic chemistry.
3. To understand the states of matter and their properties.
4. To understand the principles of qualitative analysis of salts.
5. To understand the concepts of elementary quantum chemistry.
6. To understand the properties of inorganic compounds.
7. To understand importance of d-block elements.

8. To understand the synthesis and chemical reactivity of organic compounds.
9. To understand the principles of electrochemistry.
10. To understand the concepts of titrometric estimations.
11. Students will be able to understand the importance of f-block elements.
12. To understand the concepts of coordination complex formation.
13. To understand synthesis and properties of organic compounds.
14. To understand basic concepts of thermodynamics.
15. To understand the synthetic approaches of organic compounds.
16. To understand the concepts CFT and HSAB.
17. To study importance of metals in biosystems.
18. To understand the chemistry of bio-molecules and aminoacids.
19. To understand the concepts of chemical kinetics and photochemisty.
20. To study about colloids and bonding in metals.
21. To understand the concepts of molecular spectroscopy.
22. To understand different types separation techniques.
23. To understand the physico-chemical analytical technique.
24. To study the reaction mechanism of organic reactions.
25. To study the drug-disease relations.
26. To study the enzymatic kinetics.
27. To learn the organic synthesis of drugs.
28. To study the importance of Vitamins and hormones.

Course Outcomes

Upon successful completion of this course, the student will be able to

1. Able to evaluate bonding aspects of compounds.
2. Able to answer structural impact on properties of organic compounds.
3. Able to calculate bond order of different molecules.
4. Able to draw MO digrams of different molecules.
5. Able to analyze cationic anionic counter parts of inorganic salts.
6. Able to tell the importance of inorganic chemicals in chemical recations.
7. Able to analyse the concepts behind the peculiarity of d-block elements.
8. Able to calculate EMF, pH and Gibbs free energy using electrochemistry conecpts.
9. Able to write for the synthesis of simple organic compounds.
10. Able to estimate carbonate and bicarbonate in given sample practically.
11. Students should be able to describe peculiarity of f-block compounds.
12. Students should be able to calculate EAN and describe isomerism of given coordination complex.
13. Students should be able write the simple organic reactions.
14. Students will be able to solve basic numerical problems on applications of thermodynamics.
15. Students will be able to synthesize simple organic compounds.

16. Recognize and draw structures of different forms of glucose and fructose and amino acids.
17. Will be able to calculate CFSE.
18. Will be able to calculate rate constants of different order reactions.
19. To be able to analyze given organic sample to determine its functional group.
20. The students will be able to aelucidate the structure of given compound using Molecular spectroscopy.
21. Students will be able to explain how the mixtures will be separated using chromatography.
22. To be able to analyse the sample using physico-chemical analytical techniques practically.
23. The students will be able to explain the chemotherapeutic approaches.
24. The students will able to elaborate the impact of chemistry on day to day life.
25. To be able to explain the role of biologically active chemicals on human body.

MSc Organic Chemistry

Programme Objectives

- To demonstrate broad knowledge of descriptive Chemistry.
- To impart the basic analytical and technical skills to work effectively in thevarious fields of chemistry.
- To motivate critical thinking and analysis skills to solve complex chemical
    - problems, e.g., analysis of data, synthetic logic, spectroscopy, structure and

- modeling, team-based problem solving, etc.

- To demonstrate an ability to conduct experiments in the above sub-disciplineswith mastery of appropriate techniques and proficiency using core chemicalinstrumentation and modeling methods.
- To demonstrate the ability to perform accurate quantitative measurementswith an understanding of the theory and use of contemporary chemicalinstrumentation, interpret experimental results, perform calculations on theseresults and draw reasonable, accurate conclusions.
- To develop skills in quantitative modeling of static and dynamic chemical
- systems.
- To develop laboratory competence in relating chemical structure tospectroscopic phenomena.
- To demonstrate the ability to synthesize, separate and characterizecompounds using published reactions, protocols, standard laboratoryequipment, and modern instrumentation.

Programme Outcomes

- On successful completion of this Programme, students will have the ability to:
- Think critically and analyze chemical problems.
- Present scientific and technical information resulting from laboratoryexperimentation in both written and oral formats.
- Work effectively and safely in a laboratory environmentuse technologies/instrumentation to gather and analyze data.
- Work in teams as well as independently.
- Apply modern methods of analysis to chemical systems in a laboratorysetting.

BSc. Electronic:

Course outcomes

By the completion of the course the following outcomes are expected from the students

1. To empower students to apply knowledge and logic of mathematics in the area of electronics.
2. To empower students to learn the skills of designing and conducting electronics experiments, as well as to analyze and interpret data.
3. To encourage students to design and manage electronic systems or processes that conforms to a given specification within ethical and financial constraints.

4. To enable students to develop the ability to identify, formulate, solve and analyze the problems in various branches related to electronics.

5. Ability to communicate effectively in term of oral and written communication skills related to discipline.

6. Encourage to develop the skill of lifelong learning.

Ability to use techniques, skills and modern technological/scientific/software/tools for professional practices

BSc Microbiology

The key need of today's Globalized society is mentoring the younger generation specifically the students in a way they are equipped with Knowledge, skills, mind sets and behaviours which may guide them to perform their duties in a manner to become important contributors to the development of the Nation. The education systems also enable the training for earning a decent living so that the overall standards of human societies should improve.

The Branch of biology which deals with study of microorganisms like Bacteria,Viruses, Fungi, algae, Cyanobacteria, protozoa and prions. Microbes play a vital role in today's life from causation of deadly diseases in human's animals and plants to production of highly useful products like antibiotics, enzymes, alcohols, fermented foods and recycling of dead, decaying organic matter in nature. As the above mentioned

Program Outcome:

This graduation program is aimed at Critical thinking, improving the problem solving ability and analytical reasoning specifically in the field of Microbiology which can further applied to Society.

This is a versatile graduation program which enables the students to learn both theory and Practical skills to improve the the quality of human lives in relation to environment, fighting diseases and to exploit the microbes in agriculture, Medicine, food and industrial Microbiology fields.

1. General Microbiological techniques- like preparation of culture media, inoculation techniques, sterilization methods, pure culture isolation techniques, staining methods etc.

2. Microbial metabolism and molecular biology techniques like measuring bacterial growth curve, factors affecting bacterial growth, Colorimetric estimations of DNA,RNA, Proteins, Isolation of chromosomal and plasmid DNA etc…

3. Immunological and Medical Microbiological experiments like Blood Groups, RBC, WBC counts, Hb estimation, Biochemical fermentation tests for identification of bacteria, Isolation and identification of individual microbial sps up to Genus level.

4. Experiments related to Applied Microbiology like Isolation and enumeration of rhizosphere organisms, estimation of alcohols, citric acid production, observation of different spoiled foods, determination of BOD etc.