STATISTICS

The B.O.S of statistics meeting is held at 11.00AM 19-08-2016 under the chairmanship of Dr. A. Arunkumar, H.O.D of Mathematics and statistics to discuss the following agenda.

1. Approval of Syllabus
2. Approval of model question Paper
3. Approval of Panel of Examiners
4. Any other matter.

All the members discussed about the syallabus and patteren of Internal and Semester End Examinations and unanimously resolved the following.

1. All the members unanimously approved the title of Syllabus for Semester I and Semester-II under C.B.C.S Patteren.

Theory

Semester - I

Title: Descriptive Statistics and Probability

Semester: II

Title: Probability Distributions

Practicals:

Semester: I

Descriptive Statistics and Probability

Semester: II

Probability Distributions

Pattern of Examination:

2) Theory Pattern 80 marks Semester end Exam; 3 hrs duration and 20 marks for Internal Examination for both Semesters.

3) It is decided to conduct the internal Examinations twice for each ~~Semester~~ Semester.

4) Theory Examination Model Paper:

~~Part~~ Each question paper having two Parts

In Part-I 8 questions are to be set out which 6 questions are to be answered. Each question carries 4 Marks (6×4 = 24 marks)

Part-II Consist of 4 ~~questions~~ Sections, 8 questions are to be given Setting 2 questions from each Section and student is asked ~~from~~ to answer four questions choosing one from each Section, each question carries 14 marks (4×14 = 56 marks) Therefore the total marks are 80 for Theory examination.

5) Pattern of Internal Examination:

20 marks are allocated to each internal Examination. The question Paper consists of 6 questions, out of which only 5 questions should be answered 5×4 = 20 Marks.

I st Internal Examination is conducted from Units I and II.

Second Internal Examination is conduct from Units III and IV.

(6) Patteran of Practical Examination

It is ~~dec~~ resolved to conduct Practical examinations at even Semesters only.

~~Eorver~~

Practical question Paper consists of 10 questions selecting Five (5) from each Semester. The student should answer 6 (Six) questions choosing atleast 2 (Two) from each Semester.

6×10 = 60 Marks.

Viva	20 Marks
Record	20 Marks
Total	100 Marks.

(7) The following Panel of Examiners are appointed

1. Boina Jhansi, Singaraoni Collegiate Women's Degree College, Kothagudem.
2. K. Koteswara Rao, Kavitha Degree and P.G College, KMM
3.

Signatures of the members.

1. Dr. T. Arun Kumar
2. U. Naga Rekha Rani
3. K.V.R. Kanaka Durga
4. Singireddy Jeevan Reddy
5. Janapati Ramakrishna

2017 - 18

7

The B.O.S of statistics meeting is held at 11.00 AM 29-06-2017 under the chairmanship of Dr. A. Arun kumar HOD of Mathematics and statistics to discuss the following agenda

1. Approval of Syllabus
2. Approval of model question paper
3. Approval of panel of Examiners
4. Any other matter

All the members discussed about the syllabus and pattern of Internal and Semester End Examinations and unanimously resolved the following.

1. All the members unanimously aproved the title and syllabus for semester III and IV under C.B.C.S pattern

Theory:-

Semester - III
Title: Statistical Methods

Semester - IV
Title: Statistical Inference

Practicals:-

Semester - III
Title: Statistical Methods

Semester - IV
Title: Statistical Inference

2. The pattern of theory, practical and Internal Examination, model papers are aproved same as in the BOS meeting of academic year 2016-17.

3. The following panel of Examiner are approved

1) Boina Jhansi, Singareni colleries womens degree college, Kothagudem
2) K. Koteshwar Rao, Kavitha degree and PG college, Khammam

Signatures of the Members:-

1) Dr. T. Arun Kumar
2) V. NagaRekhaRani
3) K.V.R. Kanaka Durga
4) Singireddy Jeevan Reddy
5) Ganapati Ramakrishna

SR& BGNR Govt. Arts & Science College(Autonomous)
Khammam-507002
Department of Statistics (AD-HOC)
Board of Studies in Statistics(2018)

S.No.	Category	Name&Designation of the person	Member/Chairman
I	Head of The Department	V.Sambasiva Rao Head of the Department Department of Mathematics & Statistics	Chairman
II	The faculty of each specialization	1)K.V.R.Kanaka Durga Lecturer in Statistics 2)K.Srinivas Lecturer in Mathematics 3)B.Venkateswara Rao Lecturer in Mathematics	Member
III	Two experts in the subject from outside the college to be nominated by Academic Council	1)Boina Jhansi Rani Lecturer in Statistics Singareni Colliries Women's Degree College, Kothagudem 2) Janapati Ramakrishna Lecturer in Statistics Gayathri Degree College Khammam	Member
IV	One expert to be nominated by the Vice-Chancellor from a panel of six recommended by the college Principal	----------	Member
V	One representative from industry/corporate sector/ allied area relating to placement	The District Employment officer Khammam	Member
VI	One Postgraduate meritorious Alumni	_____	Member

Sign. of the Principal

PRINCIPAL
SR&BGNR Govt.Arts & Science College
(N.A.A.C Accredited at 'B')
KHAMMAM 507 002

2018-19

The B.O.S meeting of Statistics is held on 18.06.2018 at 12.30PM in Department of Mathematics under the Chairmanship of Sri V. Sambasiva Rao, H.O.D Mathematics and Statistics to discuss the following agenda.

1. Approval of Syllabus
2. Approval of Model question Paper
3. Approval of Panel of Examiners.
4. Any other matters -

All the members discussed about the Syllabus and Patterns of Internal and Semester End examinations and Unanimously resolved the following.

1. All the members unianimously approved the title and Syllabus for Semester V and VI under C.B.C.S Patterns.

Theory Paper: Semester - V.

Title: Applied Statistics - I (Core)

Practical: Applied Statistics - I

Elective: I For V-Semester

Statistical Quality Control and Linear Programming.

Practical: SQC and LPP.

Semester – VI

Theory : Applied statistics – 2 (core)

Practical: Applied statistics – 2

Elective: II Operation Research and Reliability

Practical: Operation Research and Reliability

2) The Pattern of Theory, Practical and Internal Examination, model Papers are approved same as in the BOS meeting of academic Year 2016-17.

3. The following Panel of Examiners are approved.

1. Singireddy Jeevan Reddy
K.M.D.C KMM

2. K. Koteswara Rao Kakatiya Degree and P.G College KMM

Signatures of members:

1. V. Sambasiva Rao Hodal Chairman
2. K V R. Kanaka Durga
3. K. Srinivas
4. B. Venkateshwara Rao –
5. Bonia Thanda Rai –
6. Janapati Ramakrishna
7. The District employment Officer.

2019-20

13

The BOS meeting of statistics is held at 12.30 on 10-07-19 in Department of Mathematics under the chairmanship of Sri V. Sambasiva Rao, H.O.D Mathematics and Statistics to discuss the following agenda

1) Approval of syllabus of Semester I & Semester II
2) Approval of Modal question paper
3) Approval of Panel of Examiners
4) Any other matters

All the members discussed about the syllabus and pattern of Internal and Semester End examinations and unanimously resolved the following

1) All the members unanimously approved the title and syllabus for Semester I and II under CB.C.S pattern.

Theory and Practicals:-

Semester I:- Title: Descriptive Statistics & Probability

Semester II:- Title:- Probability Distributions.

2) Pattern of Examination:-
Theory pattern 80 marks Semester end examination and 20 marks for Internal Examination for both semesters.

3) It is decided to conduct the internal Examination twice for each Semester

4) # Question Paper Pattern

Theory Question Paper Pattern
Academic Years: 2019-2020 onwards

Time: 3 hours] [Max. Marks: 80

PART - I
Answer any 6(SIX) questions. All questions carry equal marks. (6Qx4m=24)

Q1
From Unit-I
Q2

Q3
From Unit-II
Q4

Q5
From Unit-III
Q6

Q7
From Unit-IV
Q8

PART - II
Answer 4(FOUR) questions choosing one from each section. All questions carry equal marks. (4Qx14m=56)

Section-A

Q9 From Unit-I
Q10

Section-B

Q11 From Unit-II
Q12

Section-C

Q13 From Unit-III
Q14

Section-D

Q15
Q16 From Unit-IV

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5) **Practical Question Paper Pattern**

Time: 2 hours] **[Max. Marks: 25**

[Practical:15, Record:5, Viva:5]

Note: Solve any THREE problems choosing at least one from each Section

Section-A (Solve Using Calculator)

Problem. 1
Problem. 2 From Part-I of Question Bank
Problem. 3

Section - B (Solve Using Computer Programs)

Problem. 4 From Part-2 of Question Bank
Problem. 5

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6) Internal Examination Pattern:-

i) Two internal exams are to be conducted and best of two internal marks is considered
ii) First internal exam is to be conducted after completion of Unit-I & II
iii) Second internal exam is to be conducted after completion of Unit III & IV
iv) Internal Examination duration : 1 hr
v) Internal Theory QP consist of 20 marks
vi) Six short questions are to be given (choosing at least 3 questions from each unit)
vii) Four questions are to be answered [4Q.X5m = 20m]

7) The following panel of Examiners are approved

i) Singireddy Jeevan Reddy, K.M.D.C, Khammam

ii) K. Koteshwara Rao, Kavitha Degree & PG college, K

8) Signatures of Members:-

i) V. Sambasiva Rao HOD and Chairman

ii) K.V.R. Kanaka Durga

iii) K. Srinivas

iv) B. Venkateswara Rao

v) Boina Jhansi Rani

vi) Janapati Ramakrishna

vii) Kondapalli Sriram, Dist. Employment officer.

SR& BGNR Govt. Arts & Science College(Autonomous) Khammam-507002
U.G. Statistics (Under CBCS)
B.Sc. First Year, Semester-I
w.e.f: Academic Year: 2019-20
(With Mathematics Combination)

Paper-I: Descriptive Statistics and Probability

[4 HPW:: 4 Credits :: 100 Marks (External:80, Internal:20)]

Unit-I

Descriptive Statistics: Concept of primary and secondary data, Methods of collection and editing of primary data, Designing a questionnaire and a schedule, Sources and editing of secondary data, Classification and tabulation of data, Measures of central tendency (Arithmetic mean, median, mode, geometric mean and harmonic mean) with simple applications, Absolute and relative measures of dispersion (range, quartile deviation, mean deviation, standard deviation and variance) with simple applications, Importance of moments, central and non-central moments, their inter-relationships, Sheppard's correction for moments for grouped data, Measures of skewness based on quartiles and moments, kurtosis based on moments with real life examples.

Unit-II

Probability: Basic concepts of probability, deterministic and random experiments, trial, outcome, sample space, event, operations of events, mutually exclusive and exhaustive events, equally likely and favorable events with examples, Mathematical, Statistical and Axiomatic definitions of probability, their merits and demerits. Properties of probability based on axiomatic definition, Conditional probability and independence of events, Addition and multiplication theorems for 'n' events, Boole's inequality and Bayes' theorem, Problems on probability using counting methods and theorems.

Unit-III

Random Variables: Definition of random variable, discrete and continuous random variables, functions of random variables, probability mass function and probability density function with illustrations. Distribution function and its properties, Transformation of one-dimensional random variable (simple 1-1 functions only), Notion of bivariate random variable, bivariate distribution, statements of its properties, Joint, marginal and conditional distributions, Independence of random variables.

Unit-IV

Mathematical Expectation: Mathematical expectation of a function of a random variable, Raw and central moments, covariance using mathematical expectation with examples, Addition and multiplication theorems of expectation. Definitions of moment generating function (m.g.f), characteristic function (c.f), cumulant generating function (c.g.f), probability generating function (p.g.f) and statements of their properties with applications, Chebyshev's and Cauchy-Schwartz's inequalities and their applications.

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Continued...

List of reference books:

1. William Feller: Introduction to Probability theory and its applications, (Vol-I), Wiley.
2. V. K. Kapoor and S. C. Gupta: Fundamentals of Mathematical Statistics, Sultan Chand & Sons, New Delhi.
3. Goon A M, Gupta M K, Das Gupta B: Fundamentals of Statistics, (Vol-I), The World Press (Pvt) Ltd., Kolkata.
4. M. Jagan Mohan Rao and Papa Rao: A Text book of Statistics (Paper-I).
5. Sanjay Arora and Bansilal: New Mathematical Statistics, Satya Prakashan , New Delhi.
6. Hogg,Tanis, Rao: Probability and Statistical Inference, (7th edition), Pearson.
7. K.V.S. Sarma: Statistics Made Simple: Do it yourself on PC, PHI.
8. Gerald Keller: Applied Statistics with Microsoft Excel, Duxbury, Thomson Learning.
9. Levine, Stephen, Krehbiel, Berenson: Statistics for Managers using Microsoft Excel (4th edition), Pearson Publication.

1) ***

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SR& BGNR Govt. Arts & Science College(Autonomous) Khammam-507002
U.G. Statistics (Under CBCS)
B.Sc. First Year, Semester-I
w.e.f: Academic Year: 2019-20
(With Mathematics Combination)

Practical-1

Descriptive Statistics and Probability

(3 HPW:: 1 Credit :: 25 Marks)

Part - 1 (Using calculator)

1. Graphical presentation of data (Histogram, frequency polygon, Ogives). s
2. Diagrammatic presentation of data (Bar and Pie).
3. Computation of non-central and central moments – Sheppard's corrections for grouped data.
4. Computation of coefficients of Skewness and Kurtosis – Karl Pearson's, Bowley's, β_1 and β_2.

Part - 2 (Using MS-Excel)

1. Basics of Excel- data entry, editing and saving, establishing and copying formulae, built in Functions in excel, copy and paste and exporting to MS word document.
2. Graphical presentation of data (Histogram, frequency polygon, Ogives) using MS-Excel
3. Diagrammatic presentation of data (Bar and Pie) using MS-Excel
4. Computation of Measures of central tendency, dispersion, Coefficient of Variation and coefficients of Skewness, Kurtosis using MS-Excel.

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SR& BGNR Govt. Arts & Science College(Autonomous) Khammam-507002
U.G. Statistics (Under CBCS)
B.Sc. First Year, Semester-II
w.e.f: Academic Year: 2019-20
(With Mathematics Combination)

DSC-2/Paper-2: Probability Distributions

[4 HPW :: 4 Credits :: 100 Marks (External:80, Internal:20)]

Unit-I

Discrete distributions-I: Uniform and Bernoulli distributions and their properties, functions and properties such as mean, median, mode, moments upto fourth order, moment generating function(m.g.f), cumulants upto fourth order, cumulant generating function(c.g.f), mean, variance and simple examples, derivation of probability mass(p.m.f), probability generating function(p.g.f), characteristic function(c.f), reproductive property (wherever exists) and their real life applications of of: Binomial distribution, Poisson distribution. Poisson approximation to Binomial distribution.

Unit-II

Discrete distributions-II: Negative binomial, Geometric, Hyper-geometric distribution distributions and their properties, Definitions and real life applications, properties of these distributions such as mean, variance, m.g.f, c.g.f., p.g.f., c.f. and moments upto fourth order, reproductive property (wherever exists), lack of memory property for Geometric distribution, Poisson approximation to Negative binomial distribution, Binomial approximation to Hyper-geometric distribution.

Unit-III

Continuous distributions-I: Rectangular and Normal distributions: definition, properties such as mean, variance, moments upto fourth order, m.g.f., c.g.f., c.f., reproductive property (wherever exists) and their real life applications. Normal distribution as a limiting case of Binomial and Poisson distributions. All properties of Normal distribution with examples.

Unit-IV

Continuous distributions-II: Exponential, Gamma distributions: definition, properties, m.g.f., c.g.f., c.f. and moments upto fourth order, reproductive property (wherever exists) and their real life applications. Beta distribution of two kinds: Definitions, mean and variance. Cauchy distribution, its definition and c.f.

Definition of convergence in Law, Convergence in Probability and Almost sure convergence. Definitions of Weak Law of Large Numbers (WLLN), Strong Law of Large numbers (SLLN), Central Limit Theorem (CLT) with simple examples. CLT for identically and independently distributed (i.i.d) random variables with finite variance.

References:

1. V. K. Kapoor and S. C. Gupta: Fundamentals of Mathematical Statistics, Sultan Chand & Sons, New Delhi.
2. M. Jagan Mohan Rao and Papa Rao: A Text book of Statistics (Paper-I).
3. Goon A M, Gupta M K, Das Gupta B : Fundamentals of Statistics, (Vol-I), The World Press (Pvt) Ltd., Kolkata.
4. K.V.S. Sarma: Statistics Made Simple: Do it yourself on PC, PHI

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Practical-2

Probability Distributions

(3 HPW :: 1 Credit :: 25 Marks)

Part-1 (Using Calculator)

1. Fitting of Binomial distribution-Direct method.
2. Fitting of Binomial distribution-Recurrence relation Method.
3. Fitting of Poisson distribution-Direct method
4. Fitting of Poisson distribution-Recurrence relation Method.
5. Fitting of Negative Binomial distribution.
6. Fitting of Geometric distribution.
7. Fitting of Normal distribution-Areas method.
8. Fitting of Normal distribution - Ordinates method.

Part-2 (Using MS-Excel)

1. Fitting of Binomial distribution-Direct method.
2. Fitting of Poisson distribution-Direct method.
3. Fitting of Normal distribution-Areas method.
4. Fitting of Exponential distribution.
5. Fitting of Cauchy distribution.

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