SRR & CVR GOVT. DEGREE COLLEGE
(Autonomous)
PHONE NO : 9848732916
NAAC : B+ (III Cycle with CGPA : 2.60) - Estd: 1937
ISO 9001 - 2015 Certified
Institution is ranked by NIRF 101 - 150 band at NIRF - 2020
WEBSITE : www.srrcvr.ac.in
EMAIL : srrandcvr@gmail.com

BOARD OF STUDIES

(Under Graduate)

A.Y 2017-2018

STATISTICS

I & II SEMESTERS

Minutes of Meeting

& Curriculum/Syllabi

DEPARTMENT OF STATISTICS

Dr.V.Ravi, M.Sc., Ph.D
Principal

Mobile No: 9848732916
Phone No: 0866-2430060
Fax No: 0866-2441092

NAAC: B+ Estd: 1937

SRR & CVR GOVT. COLLEGE
Vijayawada –520004, Krishna Dt.
Website: www.srrcvr.org
Email: srrandcvr@gmail.com

Date : 18-04-2017

MINUTES OF THE MEETING OF DEPARTMENT OF STATISTICS

A meeting of Board Of Studies of Department of Statistics held on 18-04-2017 in the Department of mathematics and Statistics for Ist and 2nd Semester of I year B.Sc Course Under the chairmanship of K.Bhanu Prasad, Head Of the Department of Statistics.The following members present.

1.) University Nominee
Dr.K.Rosaiah M.Sc,Ph.D : 18/4/17
Professor of Statistics
Acharya Nagarjuna University
Nagarjuna Nagar,Guntur

2.)Subject Expert
B.Neelavendra Rao M.Sc : 18/4/17
Lecturer in Statistics
Government Degree College(w)
Autonomous, Guntur.

3.)Subject Expert
G.Chakravarthi M.Sc : 18/4/2017
Lecturer in Statistics
P.B.Sidharda College Of Arts&Science
Autonomous,Vijayawada

4.)Chairman
K.Bhanu Prasad M.Sc : 18/4/2017
Lecturer in Statistics
SRR&CVR Govt.Deg.College
Autonomous,Vijyawada

5.) Alumni
K.Divya, SRR&CVR Govt.Deg.College : K. Divya
Vijyawada

Agenda :-

1. To approve New syllabus for I,II Semesters for the academic year 2017-2018
2. To approve Model papers ,blue print
3. To divide 100 marks into Internal- 40 marks Section-A and external- 60 marks Section-B
4. To approve assessment process of both internal and external components
5. To evaluate internal assessment:Assignment/viva/Assessment/ Seminar/ project/two mid examinations
6. To approve validity of the syllabus 2017-2018,2018-2019,2019-2020
7. Panel of Paper setters and examiners
8. To divide the syllabus and approve into 5 units
9. Any other proposal with the permission of chair
10. Additional inputs if any of the curriculum
11. Other academic activities of the department

Resolutions:-In BOS meeting the committee has unanimously resolved and approved the following

1.) **The syllabus for I &II Semester for I B.Sc.Statistics for 2017-2018 approved**

2.) **Approved 100 marks Paper into 40 internal evaluation and 60 External evaluation**

3.) **60 marks of External assessment classified as i)20 marks in**

Section-A ,ii) 40 marks Section – B

4.) 40 Marks internal assessment is divided as given below i)Assignment:10Marks,ii)Viva/Assessment-5Marks,iii)Seminars -5marks iv)Marks for Project-10Marks v)10Marks for two mid Exams Average.

5.) Model Paper consisting of two Sections Section –A, Section-B Section-A consisting of 10 Questions of each 4 marks, Answer Any 5 questins 5x4=20marks.Section –B Consisting 5 questions With internal choice ,each carries 8 marks 5x8=40Marks. Each unit carries weight age of 12 marks,as given in the Blue Print.

6.) To pass the exam student has to get 40% of 60 and overall 40% of both internal and external put together,this rule applicable to both for theory and practical examinations

7.) Blue Print of the model paper is prepared and approved.

8.) The HOD has to prepare the list of examiners and paper setters and will be submitted to Academic Council.

9.) Committee has approved the syllabus with 5 units for each Semester i.e Semester I & Semester II

10.) The committee has approved the validity of the resolutions for The period 2017-2018, 2018-2019, 2019-2020

11.) Further the committee resolved to give empowerment for any Small changes to the chairman of the BOS.

12.) practicals for I &II semesters, is max.50 marks per sem.,exam Duration 3hrs, 2 credits, work load -2hrs per batch,each batch Consists max.15 students.

13.) Work load per each semester is 4 Hrs.theory+2 Hrs.practical per batch Per week.

14.) Practical batch equal to 15 students,spilover batch is minimum 8 students

1.) Rosaiah 18/4/17
(Dr.K.Rosaiah)

2.) B Neelavendra Rao 18/4/17
(B.Neelavendra rao)

3.) Chakravarthi
(G.Chakravarthi)

4.) 18/4/17
(K.Bhanu Prasad)

5.) K. Divya
(K.Divya)

SRR & CVR GOVT. DEGREE COLLEGE, VIJAYAWADA
(AUTONOMOUS)

CBCS SYLLABUS (Semester Wise) 2017-18
I B.Sc. Statistics/Semester-I
(With Mathematics Combination)
Module-1 Descriptive Statistics and Probability

Total hrs per week: 04 **Total credits:03**

Unit- I

Introduction to Statistics: Concepts of primary and secondary data. Methods of collection and editing of primary data, Secondary data. Designing a questionnaire and a schedule. Measures of central tendency- Mean median, mode, Geometric mean and Harmonic mean.

Unit-II

Measures of dispersion: Range, Quartile deviation, Mean deviation and Standard deviation. Descriptive Statistics- Central and non-central moments, and their interrelationships, Sheppard's corrections for moments. Skewness and kurtosis.

Unit-III

Introduction to Probability: Basic concepts of probability, random experiments, trail, outcome, sample space, event, mutually exclusive and exhaustive events, equally likely and favorable outcomes.. Mathematical, statistical and axiomatic definitions of probabability. Conditional probability and independence of events.

Unit-IV

Probability theorems: Addition and multiplication theorems for 2 and for n events. Boole's inequality and Bayes' theorems and problems based on Baye's theorem.

Unit-V

Random Variables: Definition of random variable, discrete and continuous random variables, functions of random variables, probability mass function and probability density function Distribution function and its properties.Bivariate random variable meaning, joint, marginal and conditional distributions, independence of random variables.

Practical's Semester-I Max.Marks 50,Time : 3hrs,work load 2hrs per batch,each Batch consists max.15 students, Credits -2, (Spilover of 8 students in addition to 1st Batch considered as second Batch for practicals.)

Conduct any 6 (Ms-excel is compulsory)

1. **Computation of mean, median and mode**
2. **Computation of Quartile deviation**
3. **Computation of mean deviation**
4. **Computation of Standard deviation.**
5. **Non-Central moments and central moments, Sheppard's corrections & Skewness based on moments and Kurtosis.**

1, 18/4/17 3, 18/4/2017

2, 18/4/17 4, 18/4/2017

6. MS-Excel methods for the above Serial numbers 1, 2,3,4

Text Books:

1. V.K.Kapoor and S.C.Gupta: Fundamentals of Mathematical Statistics, Sultan.
2. BA/BSc I year Statistics-descriptive statistics, probability distribution-Telugu Academy-Dr M. Jaganmohan Rao, Dr. N.Srinivasa Rao, Dr P.Tirupathi Rao, Smt. D.Vijayalakshmi.
3. K.V.S. Sarma: statistics Made Simple: do it yourself on PC. PHI
4. B.A/B.Sc Statistics Descriptive Statistics and Probability, Kalyani Publishers by D.V.L.N. Jogiraju, C. Srikala and L.P. Raj Kumar.

Reference books:

1. Willam Feller: Introduction to Probability theory and its applications. Volume –I, Wiley
2. Goon AM, Gupta MK, Das Gupta B: Fundamentals of Statistics, Vol-I, the World Press Pvt.Ltd. Kolkata.
3. Hoel P.G: Introduction to mathematical statistics, Asia Publishing house.
4. M.JaganMohan Rao and Papa Rao: A Text book of Statistics Paper-I.
5. Sanjay Arora and Bansi Lal: New Mathematical Statistics: Satya Prakashan,New Delhi
6. Hogg.Tanis.Rao: Probability and Statistical Inference. 7th edition. Pearson
7. Sambhavyata Avadhi Siddantalu—Telugu Academy.

1) 18/4/17

2) B Neelamma Rao 18/4/17

3) G. Chakravarthi 18/4/2017

4) 18/4/2017

K. Divya

SRR & CVR GOVT. DEGREE COLLEGE, VIJAYAWADA
(AUTONOMOUS)
CBCS SYLLABUS (Semester Wise) 2017-18
I B.Sc. Statistics/Semester-I
(With Mathematics Combination)
Module-1 Descriptive Statistics and Probability

MODEL QUESTION PAPER (THEORY)

Time: 3 hrs MaxMarks: 60

SECTION-A 5 x 4= 20M

Answer any FIVE Questions. Each question carries 4 marks

1. Distinguish between primary and secondary data.
2. Explain Classification
3. What is Sheppard's correction? What will be the corrections for the first four moments?
4. Explain Kurtosis
5. What is meant by mutually exclusive and exhaustive events?
6. Properties of probability based on axiomatic approach
7. State and prove Addition theorem for two events of probability
8. State and prove Boole's in equality
9. Explain the terms Probability mass function and Probability density function.
10. Explain Distribution function with respect to discrete random variable

SECTION – B

Answer All the questions, each question carries Eight marks (5 x8=40 M)

11 (a) What do you understand by classification of data? What are its objectives? Discuss Different methods

Or

(b) Describe the different measures of central tendency and discuss their merits and Demerits.

12 (a) Explain the methods of measuring skewness and kurtosis of a frequency distribution.

Or

(b) Define the raw and central moments of a frequency distribution. Derive the relationship between them.

13 (a) Define the following terms:
(i) Exhaustive events (ii) Favourable events.
(iii) Mutually exclusive events (iv) Equally likely events

Or

(b) Explain the following Concepts:
(i) Classical approach (ii) Empirical approach

1) 18/4/17 3) 18/4/2017

2) 18/4/17 4) 18/4/2017

(iii) Axiomatic approach (iv) Conditional Probability

14 (a) State and prove addition Boole' inequalities for n events

Or

b) The contents of Urns I,II,III as follows

I : 1 white,2 Black and 3 Red balls

II : 2 White,1Black and 1 Red balls

III: 4 White,5 Black and 3 Red balls One of the Urn is Chosen and 2 balls are drawn at random,they happen to be white and red, What is the probability that they came from Urns I,II or III.

15.) a)Explain i)Joint, Marginal ,Conditional Distributions and also explain independence of Random Variables

Or

(b) Joint distribution of X and Y are given by $f(x,y)=4xye^{-(x^2+y^2)}; x>0, y>0$.
Test whether X and Y are independent. And also find the conditional density of X given. Y=y.

——The End——

1) 18/4/17

2) B Neelamma Rao 18/4/2017

3) G. Chalapathi 18/4/2017

4) 18/4/2017

K. Divya

Semester-I
Descriptive Statistics and Probability
Blue Print

Unit-Number	Long Question	Short Answer Questions	Total
Unit-I	1.a) or b)=2	2	4
Unit-II	2.a) or b)=2	2	4
Unit-III	3.a) orb)=2	2	4
Unit-IV	4.a) orb)=2	2	4
Unit-V	5.a) orb)=2	2	4
Total	Total =10	10	20

***Weightage should be followed compulsorily

1) 18/4/17

3) 18/4/2017

2) 18/4/2017

4) 18/4/2017

K. Divya

SRR & CVR GOVT. DEGREE COLLEGE, VIJAYAWADA
(AUTONOMOUS)

B.A/BSC SYLLABUS (Semester Wise) 2017-18

I B.Sc. Statistics/Semester-II

(With Mathematics Combination)

Module-1 Mathematical Expectation and Probability Distributions

Total hrs per week: 04 Total credits: 03

Unit –I

Mathematical Expectation: Mathematical expectation (ME) of a random variable and function of a random variable. Moments and covariance using mathematical expectation with examples. Addition and multiplication theorems on expectation. Definitions of M.G.F, C.G.F, P.G.F, C.F its properties Chebyshev and Cauchy-Schwartz Inequalities

Unit-II

Discrete distributions: Binomial and Poisson distributions, their definitions, ist to 4 central moments, M.G.F, C.F, C.G.F, P.G.F, mean, variance, additive property if exists Poisson approximation to Binomial distribution.

Unit-III

Negative binomial, Geometric and Hyper-geometric distributions- Definitions, means, Variances, M.G.F, C.F, C.G.F, P.G.F, reproductive property if exists Binomial approximation to Hyper-geometric Distribution, Poisson approximation to Negative binomial distribution.

Unit-IV

Continuous distributions: Rectangular, Exponential, Gamma, Beta distributions of two kinds. Other properties such as mean, variance, M.G.F, C.G.F, C.F, reproductive property.

Unit-V

Normal Distribution: Definition, Importance, Properties, M.G.F, additive properties, Interrelation between Normal and Binomial, Normal & Poisson distribution, Cauchy Distribution.

Practical's-Semester-II Max.Marks 50,Time : 3hrs,work load 2hrs per batch,each Batch consists max.15 students, Credits -2 (Spilover of 8 students in addition to 1st Batch considered as second Batch for practicals.)

Conduct any 6 (MS-excel is compulsory)

1. Fitting of Binomial Distribution- Recurrence relation method

1) 18/4/17 3) 18/4/2017

2) 18/4/2017 4) 18/4/2017

2. Fitting of Poisson Distribution- Recurrence relation method
3. Fitting of Negative Binomial Distribution.
4. Fitting of Geometric Distribution.
5. Fitting of Normal Distribution- Areas Method.
6. Fitting of Normal Distribution- Ordinates method.
7. MS-Excel methods for the above Serial Numbers 1 and 2

Text Books:

1. V.K.Kapoor and S.C.Gupta: Fundamentals of Mathematical Statistics, Sultan
2. BA/BSc I year Statistics-descriptive statistics, probability distribution-Telugu Academy- Dr M.Jaganmohan Rao, Dr. N.Srinivasa Rao, Dr P.Tirupathi Rao, Smt.D.Vijayalakshmi.
3. K.V.S. Sarma: statistics Made Simple: do it yourself on PC. PHI
4. B.A/B.Sc Statistics Descriptive Statistics and Probability, Kalyani Publishers by D.V.L.N. Jogiraju, C. Srikala and L.P.Raj Kumar.

Reference books:

1. William Feller: Introduction to Probability theory and its applications.Volume –I, Wiley
2. GoonAM, Gupta MK, Das Gupta B: Fundamentals of Statistics, Vol-I, the world Press Pvt.Ltd. Kolkata.
3. Hoel P.G: Introduction to mathematical statistics, Asia Publishing house.
4. M.JaganMohan Rao and Papa Rao: A Text book of Statistics Paper-I.
5. Sanjay Arora and Bansi Lal: New Mathematical Statistics: Satya Prakashan, New Delhi.
6. Hogg.Tanis.Rao: Probability and Statistical Inference. 7th edition. Pearson.
7. Sambhavyata Avadhi Siddantalu—Telugu Academy.

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1) 18/4/17

2) 18/4/2017

3) 18/4/2017

4) 18/4/2017

K. Divya

SRR & CVR GOVT. DEGREE COLLEGE, VIJAYAWADA
(AUTONOMOUS)
CBCS SYLLABUS (Semester Wise) 2017-18
I B.Sc. Statistics/Semester-II
(With Mathematics Combination)
Module-1 Mathematical Expectation and Probability Distributions
MODEL QUESTION PAPER (THEORY)

Time: 3 hrs

MaxMarks:60

SECTION-A 5x4 = 20M

Answer any FIVE Questions. Each question carries 4 marks

1. Define Moment Generating Function. Write its properties.
2. State Cauchy-Schwartz inequality
3. Derive the M.G.F of Binomial distribution.
4. State the additive property of Poisson distribution.
5. Write the properties of Negative Binomial distribution.
6. Derive m.g.f Geometric Distribution
7. Derive the mean of Rectangular distribution.
8. Define Gamma distribution with respect to single and two parameters
9. Write the importance of Normal distribution.
10. Write the properties of Cauchy distribution.

SECTION-B 5x8=40M

Answer all the questions. Each question carries eight marks.

11. a) State and prove Addition and Multiplication theorems of expectation

(Or)

b) Define Characteristic function. Write its properties. State and Prove Chebychev's inequality.

12. a) Derive the mean and variance of Binomial distribution.

(Or)

b) Derive Poisson distribution as a limiting form of a binomial distribution.

13. a) Define geometric distribution. Derive its mean and variance.

(Or)

b) What is a hyper geometric distribution? Find Moment generating function and Characteristic function.

14. a) Define Exponential distribution. Derive the memory less property of exponential distribution.

(Or)

18/4/17

18/4/2017

18/4/2017

b) Derive mean and variance of Gamma Distribution.

15.a) Define Normal Distribution and explain the chief characteristics of Normal Distribution

Or

b)Define Cauchy Distribuiton and Derive it's Charcteristic function

----------The End------

Semester-II

Mathematical Expectation and Probability Distributions

Blue Print

Unit-Number	Long Question	Short Answer Questions	Total
Unit-I	1.a) or b)=2	2	4
Unit-II	2.a) or b)=2	2	4
Unit-III	3.a) orb)=2	2	4
Unit-IV	4.a) orb)=2	2	4
Unit-V	5.a) orb)=2	2	4
Total	Total =10	10	20

***Weightage should be followed compulsorily

1) 18/4/17

3) 18/4/2017

2) 18/4/2017

4) 18/4/2017

K. Divya

Dr.v.Ravi, M.Sc. Ph.D
Principal

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NAAC: B+ Estd: 19

SRR & CVR GOVT. COLLEGE
Vijayawada –520004, Krishna
Website: www.srrcvr.org
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Date : 18-04-2017

SRR&CVR GOVT.DEG.COLLEGE:(AUTONOMOUS):VIJAYAWADA
2017-2018
DEPARTMENT OF STATISTICS BOS MEETING
LIST OF EXAMINERS FOR AUTONOMOUS

S.NO	NAME OF THE LECTURER	DESIGNATION	COLLEGE
1	K.NARASIMHA RAO	LECTURER IN STATISTICS	CHAITANYA DEG.COLLEGE, NANDIGAMA,KRISHNA DI.
2	G.CHAKRAVARTHI	LECTURER IN STATISTICS	P.B.SIDHARDA COLLEGE OF ARTS& SCIENCE,VIJAYAWADA
3	Dr.V.VASUNDARA DEVI	LECTURER IN STATISTICS	GOWTHAM DEGREE COLLEGE VIJAYAWADA
4	T.NAGESH	LECTURER IN STATISTICS	THRIVENI DEGREE COLLEGE VIJAYAWADA
5	B.SHOBA RANI	LECTURER IN STATISTICS	SARADA DEGREE COLLEGE VIJAYAWADA
6	Dr.N.SRINIVAS	LECTURER IN STATISTICS	ANDHRA LOYOLA COLLEE VIJAYAWADA
7	V.MURALI KRISHNA	LECTURER IN STATISTICS	P.B.SIDHARDA COLLEGE OF ARTS& SCIENCE,VIJAYAWADA

PANEL FOR PAPER SETTERS FOR AUTONOMOUS

S.NO	NAMEOF THE LECTURER	DESIGNATION	COLLEGE
1	Dr.N.VISWAM	LECTURER IN STATISTICS	HINDU COLLEGE GUNTUR
2	B.NEELAVENDRA RAO	LECTURER IN STATISTICS	GDC (W),GUNTUR
3	A.MOHANRAO	LECTURER IN STATISTICS	GDC(W) GUNTUR
4	P.RAGHU	LECTURER IN STATISTICS	JKC COLLEGE,GUNTUR
5	P.RAJA RAO	LECTURER IN STATISTICS	CAREER COLLEGE GUNTUR
6	Dr.VARAPRASAD	LECTURER IN STATISTICS	GDC,NELLORE
7	V.SAROJA	LECTURER IN STATISTICS	MARYSTELLA COLLEGE VIJAYAWADA
8	B.RAMESH	LECTURER IN STATISTICS	ANR COLLEGE,GUDIWADA
9	SMT.G.RADHIKA	LECTURER IN STATISTICS	KBN COLLEGE,VIJAYAWADA
10	V.NARASIMHA RAJU	LECTURER IN STATISTICS	DNR COLLEGE,BHIMAVARAM
11	Dr.Madhavi	LECTURER IN STATISTICS	GDC ,RAJHAMUNDRY EAST GODAVARI

1) 18/4/17

2) B.Neelavendra Rao 18/4/

3) G. Chakravarthi 18/4/2017

4) 18/4/2017