HINDI MAHAVIDYALAYA

(AUTONOMOUS & NAAC RE-ACCREDITED)

(Affiliated to Osmania University)

Nallakunta, Hyderabad-44

B.SC. III YEAR SEMESTER V & VI

DEPARTMENT OF STATISTICS

2018-2019

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
BOARD OF STUDIES IN STATISTICS
(Academic Year 2018-19)
DEPARTMENT OF STATISTICS

Chairperson
Mr. K. Vijay Kumar
Head – Department of Statistics
Hindi Mahavidyalaya
Nallakunta, Hyderabad.

25/7/18

University Nominee
Dr. G. Jayasree
Chairperson – BOS
Department of Statistics
Osmania University, Hyderabad.

G. Jayasree.
25/7/18
Chair-Person
B.O.S. in Statistics
U.C.S.
Osmania University
HYDERABAD-7

Members of BOS

1. Dr. N.Ch. Bhatra Charyulu
   Asst. Professor- Department of Statistics
   Osmania University, Hyderabad

25/7/18

2. Dr. G.Sirisha
   Asst. Professor- Department of Statistics
   Osmania University, Hyderabad

G. Sirisha
25/7/18

3. Dr. Savithri Saradhi
   Director, Tvashtaa
   Opp. Blood Bank, Narayanguda
   Hyderabad

Savithri
25/7/18

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD (AUTONOMOUS)

COMPOSITION OF THE BOARD OF STUDIES IN AN AUTONOMOUS COLLEGE

I. Composition: Department of Statistics

1. Head of the department concerned (Chairman)
   Mr. K. Vijay Kumar – Department of Statistics

2. The entire faculty of each specialization.
   Mr. K. Vijay Kumar

3. One expert to be nominated by the vice-chancellor from a panel if six recommended by the College Principal.

   Dr. G. Jayasree-Chairperson, Chairman, BOS, Dept. of Statistics, Osmania University

4. Two experts in the subject from outside the college to be nominated by the Academic Council.

   1. Dr. N.Ch. Bhatra Charyulu, Asst. Professor, Department of Statistics, Osmania University, Hyderabad

   2. Dr. G.Sirisha, Asst. Professor,Department of Statistics, Osmania University, Hyderabad.

(a) Experts from outside the College whenever special courses of studies are to be formulated-to be nominated.

1. Dr. Savithri Saradhi, Director, Tvashtaa ,Opp. Blood Bank, Narayanguda, Hyderabad

(b) Other members of staff of the same faculty.

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DEPARTMENT OF STATISTICS

AGENDA OF THE MEETING

3.1. Welcome address by the chair.

3.2. Previous Meeting Details

3.3. Details of choice base credit system.

3.4. Discussion on Common Core Syllabus of Semester V & VI.

3.5. Marks allotted for Internal and End Semester exams.

3.6. Discussion on Semester Exam Model Paper & Internal Exam Model Paper, SEC 3 & 4 Theory Model Paper , GE 1 & 2 Theory Model Paper of Semester V & VI.

3.7. Discussion on Practical Exam Model Paper of B.Sc. III Year(Semester V & VI).

3.8. Panel of Examiners

3.9. Any other matter

3.10. Vote of Thanks

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
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DEPARTMENT OF STATISTICS
BOARD OF STUDIES
Academic Year – 2018-19

Minutes of BOS Meeting

BOS meeting of the Department of Statistics was held on 25th July 2018 at 10:30AM.

the following members were present

Mr. K. Vijay Kumar	-	Chairperson
Dr. G.Jayasree	-	University Nominee
Dr. N.Ch. Bhatra Charyulu	-	Member
Dr. G.Sirsha	-	Member
Dr. Savithri Saradhi	-	Member

25/7/18

G. Jayasree 25/7/18 Chair-Person B.O.S. in Statistics U.C.S. Osmania University HYDERABAD-7.

25/7/18

G. Sirsha 25/7/18

25/7/18

3.1 Welcome address by the chair

The chair welcomed the University Nominee, Ex-officio Member BOS, O.U Department of Statistics and Members of B.O.S.

3.2 Details of choice based credit system.

Members were informed that TSCHE has referred that from the academic year 2016-17 autonomous institutions have to follow CBCS i.e. From the Academic Year 2016-17 Osmania University has instructed all the Degree colleges including Autonomous Degree colleges to follow CBCS under which after passing the exam student will get the Grade in the Final Result. 3 Credits are given for each theory paper and 1 credits are given for practical in each semester.

3.3 Discussion and Distribution of Common Core Syllabus.

i. Members were informed by the chair that Department of Statistics, Hindi Mahavidyalaya is following common core syllabus prescribed by Osmania University.

ii. We are adopting Osmania University same syllabus of each Semester as it is without any changes

Syllabus copy for both the semesters is enclosed.
Syllabus was approved by the Member of BOS.

3.4 Marks allotted for Internal and end Semester exams (V & VI).

1. Internal assessment is of 15 marks. In each Semester two internal assessments of 15 Marks will be conducted and an average of both the internal assessments will be added in the marks of theory exam.
2. Theory Question paper is of 60 marks.
3. Total allotted marks are 75 for each theory paper DSC/DSE (A&B).
4. Internal assessment is of 10 marks for SEC & GE. One internal assessment of 10 Marks will be conducted and added in the marks of theory exam.
5. Theory Question paper for SEC & GE is of 40 marks.
6. Total allotted marks are 50 for each SEC & GE.

3.5 Discussion on Pattern and Model Paper of Semester exam and Model Paper of Internal Exam

1. It was informed by the department that as per Osmania University CBCS guidelines there is no assignment for 3 credits core and elective papers. In each Semester Two Internal exams will be conducted for 15 marks. The internal assessment will have three sections.

   Section– A 10 Multiple choice questions, each carries ½ marks (10X½ = 5M)
   Section– B 10 Fill in the blanks, each carries ½ marks (10X ½ = 5M) and
   Section– C 05 short notes, each 1mark (5X1=5)

   Average of marks of these two internal exams will be taken.

2. Semester exam will be conducted as per the Almanac which will be provided by the exam branch. Internal exam duration will be 30Minutes and Semester exam duration will be of 3 hrs.

3. Model Question paper for Semester V and Semester VI was discussed. Theory paper for each Semester will have 2 sections.

   (i) Section A contains 8 short Questions. The student has to answer five questions. Each Question carries 3 Marks (5X3=15 Marks).

   (ii) Section B contains 3 Essay type Questions with internal choice. Each Question carries 15 Marks (3X15=45 Marks).

4. Model Question paper for SEC &GE Semester V and Semester VI was discussed. Theory paper for each SEC & GE will have 2 sections.

(i) Section A contains 2 short Questions. The student has to answer TWO questions. Each Question carries 5 Marks (2X5=10 Marks)

(ii) Section B contains 2 Essay type Questions with internal choice. Each Question carries 15 Marks (2X15=30 Marks)

- Pattern of Model Theory Question Papers for DSC (V &VII), DSE (VI & VIII A/B), and SEC Paper 3 and Paper 4 &GE are approved.

3.6 Discussion on Practical Exam Model paper.

- The practical examination held for B.Sc III year (semester V&VI) will have the pattern of 50 marks and the credit will be 1. The duration of the exam will be 2 hrs.
- The Practical model paper of Sem III & IV , Sem V(Paper V & VI) and Sem VI(Paper VII & VIII) was approved by the Member of BOS.

3.7 Panel of Examiners

The panel of examiners was approved by the members.
List is enclosed

3.8 Any other matter.

1. The syllabus for the batch (2018-2021) is also approved by the members.
2. It is resolved to follow from 2017-2018 batch that the practical examinations held for B.Sc. I Years and II Years will have the pattern of 25 marks scheme and the credits will remain the same i.e. 1 credit. The duration of the exam will be 2 hours.
   It is suggested by the members of BOARD OF STUDIES that, MSCS students should be given Indian economy as General Elective.

3.9 Vote of Thanks

Meeting concluded with the Vote of Thanks by Mr. K. Vijay Kumar.

Chairperson	University Nominee	Members	Principal
27/7/18	Y. Jayasree. 25/7/18 Chair-Person B.O.S. in Statistics U.C.S. Osmania University, HYDERABAD-7.	1. 2. Y. Sirisha 25/7/18	I/C. PRINCIPAL HINDI MAHAVIDYALAYA Arts, Commerce & Science Nallakunta, Hyderabad-44

HINDI MAHAVIDYALAYA

(AUTONOMOUS)
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Nallakunta, Hyderabad-44

2018-19 CBCS STRUCTURE

SCHEME OF INSTRUCTIONS & EVALUATION

B.SC. M P CS / M S CS

THIRD YEAR SEMESTER-V

Code	Course Title	Course Type	HPW	Credits	Semester End exam		Continuous Internal Evaluation		Total	Practical 3 HRS
					Duration In HRS	Marks	Exam Duration	Marks		
BS501	E/F	SEC-3	2	2	2	40	30 min	10	50	-
BS502		GE-1	2 T	2	2	40	30 min	10	50	-
BS503	MATHEMATICS - V	DSC-1E	3 T + 2P = 5	3+1=4	3	80	30 min	20	75	50
BS504	PHYSICS / STATISTICS - V	DSC-2E	3 T + 2P = 5	3+1=4	3	80	30 min	20	75	50
BS505	COMPUTER SCIENCE - V	DSC-3E	3 T + 2P = 5	3+1=4	3	80	30 min	20	75	50
BS506	MATHEMATICS - VI	DSE- 1E	3 T + 2P = 5	3+1=4	3	80	30 min	20	75	50
BS507	PHYSICS / STATISTICS - VI	DSE-2E	3 T + 2P = 5	3+1=4	3	80	30 min	20	75	50
BS508	COMPUTER SCIENCE - VI	DSE-3E	3 T + 2P = 5	3+1=4	3	80	30 min	20	75	50
			34	28		560		140	850	

B.SC. M P CS / M S CS

THIRD YEAR SEMESTER-VI

Code	Course Title	Course Type	HPW	Credits	Semester End exam		Continuous Internal Evaluation		Total	Practical 3 HRS
					Duration In HRS	Marks	Exam Duration	Marks		
BS601	G/H	SEC-4	2	2	2	40	30 min	10	50	-
BS602		GE-2	2 T	2	2	40	30 min	10	50	-
BS603	MATHEMATICS - VII	DSC-1F	3 T + 2P = 5	3+1=4	3	60	30 min	15	75	50
BS604	PHYSICS / STATISTICS - VII	DSC-2F	3 T + 2P = 5	3+1=4	3	60	30 min	15	75	50
BS605	COMPUTER SCIENCE - VII	DSC-3F	3 T + 2P = 5	3+1=4	3	60	30 min	15	75	50
BS606	MATHEMATICS - VIII	DSE- 1F	3 T + 2P = 5	3+1=4	3	60	30 min	15	75	50
BS607	PHYSICS / STATISTICS - VIII	DSE-2F	3 T + 2P = 5	3+1=4	3	60	30 min	15	75	50
BS608	COMPUTER SCIENCE - VIII	DSE-3F	3 T + 2P = 5	3+1=4	3	60	30 min	15	75	50
			34	28		440		110	850	
	TOTAL Credits			164						

25/7/18 25/7/18 Y. Sirisha 25/7/18

Y. Jayasree 25/7/18

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Scheme of B.Sc. Statistics Semester wise Syllabus under CBCS 2016-19

Year	Semester	Paper	Title of the Theory Paper	Title of the Practical Paper	SEC	GE
I	I	I	Descriptive Statistics and Probability	Descriptive Statistics and Probability	----	--
	II	II	Probability Distributions	Probability Distributions	----	--
II	III	III	Statistical Methods	Statistical Methods	Concepts of Sequences and Random Variables	--
	IV	IV	Inference	Inference	Statistical Psychology and Education	--
III	V	V	Sampling Theory, Time Series, Index Numbers and Demand Analysis	**Practical Paper - V** **Section –A :** Sampling Theory and Time Series **Section –B : Elective-I: A / B / C** Practical's	Big Data Analysis	Basic Statistics - I
		VI	**Elective-I: A / B / C** A: Statistical Quality Control and Reliability B: Bio-Statistics – I C: Actuarial Statistics – I	**Practical Paper - VI** Statistical Practical's using MS – Excel		
	VI	VII	Design of Experiments, Vital Statistics, Official Statistics and Business Forecasting	**Practical Paper - VII** **Section –A :** Design of Experiments and Vital Statistics **Section –B : Elective-II: A / B / C** Practical's	Statistical techniques in Data Mining	Basic Statistics - II
		VIII	**Elective – II: A / B / C** A: Operations Research B: Bio-Statistics – II C: Actuarial Statistics – II	**Practical Paper - VIII** Statistical Practical's using MS – Excel and TORA		

SEC: Skill Enhancement Course

GE: Generic Elective: offered by the Department for other than Statistics Students

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DEPARTMENT OF STATISTICS
SEMESTER V
SKILL ENHANCEMENT COURSE
BIG DATA ANALYSIS

Code:BS501 **SEC-3**
HPW: 2 **Credits: 2**
30 Hrs.

UNIT I — 15Hrs.

The Rise of Big Data: What is Big Data and why does it matter; Web Data: The original Big Data; The cross section of Big Data and the value they hold;

UNIT II — 15Hrs.

Taming Big Data: The Technologies, Process and Methods: The Evolution of Analytic Scalability, The Evolution of Analytic Process, The Evolution of Analytic Tools and Methods.

Text Book:

1. Bill Franks, "Taming the Big Data Tidal Wave: Finding Opportunities in Huge Data Streams with Advanced Analytics", John Wiley & sons, 2012. (Chapters 1 to 6).

Reference Books:

1. Michael Berthold, David J. Hand, "Intelligent Data Analysis", Springer, 2007.
2. Glenn J. Myatt, "Making Sense of Data", John Wiley & Sons, 2007
3. Pete Warden, "Big Data Glossary", O'Reilly, 2011.

Chairperson **University Nominee** **Members** **Principal**

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y. Jayasree. 25/7/18
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1. 25/7/18
2. Y. Sirisha 25/7/18

25/7/18

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DEPARTMENT OF STATISTICS
SEMESTER V
GENERAL ELECTIVE THEORY PAPER
BASIC STATISTICS-I

Code:BS502
HPW: 2

GE-1
Credits: 2
30 Hrs.

UNIT–I

15Hrs.

Origin, Importance and growth of Statistics, Collection and tabulation of data. Frequency distribution. Graphical and Pictorial representation of data. Measures of central tendency: Mean, Median and Mode their merits and demerits with examples. Partition Values: Quartiles, Deciles and percentiles and examples.

Measures of dispersion: Range and standard deviation, coefficient of variation. Central and non-Central moments, coefficient of Skewness and Kurtosis with Examples.

Unit - II

15Hrs.

Review of permutations and combinations. Deterministic and random experiment, Sample space, event, mutually exclusive, equally likely and independent events with examples. Mathematical, Statistical and Axiomatic definition of probability, Addition theorem, Conditional probability and Multiplication theorem of probability. Statistical independence and Bayes theorem – simple examples (all theorems without proofs and only statements).

List of reference books:

1. V.K.Kapoor and S.C.Gupta: Fundamentals of Mathematical Statistics, Sultan Chand & Sons, New Delhi
2. GoonAM,GuptaMK,Das Gupta B : Fundamentals of Statistics , Vol-I, the World Press Pvt.Ltd., Kolakota.
3. Charles M.Grinstead and Laurie Snell, J: Introduction to Probability, American Mathematical Society

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Note: Other than MSCS student can select the GE-1(Basic Statistics) Course

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DEPARTMENT OF STATISTICS

B.SC. III YEAR SEMESTER V

SEC 3 & GE - 1- THEORY MODEL PAPER

MAX MARKS -40

TIME: 2 HOURS

SECTION-A

2 x 5 =10 marks

Answer the following Questions in short:

1. UNIT - I
2. UNIT - II

SECTION-B

2 x 15 = 30 marks

Answer the following essay type questions:

1 (a) UNIT – I OR (b) UNIT - I
2 (a) UNIT – II OR (b) UNIT - II

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(AUTONOMOUS)
DEPARTMENT OF STATISTICS
SEMESTER V
PAPER - V
DISCIPLINE SPECIFIC CORE THEORY
SAMPLING THEORY, TIME SERIES, INDEX NUMBERS AND DEMAND ANALYSIS

Code: BS504 **DSC-2E**
HPW: 3 **Credits: 3**
45 Hrs.

UNIT-I **15 Hrs.**

Sample Surveys: Concepts of Population, Sample, Sampling unit, Parameter, Statistic, Sample frame and Standard error. Principal steps in sample surveys - need for sampling, census versus sample surveys, sampling and non- sampling errors, sources and treatment of non-sampling errors, advantages and limitations of sampling.

Sampling Methods: Types of sampling: Subjective, probability and mixed sampling methods. Methods of drawing random samples using with and without replacement. Estimates of population mean, total, and proportion, their variances and the estimates of variances in Simple Random Sampling With and Without Replacement.

UNIT-II **15 Hrs.**

Estimates of population mean, total, and proportion, their variances and the estimates of variances in the following methods.

(i) Stratified Random Sampling with Proportional and Neyman allocation, and
(ii) Systematic Sampling when N = nk.

Comparison of their relative efficiencies. Advantages and disadvantages of SRS, Stratified and Systematic sampling methods.

Time series: Time series and its components with illustrations, additive, multiplicative and mixed models. Determination of trend by least squares and moving average methods. Growth curves and their fitting with reference to Modified exponential, Gompertz and Logistic curves. Determination of seasonal indices by Ratio to moving average, ratio to trend and link relative methods.

UNIT-III **15 Hrs.**

Demand Analysis: Introduction. Demand and supply, price elasticity of supply and demand. Methods of determining demand and supply curves, Leontief's ,Pigous's methods of determining demand curve from time series data, limitations of these methods Pigou's method from time series data. Pareto law of income distribution curves of concentration.

Index Numbers: Concept, construction, uses and limitations of simple and weighted index numbers. Laspeyer's, Paasche's and Fisher's index numbers, criterion of a good index numbers, problems involved in the construction of index numbers. Fisher's index as an ideal index number. Fixed and chain base index numbers. Cost of living index numbers and wholesale price index numbers. Base shifting, splicing and deflation of index numbers.

21/7/18 26/7/18 25/7/18 25/7/18

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Reference Books:

1. V.K. Kapoor and S.C. Gupta : Fundamentals of Applied Statistics. Sultan Chand
2. Parimal Mukhopadhyay : Applied Statistics, New Central Book agency.
3. Daroga Singh and Chowdhary: Theory and Analysis of Sample survey designs. Wiley Eastern.
4. M.R.Saluja : Indian Official Statistics. ISI publications.
5. B.L.Agarwal: Basic Statistics.New Age publications.
6. S.P.Gupta : Statistical Methods. Sultan Chand and Sons.
7. Anuvartita Sankhyaka Sastram – Telugu Academy.
8. Arora, SumeetArora,S.Arora: Comprehensive Statistical Methods. S.Chand.
9. A.M.Goon, M.K.Gupta, B. Dasgupta: Fundamentals of Statistics Vol II World Press Private Ltd.,Calcutta
10. A.M.Goon,M.K.Gupta,B.Dasgupta An outline of Statistical Theory Vol II World Press Private Ltd.,Calcutta17.

Chairperson	University Nominee	Members	Principal
25/7/18	g. Jayasree. 25/7/18	1. 25/7/18	I/C. PRINCIPAL HINDI MAHAVIDYALAYA Arts, Commerce & Science Nallakunta, Hyderabad-44
	Chair-Person B.O.S. in Statistics U.C.S. Osmania University, HYDERABAD-7.	2. M. Sirisha 25/7/18	

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF STATISTICS
B.Sc. III Year Semester – V
STATISTICS – Paper –V
DSC-2E
SAMPLING THEORY, TIME SERIES, INDEX NUMBERS AND DEMAND ANALYSIS
Theory Question Paper Pattern

Time: 3 hrs **Max. Marks: 60**

SECTION A

I Write any Five of the following (Short Questions) **5 X 3 = 15 Marks**

1. A Question from Unit I
2. A Question from Unit I
3. A Question from Unit II
4. A Question from Unit II
5. A Question from Unit III
6. A Question from Unit III
7. A Question from any of the three unit
8. A Question from any of the three unit

SECTION B

II Essay Questions. Answer all the Questions **3 x 15 = 45 Marks**

9. (a) A Question from Unit I
   (OR)
   (b) A Question from Unit I

10. (a) A Question from Unit II
    (OR)
    (b) A Question from Unit II

11. (a) A Question from Unit III
    (OR)
    (b) A Question from Unit III

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2. M. Nirisha 25/7/18

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(AUTONOMOUS)
DEPARTMENT OF STATISTICS
SEMESTER V
PAPER - VI
DISCIPLINE CORE ELECTIVE THEORY (A)
STATISTICAL QUALITY CONTROL AND RELIABILITY

Code: BS507 **DSE-2E**
HPW: 3 **Credits: 3**
45 Hrs.

15 Hrs.

Unit –I

Statistical Quality Control: Importance of SQC in industry. Dimensions of quality, Statistical basis of Shewart control charts. Construction of control charts for variables (mean, range and standard deviation) and attributes (p , np with fixed and varying sample sizes) and their Interpretation.

Control charts for attributes (c and u charts with fixed and varying sample sizes) and their Interpretation. Construction of control charts for Natural tolerance limits and specification limits, process capability index and modified control charts.

15 Hrs.

Unit –II

Acceptance sampling plans:. Concept of AQL and LTPD. Producers risk and consumer's risk, Single and Double sampling plans for attributes and their OC and ASN functions. Design of single and double sampling plans for attributes using Binomial and Poisson distributions. Construction of OC and ASN functions.

15 Hrs.

Unit –III

Reliability: Introduction. Hazard function, Exponential distribution as life model, its memory- less property. Reliability function and its estimation.

System reliability - series, parallel and k out of N systems and their reliabilities with simple examples.

Reference Books:

1. D.C. Montgomary: Introduction to Statistical Quality Control. Wiley
2. V.K. Kapoor and S.C.Gupta L Fundamentals of Applied Statistics. Sultan Chand
3. Parimal Mukhopadhyay : Applied Statistics . New Central Book agency
4. Anuvartita Sankhyakasastram – Telugu Academy.
5. R.C.Gupta: Statistical Quality Control.
6. S.K.Sinha: Reliability and life testing. Wiley Eastern
7. L.S.Srinath: Reliability Engineering. Affiliated East-West Press.

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2. 25/7/18

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For Commerce & Science
Nallakunta, Hyderabad-44.

Reference Books:

1. V.K.Kapoor and S.C.Gupta : Fundamentals of Applied Statistics. Sultan Chand
2. ParimalMukhopadhyay : Applied Statistics . New Central Book agency.
3. M.R.Saluja : Indian Official Statistics. ISI publications.
4. B.L.Agarwal: Basic Statistics. New Age publications.
5. S.P.Gupta : Statistical Methods. Sultan Chand and Sons.
6. Pratirupa Sidhanthamulu – Telugu Academy. Prayoga Rachana and Visleshana – Telugu Academy.

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HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF STATISTICS
SEMESTER V
PAPER - VI
DISCIPLINE CORE ELECTIVE THEORY (B)
BIO-STATISTICS - I

Code: BS507
HPW: 3

DSE-2E
Credits: 3
45 Hrs.

15 Hrs.

Unit –I

Bioassay: The purpose and structure of biological assay. Types of biological assays, Direct assays, Ratio estimates, asymptotic distributions: Feller's theorem. Regression approach to estimate dose – response and relationships.

Logit and Probit approaches when dose-response curve for standard preparation is unknown, quantal responses, methods of estimation of parameters, estimation of extreme quantiles, dose allocation schemes, Polychotomous quantal response, estimation of points on the quantal response function.

15 Hrs.

Unit –II

Statistical Genetics: Basic terminology of genetics. Frequencies of genes and genotypes, Mendal's law, Hardy-Weinberg equilibrium. Mating Frequencies, estimation of allele frequency (dominant / codominant cases). Multiple alleles.

15 Hrs.

Unit –III

Approach to equilibrium for X-linked gene, natural selection, mutation, genetic drift, equilibrium when both natural selection and mutation are operative.

Reference Books:

1. D.J.Finney (1970): Statistical methods in Biological Assay. Charles Griffin.
2. Govindarajulu (2000): Statistical Techniques in Bioassay. Karger Publishers/Panther Publishers.
3. C.C.Li (1976): First course in population genetics. Boxwood press, California.
4. Falcon and Mackay (1998) : Introduction to quantitative genetics. Longman
5. J.F.Lawless: Statistical models and methods of life data. Wiley.
6. James F Crow and Motoo Kimura: An Introduction to Population Genetics Theory. Alpha edition.

Chairperson

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Members

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Arts, Commerce & Science
Nallakunta, Hyderabad-44

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF STATISTICS
SEMESTER V
PAPER - VI
DISCIPLINE CORE ELECTIVE THEORY (C)
ACTUARIAL STATISTICS - I

Code: BS507 **DSE-2E**
HPW: 3 **Credits: 3**
45 Hrs.

Unit –I
15 Hrs.

Utility theory, insurance and utility theory, models for individual claims and their sums, survival function, curate future lifetime, force of mortality.

Life table and its relation with survival function examples, assumptions of fractional ages, some analytical laws of mortality select and ultimate tables.

Unit –II
15 Hrs.

Multiple life functions, joint life and last survivor status, insurance and annuity benefits through multiple life functions, evaluation for special mortality laws.

Unit –III
15 Hrs.

Multiple decrement models, deterministic and random survivorship groups, associated single decrement tables, central rates of multiple decrement, net single premiums and their numerical evaluations.

Distribution of aggregate claims, compound Poisson distribution and its applications.

Reference Books:

1. N.L.Bowers, H.U.Gerber, J.C.Hickman, D.A.Jones and C.J.Nesbitt (1986): Actuarial Mathematics, Society of Actuaries, Ithaca, Illinois,USA .
2. Neill,A.(1977): Life contingencies, Heineman.
3. Spurgeon E.T.(1972): Life contingencies, Cambridge University Press
4. Benjamin,B and Pollard,J.H(1980): Analysis of Mortality and other Actuarial Statistics.
5. Federation of Insurance Institutes study courses: mathematical basis of Life Assurance (Published by Federation if Insurance Institutes, Bombay).

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HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF STATISTICS
B.SC III YEAR SEMESTER – V
Practical – PAPER – V: Theory paper V and Elective VI A/B/C

PRACTICAL QUESTION BANK

Time: 2 hrs **Max. Marks: 50**

Section - A

1. Simple random sampling with and without replacement. Comparison between SRSWR and SRSWOR
2. Stratified random sampling with proportional and optimum allocations. Comparison between proportional and optimum allocations with SRSWOR
3. Systematic sampling with N = nk. Comparison of Systematic sampling with Stratified and SRSWOR
4. Measurement of trend by method of least squares and moving averages.
5. Determination of seasonal indices by the method of Ratio to moving averages.
6. Determination of seasonal indices by the method of Ratio to trend.
7. Determination of seasonal indices by the method of link Relatives.

Section - B

8. Construction of $\bar{X}$, R and σ - charts.
9. Construction of p, np, charts with fixed and varying n.
10. Construction of c and u charts.
11. Designing a single sampling plan and construction of its OC and ASN curves.
12. Designing a double sampling plan and construction of its OC and ASN curves.

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DEPARTMENT OF STATISTICS
SEMESTER V
Practical Paper-V: Theory Paper V and Elective VI B

Code: BS504P(B)
HPW: 2

DSC/DSE
Credits: 1
Marks: 50

Section – A

Estimation of Population mean, population total and variance of these estimates by

1. Simple random sampling with and without replacement. Comparison between SRSWR and SRSWOR
2. Stratified random sampling with proportional and optimum allocations. Comparison between proportional and optimum allocations with SRSWOR
3. Systematic sampling with N = nk. Comparison of Systematic sampling with Stratified and SRSWOR
4. Measurement of trend by method of least squares and moving averages.
5. Determination of seasonal indices by the method of Ratio to moving averages.
6. Determination of seasonal indices by the method of Ratio to trend.
7. Determination of seasonal indices by the method of link Relatives.

Section – B

8. Fitting of exponential growth model to data by linearization method.
9. Fitting of logistic growth model.
10. Dose response relation and its estimation by least squares method and by MLE method.
11. Estimation of extreme quantiles and points on the quantal response.
12. Hardy –Weinberg equilibrium frequencies and Estimation of allele frequencies.
22. Effects of mutation and selection and the Hardy -Weinberg test.
23. Equilibrium—Balance between selection and mutation.

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DEPARTMENT OF STATISTICS
SEMESTER V
Practical Paper-V: Theory Paper V and Elective VI C

Code: BS504P(C)
HPW: 2

DSC/DSE
Credits: 1
Marks: 50

Section – A

Estimation of Population mean, population total and variance of these estimates by

1. Simple random sampling with and without replacement. Comparison between SRSWR and SRSWOR
2. Stratified random sampling with proportional and optimum allocations. Comparison between proportional and optimum allocations with SRSWOR
3. Systematic sampling with N = nk. Comparison of Systematic sampling with Stratified and SRSWOR
4. Measurement of trend by method of least squares and moving averages.
5. Determination of seasonal indices by the method of Ratio to moving averages.
6. Determination of seasonal indices by the method of Ratio to trend.
7. Determination of seasonal indices by the method of link Relatives.

Section – B

8. Computation of values of utility function.
9. Computation of various components of life tables.
10. Construction of multiple decrement table for deterministic survival group.
11. Determination of distribution function, survival function and force of mortality.
12. Construction of multiple decrement table for random survivorship group.
13. Construction of select, ultimate and aggregate mortality.
14. Calculation of p.d.f. and distribution function of aggregate claims.

Note: The question paper consists of TWO sections. Section A Consists of 2 Questions from Section A of Practical paper V and Section B consists of 2 questions from Section B of Practical paper V.

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SEMESTER V
Practical Paper-VI: MS - EXCEL

Code: BS507P
HPW: 2

Credits: 1
Marks: 50

PRACTICAL QUESTION BANK
SECTION –A

Time Series Analysis

1. Measurement of trend by method of least squares and moving averages.
2. Determination of seasonal indices by the method of Ratio to moving averages.
3. Determination of seasonal indices by the method of Ratio to trend.
4. Determination of seasonal indices by the method of link Relatives.

Index Numbers

5. Base shifting, splicing and Deflation.

SECTION -B

Statistical Quality Control

6 Construction of $\bar{x}$, R and σ - charts.
7 Construction of p and np charts with fixed n.
8 Construction of p and np charts with varying n.
9 Construction of c and u charts.

Demand Analysis

10 Construction of Lorenz curve.
11 Fitting of Pareto law to an income data.

Note 1 : Training shall be on establishing formulae in Excel cells and deriving the results. The excel output shall be exported to MSWord for writing inferences.

Note 2 : The question paper consists of TWO sections. Section A Consists of 2 Questions from Paper VI Practical and Section B consists of 2 questions on MS – Excel from Semesters I and III respectively.

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DEPARTMENT OF STATISTICS
B.SC. III YEAR SEMESTER V - PAPER VI
STATISTICAL PRACTICAL'S USING MS EXCEL
PRACTICAL MODEL QUESTION PAPER

MAX MARKS: 50

TIME: 2 HOURS

SECTION-A

Note: Answer any one of the following questions using Excel.
[Written-10M, Execution-10M] 20Marks

I.

OR

II.

SECTION-B

Note: Answer any one of the following questions using Excel.
[Written-10M, Execution-10M] 20Marks

III.

OR

IV.

10 Marks

Record

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DEPARTMENT OF STATISTICS

B.SC. III YEAR SEMESTER V - PAPER V/ELECTIVE-I A/B/C
PRACTICAL SCHEME OF VALUATION

MAX MARKS: 50

TIME: 2 HOURS

SECTION-A

20Marks

Note: Answer any one of the following questions

I.

OR

II.

SECTION-B

20Marks

Note: Answer any one of the following questions

III.

OR

IV.

10 Marks

Record

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DEPARTMENT OF STATISTICS
SEMESTER VI
SKILL ENHANCEMENT COURSE
STATISTICAL TECHNIQUES IN DATA MINING

Code:BS601
HPW: 2

SEC-3
Credits: 2
30 Hrs.

UNIT-I

Introduction: Introduction to Data mining, The nature of Data sets, Types of structure, Models and patterns, Data mining Tasks, components of data mining algorithms, The Interacting roles of Statistics and Data mining, Data mining: Dredging, snooping and fishing.

Data mining: Definitions, KDD vs Data mining, DBMS vs DM, other related areas, DM Techniques, other mining problems, Issues and challenges in Data mining,

Association Rules: What is an association rule, methods to discover association rules; Apriori Algorithm, Partition Algorithm

UNIT-II

Association Algorithms: Dynamic Item Set Counting Algorithm, FP Tree growth algorithm.

Clustering Algorithms: Introduction, Clustering Paradigm, K-Medoid Algorithm, DBSCAN

Classification Algorithms: Introduction, Nearest Neighbor methods

Decision tree Algorithms: Introduction, Pruning technique.

Reference Books:

1. David Hand, Heikki Manila and Padhraic Smyth (2012): Principles of Data Mining, PHI, New Delhi, (Text Book: Ch. 1, Ch. 2, Ch. 10.6)
2. Arun K Pujari (2013): Data Mining Techniques, University Press Inia private Ltd. Third Edition. (T.B-2: (T.B.2: Ch 5.4, 5.8, Ch. 6.18).

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DEPARTMENT OF STATISTICS
SEMESTER VI
GENERIC ELECTIVE
BASIC STATISTICS-II

GE-II
Credits: 2
30 Hrs.

Code:BS602
HPW: 2

Unit - I

Definition and sample examples of random variables and distribution function, probability mass function and probability density function. Mathematical expectation and moments-simple examples.

Discrete probability distributions: Bernoulli, Binomial, Poisson. (Concept, definition, statements of mean and variance only) with real life examples.

Continuous probability distributions: Uniform, Normal and Exponential distributions (concept, definition, statements of mean, variance and other properties).

Unit - II

Empirical bivariate distributions, Covariance, Karl Pearson coefficient, Rank Correlation, Curve fitting byleast squares principle. Simple linear regression.

Concept and definition of population, parameter, sample, statistic, sampling distribution and standard error.

Properties of Estimates: Unbiasedness, Consistency and Efficiency (concept and definition only), simple examples.

Concept of testing Statistical hypothesis-Definition of Null and Alternative hypothesis, Critical region, Types of errors, level of Significance and Power of a Test.

Tests of significance based on Chi-Square, t and F distributions and ANOVA (One and Two way) with examples (No mathematical derivation only methodology).

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List of reference books:

1. V.K.Kapoor and S.C.Gupta: Fundamentals of Mathematical Statistics, Sultan Chand & Sons, New Delhi
2. GoonAM,GuptaMK,Das Gupta B : Fundamentals of Statistics , Vol-I, the World Press Pvt.Ltd.,Kolakota.
3. Charles M.Grinstead and Laurie Snell.J: Introduction to Probability, American Mathematical Society

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Note: Other than MSCS student can select the GE-2(Basic Statistics) Course

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DEPARTMENT OF STATISTICS
B.SC. III YEAR SEMESTER VI

SEC 4 & GE-2-THEORY MODEL PAPER

TIME: 2 HOURS **MAX MARKS: 40**

SECTION-A

2 x 5 =10 marks

Answer the following Questions in short:

1. UNIT - I
2. UNIT - II

SECTION-B

2 x 15 = 30 marks

Answer the following essay type questions:

1 (a) UNIT – I OR (b) UNIT - I
2 (a) UNIT – II OR (b) UNIT - II

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DEPARTMENT OF STATISTICS
SEMESTER VI
PAPER - VII
DISCIPLINE CORE SPECIFIC THEORY
DESIGN OF EXPERIMENTS, VITAL STATISTICS, OFFICIAL STATISTICS AND BUSINESS FORECASTING

Code: BS604
HPW: 3

DSC-2F
Credits: 3
45 Hrs.

15Hrs.

Unit –I

Analysis of Variance and Design of Experiments : Concept of Gauss-Markoff linear model with examples, statement of Cochran's theorem, ANOVA – one-way, two-way classifications with one observation per cell Expectation of various sums of squares, Statistical I analysis, Importance and applications of design of experiments.

Principles of experimentation: Analysis of Completely randomized Design (C.R.D), Randomized Block Design (R.B.D) and Latin Square Design (L.S.D) including one missing observation, expectation of various sum of squares. Comparison of the efficiencies of the above designs.

15Hrs.

Unit – II

Vital statistics: Introduction, definition and uses of vital statistics. Sources of vital statistics, registration method and census method. Rates and ratios, Crude death rates, age specific death rate, standardized death rates, crude birth rate, age specific fertility rate, general fertility rate, total fertility rate. Measurement of population growth, crude rate of natural increase- Pearl's vital index. Gross reproductive rate sand Net reproductive rate, Life tables, construction and uses of life tables and Abridged life tables.

15Hrs.

Unit –III

Official Statistics: Functions and organization of CSO and NSSO. Agricultural Statistics, area and yield statistics. National Income and its computation, utility and difficulties in the estimation of national income.

Business Forecasting: Role of forecasting in Business, Steps in Forecasting, Methods of Forecasting, Choice of a method of Forecasting, Theories of Business Forecasting, Cautions while using Forecasting Techniques.

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Reference Books:

1. V.K.Kapoor and S.C.Gupta : Fundamentals of Applied Statistics. Sultan Chand
2. ParimalMukhopadhyay : Applied Statistics . New Central Book agency.
3. M.R.Saluja : Indian Official Statistics. ISI publications.
4. B.L.Agarwal: Basic Statistics. New Age publications.
5. S.P.Gupta : Statistical Methods. Sultan Chand and Sons.
6. Pratirupa Sidhanthamulu – Telugu Academy. Prayoga Rachana and Visleshana – Telugu Academy.

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DEPARTMENT OF STATISTICS
B.Sc III Year Semester – VI

STATISTICS – Paper – VII
DSC-2
DESIGN OF EXPERIMENTS, VITAL STATISTICS, OFFICIAL STATISTICS AND BUSINESS FORECASTING
Theory Question Paper Pattern

Time: 3 hrs **Max. Marks: 60**

SECTION A

I Write any Five of the following (Short Questions) **5 X 3 = 15 Marks**

1. A Question from Unit I
2. A Question from Unit I
3. A Question from Unit II
4. A Question from Unit II
5. A Question from Unit III
6. A Question from Unit III
7. A Question from any of the three unit
8. A Question from any of the three unit

SECTION B

II Essay Questions. Answer all the Questions **3 X 15 = 45 Marks**

9. (a) A Question from Unit I
   (OR)
   (b) A Question from Unit I

10. (a) A Question from Unit II
    (OR)
    (b) A Question from Unit II

11. (a) A Question from Unit III
    (OR)
    (b) A Question from Unit III

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DEPARTMENT OF STATISTICS
SEMESTER VI
PAPER - VIII
DISCIPLINE CORE ELECTIVE THEORY (A)
OPERATIONS RESEARCH

Code: BS607(A)
HPW: 3

DSE-2F
Credits: 3
45 Hrs.

15Hrs.

Unit –I

Operations Research: Meaning and scope of OR. Convex sets and their properties. Definition of general LPP. Formulation of LPP. Solution of LPP by graphical method. Statements of Fundamental theorem of LPP and other related theorems. Simplex algorithm.

Concept of artificial variables. Big –M /Penalty method and two-phase simplex methods. Concept of degeneracy and resolving it. Concept of duality of LPP. Dual Primal relationship, Statement of Fundamental Theorem of Duality.

15Hrs.

Unit –II

Definition of transportation problem, TPP as a special case of LPP, Initial basic feasible solutions by North-West Corner Rule, Matrix minimum method and VAM. Optimal solution through MODI tableau and stepping stone method for balanced and unbalanced transportation problem. Degeneracy in TP and resolving it. Concept of Transshipment problem.

15Hrs.

Unit –III

Formulation and description of Assignment problem and its variations. Assignment problem as special case of TP and LPP. Unbalanced assignment problem, optimal solution using Hungarian method and traveling salesman problem and its solution.
Problem of Sequencing. Optimal sequence of N jobs on two and three machines without passing.

Reference Books:

1. Kanti Swaroop, P.K.Gupta and ManMohan: Operations Research. Sultan Chand.
2. S.D. Sharma: Operations Research
3. J.K. Sharma: Operations Research Theory and Applications. Macmillan Publishers India LTD.
4. Parikriya Parishodhana - Telugu Academy.

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DEPARTMENT OF STATISTICS
SEMESTER VI
PAPER - VIII
DISCIPLINE CORE ELECTIVE THEORY (B)
BIO-STATISTICS - II

Code: BS607(B) **DSE-2F**
HPW: 3 **Credits: 3**
45 Hrs.

Unit –I
15Hrs.

Survival Analysis: Survival functions and hazard rates. Types of censoring and likelihood in these cases. Life distributions - Exponential, Gamma, Weibull, Lognormal, and Pareto. Linear failure rate. Point estimation, confidence intervals, scores, likelihood ratio, MLE, tests for these distributions.

Life tables, failure rates, mean residual life and their elementary properties, Ageing classes and their properties, Bathtub failure rate. Estimation of survival function.
Acturial estimator, Kaplan-Meier estimator, estimation under the assumption of IFR/ DFR. Tests of exponentiality against nonparametric classes, total time on test.

Unit –II
15Hrs.

Introduction to modern epidemiology, principles of epidemiological investigation, serveillance and disease monitoring in populations.
Epidemiologic measures: Organizing and presenting epidemiologic data, measures of disease frequency, measures of effect and association, causation and casual inference.

Unit –III
15Hrs.

Design and analysis of epidemiologic studies. Types of studies, case-control studies, cohort studies, cross over design, regression models for the estimation of relative risk. Meta –analysis, quantitative methods in screening.

Reference Books:

1. Cox.D.R. and Oakes.D (1984): analysis of survival data. Chapman and Hall.
2. Miller, R.G. (12981): Survival analysis. John wiley.
3. Anil gore and S.A.Paranjpe (2000). A course in mathematical and statistical ecology. Kulwer Academic Publishers.
4. Rielon E.C (1977): An introduction to Mathematical Ecology. Wiley.
5. J.F.Lawless: Statistical models and methods of life data. Wiley.
6. James F Crow and Motoo Kimura: An Introduction to Population Genetics Theory. Alpha edition.
7. Abraham M.Lilienfeld : Foundations of Epidemiology. Oxford University Press.

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DEPARTMENT OF STATISTICS
SEMESTER VI
PAPER - VIII
DISCIPLINE CORE ELECTIVE THEORY (C)
ACTUARIAL STATISTICS - II

Code: BS607(C) DSE-2F
HPW: 3 Credits: 3
45 Hrs.

Unit –I 15Hrs.

Elements of compound interest (nominal and effective rate of interest)
Life annuities: single payment, continuous life annuities, discrete life annuities, life annuities with monthly payments, communication functions.

Varying Life annuities, recursions and complete annuities- immediate and apportioable annuities –due.

Unit –II 15Hrs.

Net premiums: Continuous and discrete premiums, true monthly payment premiums, apportionate premiums, commutation functions, and accumulation type benefits.

Unit –III 15Hrs.

Net premium reserves: continuous and discrete net premium reserve, reserves on a semi continuous basis, reserves based on true monthly premiums, reserves on an apportionable or accounted continuous basis reserves at fractional durations.

Reference Books:

1. N.L.Bowers, H.U.Gerber, J.C.Hickman, D.A.Jones and C.J.Nesbitt (1986): Actuarial Mathematics, Society of Actuaries, Ithaca, Illinois,USA .
2. Neill,A.(1977): Life contingencies, Heineman.
3. Spurgeon E.T.(1972): Life contingencies, Cambridge University Press
4. Benjamin,B and Pollard,J.H(1980): Analysis of Mortality and other Actuarial Statistics.
5. Federation of Insurance Institutes study courses: mathematical basis of Life Assurance
8. F.I.21 (Published by Federation if Insurance Institutes, Bombay).

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	y. Jayasree. 25/7/18	1. 25/7/18	I/C. PRINCIPAL HINDI MAHAVIDYALAYA Arts, Commerce & Science Nallakunta, Hyderabad-44
	Chair-Person B.O.S. in Statistics U.C.S. Osmania University, HYDERABAD-7	2. Y. Sirisha 25/7/18	

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
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DEPARTMENT OF STATISTICS
B.Sc III Year Semester – VI

STATISTICS – Paper – VI-A/B/C
DSE-2E
Theory Question Paper Pattern

Time: 3 hrs **Max. Marks: 60**

SECTION A

5 X 3 = 15 Marks

I Write any Five of the following (Short Questions)

1. A Question from Unit I
2. A Question from Unit I
3. A Question from Unit II
4. A Question from Unit II
5. A Question from Unit III
6. A Question from Unit III
7. A Question from any of the three unit
8. A Question from any of the three unit

SECTION B

3 X 15 = 45 Marks

II Essay Questions. Answer all the Questions

9 (a) A Question from Unit I
(OR)
(b) A Question from Unit I

10. (a) A Question from Unit II
(OR)
(b) A Question from Unit II

11 (a) A Question from Unit III
(OR)
(b) A Question from Unit III

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1. 25/7/18
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I/C. PRINCIPAL
HINDI MAHAVIDYALAYA
Arts, Commerce & Science
Nallakunta, HYDERABAD-44

2016

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF STATISTICS
SEMESTER VI
PRACTICAL PAPER-VII: THEORY PAPER VII AND ELECTIVE VIII A

Code: BS604P(A)
HPW: 2

DSC/DSE
Credits:1
30 Hrs.

PRACTICAL QUESTION BANK

Section –A

1. Analysis of CRD
2. Analysis of RBD and Comparison of RBD with CRD with and without missing observation.
3. Analysis of RBD with one missing observation and computation of Critical Difference.
4. Analysis of LSD and Comparison of LSD with RBD with CRD.
5. Analysis of LSD with one missing observation and computation of Critical Difference.
6. Computation of Morality rates and Fertility rates and Construction of complete life tables.

Section –B

7. Solution of L.P. problem by simplex method and reading the solution of the dual problem from Optimal Simplex table.
8. Solution of L.P. problem by Big-M Method.
9. Two-phase simplex method.
10. IBFS for a transportation problem by North-West corner rule, Matrix minimum method and Vogel's approximation method and also Optimum solution to balanced and unbalanced transportation problem by MODI method.
11. Optimum solution to balanced and unbalanced Assignment problem by Hungarian method and also Solution of traveling salesman problem.
12. Computation of Optimal Sequence and idle time for N jobs on 2 and 3 machines.

Note: The question paper consists of TWO sections. Section A Consists of 2 Questions from Section A of Practical paper VII and Section B consists of 2 questions from Section B of Practical paper VII.

Chairperson

25/7/18

University Nominee

Y. Jayasree. 25/7/18

Chair-Person
B.O.S. in Statistics
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HYDERABAD-7.

Members

1. 25/7/18
2. M. Mishra 25/7/18
Sanik-C 25/7/18

Principal

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HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF STATISTICS
SEMESTER VI
PRACTICAL PAPER-VII: THEORY PAPER VII AND ELECTIVE VIII B

Code: BS604P(B)
HPW: 2

DSC/DSE
Credits:1
30 Hrs.

PRACTICAL QUESTION BANK

Section –A

1. Analysis of CRD
2. Analysis of RBD and Comparison of RBD with CRD with and without missing observation.
3. Analysis of RBD with one missing observation and computation of Critical Difference.
4. Analysis of LSD and Comparison of LSD with RBD with CRD.
5. Analysis of LSD with one missing observation and computation of Critical Difference.
6. Computation of Morality rates and Fertility rates and Construction of complete life tables.

Section –B

7. Parameter estimation in exponential and Weibull distributions—Type-I, Type-II censoring.
8. LR tests for exponential and Weibull distribution.
9. Actuarial method of estimation.
10. Kaplan-Meier estimator.
11. Fitting bathtub shaped hazard function.
12. Risk difference, risk ratio and odd ratio.
13. Cox Regression.

Note: The question paper consists of TWO sections. Section A Consists of 2 Questions from Section A of Practical paper VII and Section B consists of 2 questions from Section B of Practical paper VII.

Chairperson

23/7/18

University Nominee

G. Jayasree. 25/7/18
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2. M. Viridha 25/7/18

25/7/18

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Arts & Science
Nallakunta, Hyderabad-44

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF STATISTICS
SEMESTER VI
PRACTICAL PAPER-VII: THEORY PAPER VII AND ELECTIVE VIII C

Code: BS604P(C) **Credits: 1**
HPW: 2 **30 Hrs.**

PRACTICAL QUESTION BANK

Section –A

1. Analysis of CRD
2. Analysis of RBD and Comparison of RBD with CRD with and without missing observation.
3. Analysis of RBD with one missing observation and computation of Critical Difference.
4. Analysis of LSD and Comparison of LSD with RBD with CRD.
5. Analysis of LSD with one missing observation and computation of Critical Difference.
6. Computation of Morality rates and Fertility rates and Construction of complete life tables.

Section –B

7. Computation of compound interest (nominal and effective rate of interests).
8. Annuities and annuity dues.
9. Computation of discrete and continuous net premiums.
10. Annuities payable more frequently than one year.
11. Complete and special annuities.
12. Office premium
13. Assurances payable at the moment of death.

Note: The question paper consists of TWO sections. Section A Consists of 2 Questions from Section A of Practical paper VII and Section B consists of 2 questions from Section B of Practical paper VII.

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HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF STATISTICS
SEMESTER VI
PRACTICAL PAPER-VIII: (PRACTICAL USING MS-EXCEL AND TORA)

Code: BS607P | Credits:1
HPW: 2 | 30 Hrs.

PRACTICAL QUESTION BANK

Section –A

Operations Research:

1 Solution of L.P. problem by Graphical method.
2 Solution of L.P. problem by simplex method.
3 Solution of L.P. problem by Big-M and two-phase simplex method.
4 Optimum solution to balanced and unbalanced transportation problem using North-West corner rule, Matrix minimum method and Vogel's approximation method for IBFS.
5 Solution of Assignment problem for both maximization and minimization
6 Solution of travelling salesman problem.
7 Computation of Optimal Sequence and idle time for N jobs on 2 and 3 machines.

Designs of Experiments

8. Analysis of CRD
9. Analysis of RBD with and without missing observation. Comparison of RBD with CRD
10. Analysis of LSD with and without missing observation. Comparison of LSD with RBD and CRD

Vital Statistics

11. Computation of Morality rates, Fertility rates and Reproduction rates.
12. Construction of life tables and abridged life tables.

Note 1 : Training shall be on establishing formulae in Excel cells and deriving the results. The excel output shall be exported to MSWord for writing inferences.

Note 2 : The question paper consists of TWO sections. Section A Consists of 2 Questions from Paper VIII Practical and Section B consists of 2 questions on MS – Excel from Semesters II and IV respectively.

Chairperson	University Nominee	Members	Principal
25/7/18	Y. Jayasree. 1. 2. 25/7/18	M. Sirisha 25/7/18	I/C. PRINCIPAL HINDI MAHAVIDYALAYA Arts, Commerce & Science Nallakunta, Hyderabad-44
	Chair-Person B.O.S. in Statistics U.C.S. Osmania University, HYDERABAD-7.	25/7/18	

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF STATISTICS
B.SC III YEAR SEMESTER – VI
SEMESTER VI
PRACTICAL PAPER-VIII: (PRACTICAL USING MS-EXCEL AND TORA)
PRACTICAL QUESTION PAPER PATTERN

Time: 2 hrs **Max. Marks 50**

Operations Research:

1 Solution of L.P. problem by Graphical method.

2 Solution of L.P. problem by simplex method.

3 Solution of L.P. problem by Big-M and two-phase simplex method.

4 Optimum solution to balanced and unbalanced transportation problem using North-West corner rule, Matrix minimum method and Vogel's approximation method for IBFS.

5 Solution of Assignment problem for both maximization and minimization

6 Solution of travelling salesman problem.

7 Computation of Optimal Sequence and idle time for N jobs on 2 and 3 machines.

Designs of Experiments

8. Analysis of CRD
9. Analysis of RBD with and without missing observation. Comparison of RBD with CRD
10. Analysis of LSD with and without missing observation. Comparison of LSD with RBD and CRD

Vital Statistics

11. Computation of Morality rates, Fertility rates and Reproduction rates.
12. Construction of life tables and abridged life tables.

Chairperson **University Nominee** **Members** **Principal**

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Y. Jayasree. 25/7/18

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HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF STATISTICS
B.SC III YEAR SEMESTER – VI
PAPER-VII: DESIGN OF EXPERIMENTS, VITAL STATISTICS, OFFICIAL STATISTICS AND BUSINESS FORECASTING

PRACTICAL QUESTION PAPER PATTERN

Time: 2 hrs **Max. Marks: 50**

Section –A

1. Analysis of CRD
2. Analysis of RBD and Comparison of RBD with CRD with and without missing observation.
3. Analysis of RBD with one missing observation and computation of Critical Difference.
4. Analysis of LSD and Comparison of LSD with RBD with CRD.
5. Analysis of LSD with one missing observation and computation of Critical Difference.
6. Computation of Morality rates and Fertility rates and Construction of complete life tables.

Section –B

7. Solution of L.P. problem by simplex method and reading the solution of the dual problem from Optimal Simplex table.
8. Solution of L.P. problem by Big-M Method.
9. Two-phase simplex method.
10. IBFS for a transportation problem by North-West corner rule, Matrix minimum method and Vogel's approximation method and also Optimum solution to balanced and unbalanced transportation problem by MODI method.
11. Optimum solution to balanced and unbalanced Assignment problem by Hungarian method and also Solution of traveling salesman problem.
12. Computation of Optimal Sequence and idle time for N jobs on 2 and 3 machines.

Chairperson **University Nominee** **Members** **Principal**

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y. Jayasree 25/7/18

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2. M. Nirisha 25/7/18

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HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF STATISTICS
B.SC. III YEAR SEMESTER – V

SEC 3 & GE - 1 - INTERNAL MODEL PAPER

TIME: 1/2 HOURS **MAX MARKS: 10**

SECTION-A

5 x ½ =5 marks

FILL IN THE BLANKS:

TEN (10) FIB ½ MARK EACH

SECTION-B

5 x ½ =5 marks

MULTIPLE CHOICE QUESTIONS
TEN (10) MCQ ½ MARK EACH

Chairperson **University Nominee** **Members** **Principal**

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2. Y. Srisha 25/7/18

Santhi 25/7/18

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HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF STATISTICS

SEC 4 & GE-2 - INTERNAL MODEL PAPER

TIME: 1/2 HOURS **MAX MARKS: 10**

SECTION-A

5 x ½ =5 marks

FILL IN THE BLANKS:

TEN (10) FIB ½ MARK EACH

SECTION-B

5 x ½ =5 marks

MULTIPLE CHOICE QUESTIONS
TEN (10) MCQ ½ MARK EACH

Chairperson **University Nominee** **Members** **Principal**

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HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF STATISTICS

B.SC STATISTICS III YEAR
SEMESTER – V
PAPER – V & VI

INTERNAL EXAMINATION MODEL PAPER

Time – 30Min **Total Marks: 15M**

SECTION-A

I **FILL IN THE BLANKS:** **5 x ½ =5 marks**

TEN (10) FIB ½ MARK EACH

SECTION-B

II **MULTIPLE CHOICE QUESTIONS** **5 x ½ =5 marks**

TEN (10) MCQ ½ MARK EACH

III **DEFINE THE FOLLOWING** **5X1=5M**

21 **22** **23** **24** **25**

Chairperson **University Nominee** **Members** **Principal**

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2. Y. Srisha 25/7/18

25/7/18

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Arts, Commerce & Science
Nallakunta, Hyderabad-44

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF STATISTICS
B.SC STATISTICS III YEAR
SEMESTER – VI
PAPER – VII AND VIII

INTERNAL EXAMINATION MODEL PAPER

Time – 30Min **Total Marks: 15M**

SECTION-A

I FILL IN THE BLANKS: **5 x ½ =5 marks**

TEN (10) FIB ½ MARK EACH

SECTION-B

II MULTIPLE CHOICE QUESTIONS **5 x ½ =5 marks**

TEN (10) MCQ ½ MARK EACH

III DEFINE THE FOLLOWING **5X1=5M**

21 **22** **23** **24** **25**

Chairperson **University Nominee** **Members** **Principal**

25/7/18

g. Jayasree. 25/7/18

Chair-Person
B.O.S. in Statistics
B.C.S.
Osmania University,
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1. 25/7/18
2. M. Siri Sha 25/7/18

Scale-2 25/7/18

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HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF STATISTICS
B.SC. III YEAR SEMESTER VI - PAPER VII/ELECTIVE-II A/B/C

PRACTICAL MODEL QUESTION PAPER

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

SECTION-A **20Marks**

Note: Answer any one of the following questions

I.

OR

II.

SECTION-B **20Marks**

Note: Answer any one of the following questions

III.

OR

IV.

10 Marks

Record

Chairperson **University Nominee** **Members** **Principal**

25/7/18

y. Jayasree 25/7/18

Chair-Person
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Osmania University
HYDERABAD-7

1. 25/7/18

2. 25/7/18

25/7/18

I/C PRINCIPAL
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HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF STATISTICS
B.SC. III YEAR SEMESTER VI - PAPER VIII
STATISTICAL PRACTICAL'S USING MS EXCEL AND TORA
PRACTICAL MODEL QUESTION PAPER

MAX MARKS: 50

TIME: 2 HOURS

SECTION-A

Note: Answer any one of the following questions using Excel. **[Written-10M, Execution-10M] 20Marks**

I.

OR

II.

SECTION-B

Note: Answer any one of the following questions using Excel. **[Written-10M, Execution-10M] 20Marks**

III.

OR

IV.

10 Marks

Record

Chairperson **University Nominee** **Members**

1.

2.

Principal

I/C. PRINCIPAL
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HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
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DEPARTMENT OF STATISTICS
B.SC. II YEAR STATISTICS
SEMESTER – III & IV
2018-19 & ONWARDS

PRACTICAL MODEL QUESTION PAPER

Time - 2 Hrs **Max Marks: 25**

I. Answer any two questions out of four questions. **20 Marks**

1. Question 1
2. Question 2
3. Question 3
4. Question 4

II. Record **05 Marks**

Chairperson **University Nominee** **Members** **Principal**

25/7/18

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2. 25/7/18
3. 25/7/18

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Arts, Commerce & Science
Nallakunta, Hyderabad-44

HINDI MAHAVIDYALAYA

(Autonomous)

Nallakunta , O.U Road,Hyderabad

Department of Statistics

Panel of Examiners

S.No	Name of the Examiner	Mobile number
1.	Priya St.Josephs Degree college Himayathnagar	9908869943
2.	Vijaykumar Goud Lecturer Railway Degree College	9848642513
3.	Ms.Anusha Asst.Prof Saifabad Degree & PG college	8500001035
4.	Mrs. S.Jayasree Asst.prof RBVRR Degree & PG college Narayanguda,Hyd.	9849236602
5.	Dr.Jagan MohanRao Jagrithi Degree & PG college Narayanguda,Hyd.	9849821368