HINDI MAHAVIDYALAYA

(UTONOMOUS & NAAC RE-ACCREDITED)
(Affiliated to Osmania University)
Nallakunta, Hyderabad-44

B.SC. I & II SEMESTER I YEAR

&

B.SC. III & IV SEMESTER II YEAR

DEPARTMENT OF STATISTICS

2017-2018

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
BOARD OF STUDIES IN STATISTICS
Academic Year 2017-18
DEPARTMENT OF STATISTICS

Chairperson
Mrs. P. Swathi
Head, Department of Statistics
Hindi Mahavidyalaya
Nallakunta, Hyderabad

University Nominee
Dr. G. Jayaraju
University Nominee - BOS
Department of Statistics
Osmania University, Hyderabad

Members of BOS

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

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

3. Dr. Savithri Sarathi
   Director, Tvashtaa,
   Opp. Blood Bank, Narayanaguda,
   Hyderabad.

AGENDA

1. Welcome address by the Chair.

2. Details of Choice Based Credit System implemented by College.

3. Distribution of Examination Marks for both Theory and Practical's (Internal assessment, Assignment and for Semester End Exams).

4. Distribution of Examination Question Paper Pattern for both Theory and Practical's (Internal assessment, Assignment and for Semester End Exams)

5. Approval of B.Sc. (Statistics) syllabus for I, II, III and IV semesters.

6. Approval of Panel of Examiners for Semester End examinations of B.Sc. (Statistics) I,II, III and IV semesters.

7. Any other matter with permission of Chair

8. Vote of Thanks

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
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BOARD OF STUDIES IN STATISTICS
(Academic Year 2017-18)
DEPARTMENT OF STATISTICS,

Minutes of BOS Meeting

BOS meeting of the Department of Statistics was held on Date: 09-08-2017, 3.00 PM

Members Present

Mrs. P. Swathi	-	Chairperson
Dr. G. Jayasree	-	University Nominee
Dr. N.Ch. Bhatra Charyulu	-	Member
Dr. G.Sirsha	-	Member
Dr. Savithri Saradhi	-	Member

I. Welcome address by the chair

The chair welcomed the Dr. G. Jayasree, University Nominee, Ex-officio Member of Board of Studies in Statistics, Osmania University and Members of Board of Studies in Statistics, Dr. N.Ch. Bhatra Charyulu, Dr. G.Sirsha and Dr. Savithri Saradhi.

II. Choice Based Credit System

As per the UGC norms and as per the Telangana State College Higher Education (TSCHE) instructions, Hindi Mahavidyalaya, Nallakunta, Hyderabad (Autonomous College) is implementing CBCS from the academic year 2016-17. As per the CBCS, the college is offering Semester system with Add-on Courses or Skill Enhancement Courses, with credits for each course offered depends on the teaching hours and with flexibility of change of syllabus as per the demand (Add-on or SEC-2 Credits, Practical 1 Credit, Theory 4 Credits
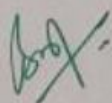
etc). A Ten point Semester Grading Point Average (SGPA) will be evaluated in each semester and Cumulative Grading Point Average (CGPA) score will evaluated on overall.

Department of Statistics, Hindi Mahavidyalaya is offering common core syllabus prescribed by Osmania University by adopting University syllabus without any much modifications in the syllabus.

III. **Pattern of Examination for Assignment, Internal and Semester end Examinations of theory and Practical.**

1. The Theory Examination will be conducted for 100 Marks on continuous evaluation with Assignment, Internal assessment and Semester end Examinations with distribution of marks as follows:

a) Two Internal Assessments should be conducted for 15 Marks each (10 Multiple with 1/2 marks, 10 fill in the blanks with 1/2 marks and 5 short answer questions) each for theory paper and its average will be counted for 15 Marks.

b) One assignment will be given and evaluated for 5 Marks.

c) Semester end Exam will be evaluated for 80 marks. It should contains two sections short answer type and essay answer type with equal weight for all units of syllabus. Section A contains 8 short Questions. Section B contains 4 essay Questions with internal choice.

d) Internal exam duration will be 30 Minutes and Semester exam duration will be of 3 hrs.

e) The theory Paper is counted for 4 credits and Practical counted for 1 credit.

2. Practical Examination will be conducted for 25 marks with a split of 20 + 5 (record) at the end of the semester. Answer two out of Four each carries 10 Marks.

Y. Jayasree.
Chair-Person
B.O.S. in Statistics
U.C.S.
Osmania University,
HYDERABAD-7.

Y. Sirisha

P-Sneha

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2017-18 CBCS STRUCTURE

SCHEME OF INSTRUCTIONS & EVALUATION

B.SC. M P CS / M S CS

FIRST YEAR SEMESTER-I

Code	Course Title	Course Type	HPW	Credits	Semester End exam		Continuous Internal Evaluation		Total	Practical 2 HRS
					Duration in HRS	Marks	Exam Duration	Marks		
BS101	Environmental Studies	AECC-1	2	2	2	40	30 min	10	50	-
BS102	English	CC-1A	5	5	3	80	30 min	20	100	-
BS103	Second Language (H/ S/ T)	CC-2A	5	5	3	80	30 min	20	100	-
BS104	MATHS	DSC-1A	4 T + 2P = 6	4+1=5	3	80	30 min	20	100	25
BS105	PHYSICS / STATISTICS	DSC-2A	4 T + 2P = 6	4+1=5	3	80	30 min	20	100	25
BS106	COMPUTER SCIENCE	DSC-3A	4 T + 2P = 6	4+1=5	3	80	30 min	20	100	25
	TOTAL NO. OF CREDITS			27		440		110	625	

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2017-18 CBCS STRUCTURE

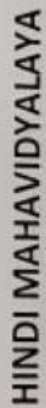## SCHEME OF INSTRUCTIONS & EVALUATION

B.SC. M P CS / M S CS

FIRST YEAR SEMESTER-II

Code	Course Title	Course Type	HPW	Credits	Semester End exam		Continuous Internal Evaluation		Total	Practical 2 HRS
					Duration in HRS	Marks	Exam Duration	Marks		
BS201	Gender sensitization	AECC-2	2	2	2	40	30 min	10	50	-
BS202	English	CC-1B	5	5	3	80	30 min	20	100	-
BS203	Second Language (H/ S/ T)	CC –2B	5	5	3	80	30 min	20	100	-
BS204	MATHS	DSC-1B	4 T + 2P = 6	4+1=5	3	80	30 min	20	100	25
BS205	PHYSICS / STATISTICS	DSC-2B	4 T + 2P = 6	4+1=5	3	80	30 min	20	100	25
BS206	COMPUTER SCIENCE	DSC-3B	4 T + 2P = 6	4+1=5	3	80	30 min	20	100	25
	TOTAL NO. OF CREDITS			27		440		110	625	

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SCHEME OF INSTRUCTIONS & EVALUATION

B.SC. M P CS / M S CS

SECOND YEAR SEMESTER-III

Code	Course Title	Course Type	HPW	Credits	Semester End exam		Continuous Internal Evaluation		Total	Practical 3 HRS
					Duration in HRS	Marks	Exam Duration	Marks		
BS301	A/B	SEC-1	2	2	2	40	30 min	10	50	-
BS302	English	CC-1C	5	5	3	80	30 min	20	100	-
BS303	Second Language	CC-2C	5	5	3	80	30 min	20	100	-
BS304	MATHS	DSC-1C	4 T + 2P = 6	4+1=5	3	80	30 min	20	100	50
BS305	PHYSICS / STATISTICS	DSC-2C	4 T + 2P = 6	4+1=5	3	80	30 min	20	100	50
BS306	COMPUTER SCIENCE	DSC-3C	4 T + 2P = 6	4+1=5	3	80	30 min	20	100	50
			30	27		440		110	700	

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Chair-person
B.O.S. in Statistics
U.C.S. University.
Osmania University,
HYDERABAD-7.

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SCHEME OF INSTRUCTIONS & EVALUATION

B.SC. M P CS / M S CS

SECOND YEAR SEMESTER-IV

Code	Course Title	Course Type	HPW	Credits	Semester End exam		Continuous Internal Evaluation		Total	Practical 3 HRS
					Duration in HRS	Marks	Exam Duration	Marks		
BS401	C/D	SEC-2	2	2	2	40	30 min	10	50	-
BS402	English	CC-1D	5	5	3	80	30 min	20	100	-
BS403	Second Language	CC-2D	5	5	3	80	30 min	20	100	-
BS404	MATHS	DSC-1D	4 T + 2P = 6	4+1=5	3	80	30 min	20	100	50
BS405	PHYSICS / STATISTICS	DSC-2D	4 T + 2P = 6	4+1=5	3	80	30 min	20	100	50
BS406	COMPUTER SCIENCE	DSC-3D	4 T + 2P = 6	4+1=5	3	80	30 min	20	100	50
			30	27		440		110	700	700

M. Jayasree.

Chairperson

B.O.S. in Statistics.

O.U. University.

Osmania University-7.

HYDERABAD-7.

N. Srisha   P Swathi

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HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
(Academic Year 2017-18)
B.Sc. (Statistics) I-Year I-Semester Syllabus

Paper I: Descriptive Statistics and Probability (DSC-2A)

Code: BS105

Theory Classes	4 Hours / Week
Credit for Theory	4 Credits
Duration of Semester Examination	3 Hrs
Duration of Internal Examination	30 Minutes
Semester Examination Marks	80 Marks
Internal Examination Marks	20 Marks

Objective: To give basic interpretation of data and basic statistics of data.

UNIT – I

Descriptive Statistics: Concept of primary and secondary data, Methods for collection and editing of primary and Sources and editing of secondary data, Designing a questionnaire and a schedule, Classification and Tabulation of data. Measures of Central Tendencies (Mean, Median, Mode, Geometric Mean and Harmonic Mean) with simple applications.

Absolute and Relative measures of dispersion (Range, Quartile Deviation, Mean Deviation and Standard Deviation) with simple applications, Central and Non-central Moments, and their interrelationships, Importance of Moments, Sheppard's corrections for moments for grouped data, Measures of Skewness based on Central tendencies, Quartiles and Moments and Measure of Kurtosis based on moments with real life examples.

UNIT – II

Probability Theory: Basic concepts in Probability: deterministic and random experiments, trail, outcome, sample space, event, and operations of events, mutually exclusive and exhaustive events, and equally likely and favourable outcomes with examples. Mathematical, Statistical and Axiomatic definitions of probability with merits and demerits. Properties of Probability based on Axiomatic definition.

Y.Jayasree.
Chair-Person
B.O.S. in Statistics
U.C.S.
Osmania University,
HYDERABAD-7.

M.Sirisha   P-Swathi

Conditional Probability and Statistical independence, 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 and 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 and covariance using mathematical expectation with examples. Addition and multiplication theorems of expectation.

Definition of Moment Generating Function, Cumulant Generating Function, Probability Generating Function and Characteristic Function and Statements of their properties with applications, Chebyshev's and Cauchy-Schwartz's inequalities and their applications.

Reference Books:

1. V.K.Kapoor and S.C.Gupta: Fundamentals of Mathematical Statistics, Sultan Chand & Sons, New Delhi

2. Goon AM, Gupta M K, Das Gupta B : Fundamentals of Statistics, Vol-I, World Press pvt. Ltd., Kolakota.

3. Sanjay Arora and Bansi Lal: New Mathematical Statistics : Satya Prakashan , New Delhi

4. Hogg. Tanis. Rao: Probability and Statistical Inference. 7th edition. Pearson

M. Jayasree.
Chair-Person
B.O.S. in Statistics
U.C.S.
Osmania University,
HYDERABAD-7.

M. Sirisha

P. Swathi

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(AUTONOMOUS)
(Academic Year 2017-18)
B.Sc. (Statistics) I-Year I-Semester Syllabus

Paper I: Descriptive Statistics and Probability Practical Paper

Code: BS105P

Instructions	
Duration of Exam	2 Hrs / Week
No. of Credits	2 Hrs
Marks for Exam	1
Laboratory Course	25 Marks (20+5)
	30 Hrs

1. Graphical presentation of data (Histogram, Frequency Polygon, Ogives).

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 β_1 and β_2 and coefficients of Skewness (Karl-Pearson's and Bowley's) and Kurtosis.

5. 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. (*Not for Examination*)

6. Graphical presentation of data (Histogram, frequency polygon, Ogives) using MS Excel

7. Diagrammatic presentation of data (Bar and Pie) using MS Excel

8. Computation of Measures of central tendency, dispersion, Coefficient of Variation and coefficients of Skewness, Kurtosis using MS Excel.

Y.Jayasree.
Chair-Person
B.O.S. in Statistics
U.C.S.
Osmania University,
HYDERABAD-7.

Y.Krishna

P-Sarathi

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(Academic Year 2017-18)
B.Sc. (Statistics) I-Year II-Semester Syllabus

Paper II: Probability Distributions (DSC-2B)

Code: BS205

Theory Classes	4 Hours / Week
Credit for Theory	4 Credits
Duration of Semester Examination	3 Hrs
Duration of Internal Examination	30 Minutes
Semester Examination Marks	80 Marks
Internal Examination Marks	20 Marks

Objective: Analyzing of distribution and their characteristics.

UNIT – I

Discrete distributions – I: Uniform and Bernoulli distributions: definitions, mean, variance and simple examples; Definition and derivation of probability functions of Binomial and Poisson distributions (Poisson approximation to Binomial distribution), Properties of these distributions such as Moments up to fourth order, Median, Mode, M.G.F., C.G.F., P.G.F., Ch.F., Reproductive property, wherever exists, and their real life applications..

UNIT – II

Discrete distributions – II : Negative Binomial, Geometric distributions: Definitions and physical condition, properties of these distributions such as moments up to fourth order, M.G.F., C.G.F., P.G.F., Ch.F. and Reproductive property, wherever exists, Lack of Memory property for Geometric distribution and their real life applications. Poisson approximation to Negative binomial distribution. Hyper-geometric distribution – definition, physical conditions, derivation

UNIT – III

Continuous distributions – I : Rectangular and Normal distributions – definition, properties such as M.G.F., C.G.F., P.G.F., Ch.F., and moments up to fourth order, reproductive property, wherever exists and their real life applications. Normal distribution as a limiting case of Binomial and Poisson distributions.

UNIT – IV

Continuous distributions – II : Exponential, Gamma : definition, properties such as M.G.F., C.G.F., P.G.F., Ch.F.,. and moments up to fourth order, reproductive property wherever exists and their real life applications. Beta distribution of two kinds : Definitions, mean and variance. Cauchy distribution- Definition and Ch.F., Definition of Convergence in Law, in Probability and with Probability one or almost sure convergence. Definition of Weak Law of Large Numbers (WLLN) and Strong Law of Large numbers (SLLN). Definition of Central Limit Theorem (CLT) for identically and independently distributed (i.i.d) random variables with finite variance.

Reference Books:

1. V.K.Kapoor and S.C.Gupta: Fundamentals of Mathematical Statistics, Sultan Chand & Sons, New Delhi

2. Goon AM, Gupta M K, Das Gupta B : Fundamentals of Statistics, Vol-I, World Press pvt. Ltd., Kolakota.

3. Sanjay Arora and Bansi Lal: New Mathematical Statistics : Satya Prakashan , New Delhi

4. Hogg. Tanis. Rao: Probability and Statistical Inference. 7th edition. Pearson

5. M. JaganMohan Rao and Bhatra Charyulu N.Ch. Raghvendar Sharma and Raghuveer: A Text book of Statistics B.Sc Statistics, Himalaya Publications

y. Jayasree.
Chair-Person
B.O.S. in Statistics
U.C.S.
Osmania University,
HYDERABAD-7.

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(AUTONOMOUS)
(Academic Year 2017-18)
B.Sc. (Statistics) I-Year II-Semester Syllabus

Paper II: Probability Distributions Practical Paper

Code: BS205P

Instructions	
Duration of Exam	2 Hrs / Week
No. of Credits	2 Hrs
Marks for Exam	1
Laboratory Course	25 Marks (20+5)
	30 Hrs

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.

9. Fitting of Exponential distribution.

10. Fitting of a Cauchy distribution.

11. Fitting of Binomial distribution – Direct method using MS Excel.

12. Fitting of Poisson distribution – Direct method using MS Excel.

13. Fitting of Exponential distribution using MS Excel.

14. Fitting of a Cauchy distribution using MS Excel.

Y. Jayasree.
Chair-Person
B.O.S. in Statistics
U.C.S.
Osmania University,
HYDERABAD-7.

Y. hirsha   p. swathi

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(AUTONOMOUS)
(Academic Year 2017-18)
B.Sc. (Statistics) II-Year / III-Semester Syllabus

Paper III: Statistical Methods (DSC-2C)

Code: BS305

Theory Classes	
Credit for Theory	4 Hrs / Week
Duration of Semester Examination	4
Duration of Internal Examination	3 Hrs
Semester Examination Marks	30 Minutes
Internal Examination Marks	80 Marks
	20 Marks

Objective: Basic concept of regression analysis to give predictions, Sampling to draw samples, Attribute theory.

UNIT –I

Curve Fitting: Bi-variate data, scattered diagram, Principle of least squares, fitting of straight line, quadratic and power curves.

Correlation and Regression: Concept of correlation, computation of Karl-Pearson correlation coefficient for grouped and ungrouped data and its properties. Correlation ratio, Spearman's rank correlation coefficient and its properties. Simple linear regression, correlation verses regression, properties of regression coefficients.

UNIT-II

Concepts of Mutiple Regression, Partial and Multiple correlation coefficients (only for three variables).

Theory of Attributes: Analysis of categorical data, independence and association and partial association of attributes, various Measures of Associations (Yule's) for two way data and coefficient of contingency (Pearson and Tcherprow), Coefficient of Colligation.

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Chair-person
B.O.S. in Statistics
U.C.S.
Osmania University,
HYDERABAD-7.

M.Sirisha P.Swathi

UNIT-III

Sampling Distributions: Concepts of Population, Parameter, Random Sample, Statistic, Sampling distribution and Standard Error. Standard error of sample mean (s) and sample proportion(s). Statement and properties of chi square, t and F distributions and their interrelationships. Independence of sample mean and variance.

Estimation Theory: Point estimation of a parameter, concept of bias and mean square error of an estimate. Criteria of good estimator: Consistency, Unbiasedness, Efficiency and Sufficiency with examples.

UNIT-IV

Estimation Theory: Statement of Neyman's Factorization theorem, derivations of sufficient statistics in case of Binomial, Poisson, Normal and Exponential (one parameter only) distributions. Estimation by method of moments, Estimation of Maximum likelihood (ML), statements of asymptotic properties of MLE. Concept of interval estimation. Confidence intervals of the parameters of normal population by Pivot method.

Reference books:

1. V.K.Kapoor and S.C.Gupta: Fundamentals of Mathematical Statistics, Sultan Chand &Sons, New Delhi

2. Goon AM, Gupta MK,Das Gupta B: Outlines of Statistics, Vol-II, World Press Pvt. Ltd. Kolakota.

3. Sanjay Arora and BansiLal:.New Mathematical Statistics Satya Prakashan , New Delhi

4. ParimalMukhopadhyay: Mathematical Statistics. New Central Book agency.

5. Hogg, Tanis, Rao. Probability and Statistical Inference.7th edition. Pearson Publication.

Y.Jayasree .
Chair-Person
B.O.S. in Statistics
U.C.S.
Osmania University,
HYDERABAD-7,

Y.Sirisha   P.Sastri

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(AUTONOMOUS)
(Academic Year 2017-18)
B.Sc. (Statistics) II-Year III-Semester Syllabus

Paper III: Statistical Methods Practical Paper
Code: BS305P

Instruction	
Duration of Exam	2 Hrs / Week
No. of Credits	2 Hrs
Marks for Exam	1
Laboratory Course	50 Marks (40+10)
	30 Hrs

1. Generation of random samples from Uniform (0,1), Uniform (a,b) and exponential Distributions.

2. Generation of random samples from Normal and Poisson distributions.

3. Simulation of random samples from Uniform (0,1), Uniform (a,b),Exponential, Normal and Poisson distributions using MS Excel.

4. Fitting of straight line and parabola by the method of least squares.

5. Fitting of straight line and parabola by the method of least squares using MS Excel.

6. Fitting of power curves of the type y= a xb, y=a bx and y=a ebx by the method of least squares.

7. Fitting of power curves of the type y= a xb, y=a bx and y=a ebx by the method of least squares using MS Excel.

8. Computation of Yule's coefficient of association.

9. Computation of Pearson's, Tcherprows coefficient of contingency.

10. Computation of correlation coefficient and regression lines for ungrouped data.

11. Computation of correlation coefficient, forming regression lines for ungrouped data.

12. Computation of correlation coefficient, forming regression lines for grouped data.

13. Computation of correlation coefficient, forming regression lines using MS Excel.

14. Computation of multiple and partial correlation coefficients.

15. Computation of multiple and partial correlation coefficients using MS Excel.

16. Computation of correlation ratio

Y. Jayasree.
Chair-Person
B.O.S. in Statistics
U.C.S.
Osmania University.
HYDERABAD-7.

Y. Sirisha   P.swati

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(AUTONOMOUS)
(Academic Year 2017-18)
B.Sc. (Statistics) II-Year / IV-Semester Syllabus

Paper IV: Statistical Inference (DSC-2D)

Code: BS405

Theory Classes	
Credit for Theory	4 Hrs / Week
Duration of Semester Examination	4
Duration of Internal Examination	3 Hrs
Semester Examination Marks	30 Minutes
Internal Examination Marks	80 Marks
	20 Marks

Objective: Study of hypothesis and inference parameter to diagnose biasedness.

UNIT-I

Concepts of Statistical Hypotheses, Null and Alternative hypothesis, Critical region, Two Types of Errors, Level of Significance and Power of a test. One and two Tailed Tests, Test Function (Non-randomized and Randomized).

Statement and Proof of Neyman-Pearson's Fundamental Lemma for Randomized tests.

Examples in case of Binomial, Poisson, Exponential and Normal distributions and their powers.

UNIT-II

Large sample tests for single sample mean, difference of means, single sample proportion, difference of proportions and difference of standard deviations. Fisher's Z-transformation for population correlation coefficient(s) and testing the same in case of one sample and two samples. Definition of order statistics and statement of their distributions.

UNIT-III

Tests of significance based on chi square, chi square test for specified variance, goodness of fit and test for independence of attributes (rxs, 2xk and 2x2 contingency tables). Tests of significance based on student's - t – t-test for single sample specified mean, difference of means

Y. Jayasree.
Chair-person
B.O.S. in Statistics
U.C.S.
Osmania University,
HYDERABAD-7.

M. Nirisha   P. Swathi   Jehas

for independent and related samples, sample correlation coefficient. F - test for equality of population variances.

UNIT-IV

Non-parametric tests- their advantages and disadvantages, comparison with parametric tests. Measurement scale- nominal, ordinal, interval and ratio. Use of Central Limit Theorem in testing. One sample runs test, sign test and Wilcoxon-Signed rank tests (single and paired samples). Two independent sample tests: Median test, Wilcoxon–Mann-Whitney U test, Wald-Wolfowitz's runs test. Use of Central Limit Theorem in testing.

List of reference books:

1. V.K.Kapoor and S.C.Gupta: Fundamentals of Mathematical Statistics, Sultan Chand & Sons, New Delhi

2. Sanjay Arora and BansiLal:.New Mathematical Statistics Satya Prakashan , New Delhi

3. Siegal,S.,and Sidney: Non-parametric statistics for Behavioral Science. McGraw Hill.

4. GibbonsJ.D and Subhabrata Chakraborti: Nonparametric Statistical Inference. Marcel Dekker.

5. Conover : Practical Nonparametric Statistics. Wiley series.

6. Hogg, Tanis, Rao. Probability and Statistical Inference.7th edition. Pearson Publication.

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(AUTONOMOUS)
(Academic Year 2017-18)
B.Sc. (Statistics) II-Year IV-Semester Syllabus

Paper IV: Inference Practical Paper

Code: BS405P

Instruction

Duration of Exam	2 Hrs / Week
No. of Credits	2 Hrs
Marks for Exam	1
Laboratory Course	50 Marks (40+10)
	30 Hrs

1. Large sample tests for mean(s), proportion(s), Standard deviation(s) and correlation coefficient.

2. Small sample tests for single mean and difference of means and correlation coefficient. Paired t-test.

3. Small sample tests for mean(s), paired t-test and correlation coefficient using MS Excel.

4. Small sample test for single and difference of variances.

5. Small sample test for single and difference of variances using MS Excel.

6. $\chi 2$ – test for goodness of fit and independence of attributes.

7. $\chi 2$ – test for goodness of fit and independence of attributes using MS Excel.

8. Nonparametric tests for single and related samples (sign test and Wilcoxon signed rank test) and one sample runs test.

9. Nonparametric tests for two independent samples (Median test, Wilcoxon Mann Whitney -U test, Wald - Wolfowitz's runs test)

ey- Jayasree.
Chair-Person
B.O.S. in Statistics
U.C.S.
Osmania University,
HYDERABAD-7.

M. Srisha   P-Swathi

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
(Academic Year 2017-18)
B.Sc. (Statistics) II-Year III-Semester Syllabus

Concepts of Sequences of Random Variables

Theory Classes   Code: BS301
Credit for Theory   2Hrs/Week
Semester Examination Marks   2
                                                  50 Marks

Unit –I

Stochastic process, Index set, state space, classification of stochastic processes with examples, stationary process, Covariance stationary process, Martingale sequence of random variables. Applications of stochastic processes through examples.

Unit II

Definition and examples of finite – dimensional distributions of a Markov Chain, time – homogeneity, transition probability matrix, marginal distribution. Classification of states – recurrent, transient, positive recurrent and null recurrent states.

Reference Books:

1. Medhi, J. (1982) : Stochastic Processes, Wiley Eastern.

2. U. N. Bhat (1984) : Elements of Applied Stochastic Processes, Wiley series.

Chair-Person
B.O.S. in Statistics
U.C.S.
Osmania University,
HYDERABAD-7.

Statistics for Psychology and Education

Code: BS401
Theory Classes
Credit for Theory   2Hrs/Week
Semester Examination Marks   2
                                                     50 Marks

Unit –I

Introduction, Scaling procedures, scaling of rankings in terms of Normal Probability curves.

Unit II

Reliability of test scores, effect of test length and different ranges on reliability of the test, Validity of test scores, comparison between reliability and validity.

Reference Books:

- Fundamentals of Applied Statistics by SC Gupta and VK Kapoor, Sultan Chand & Sons

Chair-Person
B.O.S. in Statistics
U.C.S.
Osmania University,
HYDERABAD-7.

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
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(Academic Year 2017-18)
B.Sc STATISTICS

Scheme of Model Question Paper

Time – 3 Hrs

Semester Exam Pattern

Max. Marks: 100

80 Marks

Section – A 8 Short Answer Questions ------ Answer any four
Each carries 5 marks

5 X 4 = 20 Marks

Section—B 4 Long answer questions -----with internal choice
Each carries 15 Marks

4 X 15 = 60 Marks

_____

Total Marks = 80

Internal Assessment Pattern

20 Marks

Duration - 30 Min

In Internal Assessment there will be 3 sections

Sections A 10 –Multiple choice questions

10 X ½ =5 Marks

Section –B 10—Fill in the Blanks

10 X ½ =5 Marks

Section –C 5 - Short Answer Questions

5 X 1= 5Marks

_____

15 Marks

Two Internal Assessment Average is to be considered $\frac{15+15}{2}$ = 15 Marks

One Assignment to be given   5 Marks

Internal Assessment Total   20 Marks

Note: Equal Weight age has to be given to all units in each semester

Y.Jayasree.
Chair-Person
B.O.S. in Statistics
U.C.S.
Osmania University,
HYDERABAD-7.

Y.Sirisha   P.Swathi

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
(Academic Year 2017-18)
B.Sc. Statistics
Theory Model Question Paper

Time: 3hrs

Max. Marks: 80

SECTION A

I Write short notes on any Four of the following: 4 X 5 =20 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 Unit IV
8. A Question from Unit IV

SECTION B

II Essay Questions. Answer all the Questions   4 X 15 =60 Marks

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

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

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

10 (a) A Question from Unit IV
         (OR)
  (b) A Question from Unit IV

M. Jayasree.
Chair-Person
B.O.S. in Statistics
U.C.S.
Osmania University,
HYDERABAD-7.

M. Nirisha   P. Swathi

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
(Academic Year 2017-18)
B.Sc I Year I & II Semester Statistics
Practical Model Question Paper

Time:3Hrs   Total Marks: 25M

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   5 Marks

Y. Jayasree.
Chair-Person
B.O.S. in Statistics
U.C.S.
Osmania University,
HYDERABAD-7.

Y. Sirisha   P. Swathi

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
(Academic Year 2017-18)
B.Sc II Year III & IV Semester Statistics
Practical Model Question Paper

Time:3Hrs   Total Marks: 50M

I   Answer any two questions out of four questions.   40 Marks

   1.   Question 1

   2.   Question 2

   3.   Question 3

   4.   Question 4

II   Record   10 Marks

Chair-Person
B.O.S. in Statistics
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Osmania University,
HYDERABAD-7.

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(Academic Year 2017-18)
B.Sc II Year III & IV Semester STATISTICS
SEC-1 & 2
Theory Model Paper

Code: BS301
Time: 2 Hrs.

Maximum marks: 40

Section – A

I.   Answer any two of the following four questions. Each carries five marks

(2 x 5M = 10 Marks)

Q1. From Unit 1
Q2. From Unit 1
Q3. From Unit 2
Q4. From Unit 2

Section – B

II.   Answer all the following two questions. Each carries fifteen marks
Q09. (a) or (b) from Unit 1

(2 x 15M = 30 Marks)

Q10. (a) or (b) from Unit 2

Y. Jayasree.
Chair-Person
B.O.S. in Statistics
U.C.S.
Osmania University.
HYDERABAD-7.

Y. Sirisha   P. Swathi

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
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(Academic Year 2017-18)
B.Sc II Year III Semester STATISTICS
SEC-1 & 2
Internal Model Paper

Time: 30 Minutes.

Maximum marks: 10

- One internal exam at the end of the semester, of half an hour duration is to be conducted carrying 10 marks.

- Following is the examination pattern.
    - 10 MCQs (multiple choice questions) of ½ mark each
    - 10 FIBS (Fill in the Blanks) of ½ Mark each.