Semester	Paper	Subject	Hrs.	Credits	IA	ES	Total
FIRST YEAR							
Semester I	**Paper-I**	**Elementary Mathematics**	**4**	**3**	**40**	**60**	**100**
Semester I	**Paper-I**	**Practical's**	**2**	**2**	**0**	**50**	**50**
Semester II	**Paper-II**	**Descriptive Statistics**	**4**	**3**	**40**	**60**	**100**
Semester II	**Paper-II**	**Practical's**	**2**	**2**	**0**	**50**	**50**
SECOND YEAR							
Semester III	**Paper-III**	**Theory of Probability**	**4**	**3**	**40**	**60**	**100**
Semester III	**Paper-III**	**Practical's**	**2**	**2**	**0**	**50**	**50**
Semester IV	**Paper-IV**	**Probability Distributions**	**4**	**3**	**40**	**60**	**100**
Semester IV	**Paper-IV**	**Practical's**	**2**	**2**	**0**	**50**	**50**
THIRD YEAR							
Semester V	**Paper-V**	**Applications of Statistical Methods**	**3**	**3**	**40**	**60**	**100**
	Paper-V	**Practical's**	**2**	**2**	**0**	**50**	**50**
	Paper-VI	**Sampling Techniques**	**3**	**3**	**40**	**60**	**100**
	Paper-VI	**Practical's**	**2**	**2**	**0**	**50**	**50**
Semester VI	**Paper-VII**	**ELECTIVE-1: Operation Research**	**3**	**3**	**40**	**60**	**100**
		ELECTIVE-2: Demography	**3**	**3**	**40**	**60**	**100**
		ELECTIVE-3: Stochastic Processes and its applications	**3**	**3**	**40**	**60**	**100**
	Paper-VII	**Practical's**	**2**	**2**	**0**	**50**	**50**
	Cluster (A)	**A1-Applied Statistics**	**3**	**3**	**40**	**60**	**100**
		Practical	**2**	**2**	**0**	**50**	**50**
		A2-Computer Applications	**3**	**3**	**40**	**60**	**100**
		Practical	**2**	**2**	**0**	**50**	**50**

		Project & Viva voce	**5**	**5**	**40**	**60**	**100**
Semester VI	**Cluster (B)**	**B1-Official Statistics and Design of Experiments**	**3**	**3**	**40**	**60**	**100**
		Practical	**2**	**2**	**0**	**50**	**50**
		B2-Mortality and Actuarial Statistics	**3**	**3**	**40**	**60**	**100**
		Practical	**2**	**2**	**0**	**50**	**50**
		Project & Viva voce	**5**	**5**	**40**	**60**	**100**
	Cluster (C)	**C1-Testing of Hypothesis**	**3**	**3**	**40**	**60**	**100**
		Practical	**2**	**2**	**0**	**50**	**50**
		C2-Decision Making Analysis	**3**	**3**	**40**	**60**	**100**
		Practical	**2**	**2**	**0**	**50**	**50**
		Project & Viva voce	**5**	**5**	**40**	**60**	**100**

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CBCS SYLLABUS (Semester Wise) 2018-19
I B.A. Statistics/Semester-II
(Non-Mathematics Combination)

Descriptive Statistics Paper - II

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

Unit-I:

Introduction to Statistics: Statistics, Definition, application, scope, limitation, primary and secondary data, methods of collecting Primary and Secondary data. Statistical enquiry, Questionnaire and Schedule, Raw data, Editing of data.

Additional Input: Destruct of Statistics

Unit-II:

Classification and Tabulation: Classification of data, Frequency distribution, rules of tabulation, simple and complex tables, single, double and manifold tables.

Unit-III:

Diagrammatic Representation: Bar diagrams, square, rectangle, Pie-charts, Histogram, Frequency polygon, Ogives.

Unit-IV:

Measures of Central Tendency: Mean, Median, Mode, G.M & H.M, merits and demerits, finding median by graphic method, quartiles, deciles & percentiles.

Unit-V:

Measures of Dispersion: Range, Q.D, S.D, M.D, Coefficient of variation, Lorenz curve.

Text Books:

1. **Statistical Methods-S.P.Gupta**
2. **Fundamentals of Mathematical Statistics- SC Gupta and V.K.Kapoor**
3. **3.Moulika Ganithamu Sambavyata - Telugu Academy.**
4. **Quantitative Techniques I-Sultan Chand Publication**

Practical's- Semester-II

Conduct any 6 Practical's.(MS-excel is compulsory)

1. **Raw data analysis methods, Questionnaire**
2. **Bar diagrams**
3. **Pie diagrams**
4. **Histogram**
5. **Frequency Polygon.**
6. **Measures of Central Tendency**
7. **Measures of Dispersion**
8. **8. Frequency Distribution**

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CBCS SYLLABUS (Semester Wise) 2018-19
I B.A. Statistics/Semester-II
(Non-Mathematics Combination)

Descriptive Statistics Paper – II

Time: 3hrs **Model Paper** **Max Marls: 60**

SECTION-A

Answer any FIVE of the following Questions. 5X4=20M

1. **Explain the Functions of Statistics ?**
2. **Write about Origin and Scope of Statistics?**
3. **Explain the Primary data**
4. **Distinguish between a QUESTIONNIRE and a SCHEDULE**
5. **Describe Pie charts**
6. **Write about Quartiles, Deciles, Percentiles,**
7. **Explain the concept of Coefficient of Variation**
8. **Write about Lorenz curve**

SECTION-B

Answer Any FOUR of the following questions. 4X8=32M

9. **Define various definitions of Statistics and Limitations of Statistics**
8. **Explain the concept of Tabulation**
11. **Define Classifications of data explain various types of classifications**
12. **Explain the Various methods of collecting Secondary data**
13. **What is diagram? Explain the Types of diagrams and its limitations**

14. Explain the importance of Diagrams. Construct Histogram and Frequency Polygon for the following data.

Class interval	**0-8**	**8-20**	**20-30**	**30-40**	**40-32**	**32-60**	**60-70**
Frequency	**19**	**26**	**32**	**24**	**16**	**15**	**9**

15. Explain any two measures of Central Tendency with its Merits and Demerits

SECTION-C

Answer any FOUR of the Following Questions **4X2=8M**

16. Write applications of Statistics?

17. Define Ogives curves

18. What is raw data and how do you represent raw data?

19. Find A.M. of numbers 2, 5, 5,7,8,9,7,9,5

20. Find Range of Numbers 12, 16,17,19,24,34,32,15

21 .Find median of 15, 8, 9, 12, 8, 13,-76, 48

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CBCS SYLLABUS (Semester Wise) 2018-19
II B.A. Statistics/Semester-IV
(Non-Mathematics Combination)
Probability Distributions Paper-IV

Total hrs. Per week: 04 **Total credits: 03**

Unit-I:

Discrete Distributions: Binomial, Poisson, Geometric distributions-definitions, means, variances and applications of these distributions. Additive property if Exists, Simple problems.

Unit-II:

Continuous Distributions: Rectangular, Normal, Exponential distributions-definitions and their properties, Simple problems.

Unit-III:

Curve Fitting: Principle of Least squares-Fitting of straight line, Parabola, Exponential and power curves.

Unit-IV:

Theory of Correlation: Meaning, types of Correlation, Methods of studying the correlation, Properties, Assumptions, Merits and demerits, Probable Error, Rank Correlation, Simple problems

Unit-V:

Theory of Regression: Definition, Uses, Regression lines, Regression coefficients and their properties, Methods of studying Regression, Difference between Correlation and Regression, Simple problems

Text Books:

1. **V.K.Kapoor and S.C.Gupta: Fundamentals of Mathematical Statistics.**
2. **Statistical methods- S.P.Gupta.**

Reference Books:

1. **Saha Sambandham Vibhajana Siddhantamu Vol.- I & Vol. – II .Telugu Academy**
2. **Sambavyata - Telugu Academy**
3. **Sankyka Vislashanamu – Telugu Academy**
4. **.Goon, Gupta and Das Gupta: Fundamentals of Statistics. Volume I .World Press.**

PRACTICAL'S- SEMESTER-IV

Conduct Any 6 Practical's

1. **Fitting of Binomial by Direct method**
2. **Fitting of Poisson distribution by Direct method**
3. **Fitting of Normal distribution by Ordinates method**
4. **Fitting of Straight line Or Fitting of Parabola**
5. **Fitting of $Y = a X^b$ Or Fitting of $Y = a b^x$ Or Fitting of $Y = a e^{bx}$**
6. **Correlation coefficient**
7. **Regression lines.**

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CBCS SYLLABUS (Semester Wise) 2018-19
II B.A. Statistics/Semester-IV
(Non-Mathematics Combination)

Probability Distributions Paper – IV

Time: 3hrs **Model Paper** **Max Marls: 60**

SECTION_A

Answer any FIVE of the following questions. 5 x 4 = 20 M

1. **Define Poisson distribution and obtain its mean and variance**
2. **Explain Rectangular distribution and obtain its mean and variance**
3. **Explain Exponential Distribution, state its properties**
4. **Explain Scatter diagram**
5. **Write the properties of Regression coefficients**
6. **Explain Method of Least squares**
7. **Explain difference between Correlation and Regression**
8. **Write different types in Correlation**

SECTION-B

Answer any FOUR of the following questions: 4 x8=32M

9. **Define Binomial distribution and discuss its properties.**
10. **Define Geometric distribution. Obtain its mean and variance.**
11. **Define Normal distribution. Explain its frequency curve? Mention its properties.**
12. **How do you fit a curve $y = a e^{bx}$ to the given data using the method of least squares**
13. **Fit a straight line Y = a + bx to the following data by the method of least squares.**

X	4	6	8	8	12
y	14	15	17	20	22

.

14. Following are the marks of 8 students in two subjects Mathematics and Statistics. Calculate rank correlation coefficient.

Student	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**8**
Marks in Math	**60**	**90**	**80**	**59**	**54**	**64**	**87**	**93**	**84**	**97**
Marks in Stat	**60**	**32**	**78**	**58**	**45**	**42**	**60**	**82**	**95**	**88**

15. Define Regression. Explain Methods of studying the regression?

SECTION-C

Answer any FOUR of the following questions. **4 x2=8 M**

16. State additive property of Poisson distribution

17. Write applications of Binomial distribution

18. Write the importance of Normal distribution

19. Define Correlation

20. Define Probable error

21. What are the limits of spearman's rank Correlation

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CBCS SYLLABUS (Semester Wise) 2018-19

III B.A. Statistics/Semester-VI

(Non-Mathematics Combination)

Operations Research (ELECTIVE-1) Paper –VII

Total hrs. Per week: 04 **Total credits: 03**

Unit-I:

Operations Research: Definition and scope of operations research, phases and models in OR, Linear programming problems, formulation of LPP, solving the LPP by graphical method.

Unit-II:

Transportation problem: Definition of transportation problem, TPP as a special case of LPP, feasible solutions by North-West, Matrix minimum and VAM methods.

Unit-III:

Game theory: Two person games, pure and mixed strategies, zero sum games finding solutions in 2x2 and 2xM games.

Additional Input: Dominance rules

Unit-IV:

Assignment problem: formulation and description of assignment problem and its variations, Assignment problem, traveling salesman problem, Optional solution using Hungarian method.

Unit-V:

Sequencing Problem: elements of sequencing problem with jobs on two machines and their solution.

Reference Books:

1. Operations Research, S. Kalavathi, Vikas publishing house Pvt Ltd.

2. Hamdy A. Taha (1987): Operations Research – An Introduction, 4/e, Prentice Hall of India,Private Ltd, New Delhi.

3. Hillier F S and Libermann G J(2002): Introduction to Operations Research, 7th Edition, McGraw Hill

4. Kanti Swarup, P.K. Gupta and Man Mohan(2004): Operations Research, Sultan Chand and Sons, New Delhi

Practicals:

1. **Solving LPP by graphical method**
2. **Solving the TP by NWCR, matrix minimum and VAM methods**
3. **Game theory – obtaining saddle point and pure mixed strategies**
4. **Finding solution for 2x2 and 2xm games**
5. **Optimal solution for assignment problem**
6. **Solving sequencing problem for jobs on two machines**

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CBCS SYLLABUS (Semester Wise) 2018-19
III B.A Statistics/Semester-VI
(With Mathematics Combination)
OPERATION RESEARCH (ELECTIVE -1)
Paper –VII

MODEL QUESTION PAPER

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

SECTION-A

Answer any FIVE questions. **5 x 4= 20M**

1. **Explain the formulation of LPP**
2. **Explain general LPP**
3. **Explain the standard form of LPP?**
4. **Define feasible solution in a Transportation problems**
5. **Define unbalanced Assignment problem**
6. **How do you obtain a sequence?**
7. **Explain Assignment problem as a special case of TP**
8. **Explain Travelling salesman problem**

SECTION-B

Answer ALL the questions. **4 x 8 = 32M**

10. **Describe the** definition **and scope of Operation Research**

11. **Solve the following LPP by using Graphical method**

$$\text{Maximize } Z = 45X_1 + 80X_2$$
$$\text{Subject to const: } 5X_1 + 20X_2 \leq 400$$
$$8X_1 + 15X_2 \leq 432$$
$$X_1, X_2 \geq 0$$

12. **Explain Two person games and zero sum games with examples**

13. Explain the method of solving 2xn game

14. Solve the following Transportation Problem by using VAM.

	D_1	D_2	D_3	Supply
O_1	32	30	220	1
O_2	90	45	170	3
O_3	400	200	32	5
Demand	5	2	2	9

15. Give an algorithm for n job-2 machines problem.

SECTION-C

Answer any FOUR questions. **4 x 2 = 8M**

16. Define OR

17. Define LPP

18. Define Basic Feasible solution

19. DEfine Tranpotation problem

20. How many methods are there to obtain IBFS in a TP

21. What are the basic assumptions underlying in a sequencing problem

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III B.A. Statistics/Semester-VI

(Non-Mathematics Combination)

Demography (ELECTIVE-2)

Paper –VII

Total hrs. Per week: 04 **Total credits: 03**

Unit-I:

Introduction of demography nature and scope, Brief history of the Development of demographic work in India, Evolution of Indian census 1872 – 1981 Rates and ratios standardization of rates.

Unit-II:

Techniques of measuring mortality factors effecting mortality

Unit-III:

Techniques of measuring fertility – factors effecting fertility

Unit-IV:

Life tables, components of RT and its uses.

Unit-V:

Population growth medals – linear, exponential.

Reference books:

1. **B.D. Misra, The study of population**
2. **D.J. Bogue: Principles of demography**
3. **Sarma P.V.S.: Statistical techniques in population studies (Telugu Academy)**

PRACTICALS:

1. **Calculation of crude death rate, crude birth rate, sex ratio, child women rate**
2. **Drawing of age sex pyramid**
3. **Measures of mortality – infant mortality standardized mortality rate**
4. **Measures of fertility general fertility rate, age specific rate, total fertility rate**
5. **Gross reproduction rate and net reproduction rate**
6. **Life tables**
7. **Growth models linear**
8. **Growth models exponential the end.**

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III B.A Statistics/Semester-VI
(Non- Mathematics Combination)
DEMOGRAPHY (ELECTIVE -2)
Paper –VII

MODEL QUESTION PAPER

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

SECTION-A

Answer any five questions. **5 x 4= 20M**

1. **Explain rates and ratios**
2. **Explain standardization rates**
3. **Explain mortality**
4. **Explain fertility**
5. **Explain the uses of RT**
6. **Describe the life table**
7. **Describe the purpose of growth models**
8. **Explain about Census**

SECTION-B

Answer any FOUR of the following questions. **4x 8 = 32M**

9. **Explain the nature and scope of Demography.**
10. **Explain the techniques of measuring mortality**
11. **What are the various factors affecting mortality? Explain**
12. **Explain the techniques of measuring fertility**
13. **What are the various factors affecting fertility? Explain**

14. Explain about life tables

15 Explain the uses of population growth models

SECTION-C

Answer any FOUR questions. **4 x 2 = 8M**

16. Define Demography

17. What is meant by Standardization

18. De**fine Total fertility rate**

19. Define GRR

20. Write the uses of Life tables

21. Define exponential growth models.

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III B.A. Statistics/Semester-VI

(Non-Mathematics Combination)

Stochastic Processes and its applications (ELECTIVE-3)

Paper –VII

Total hrs. Per week: 04 **Total credits: 03**

Unit-I:

Definition of Stochastic Processes-Classification of Stochastic processes according to time parameter and state space examples of stochastic processes definition of stationary process stationary process with independent increments

Unit-II:

Markov Chain definition, Examples, transition probability matrix, Chapman- Kolmogorov equation, Random walk.

Unit-III:

Classification of states of Markov chain Stationary and limit distribution for a Markov Chain Existence of the limiting distribution

Unit-IV: Poisson Process – Simple properties its connection to exponential – distribution Birth death process (Concept only) Simple problems

Unit-V:

Simple queuing models M/M/1, M/M/S under stationary condition, simple problems

Books for study:

1. **B.D. Misra, The study of population Medhi.J. (1982): Stochastic Processes, New Age International (P) Ltd**
2. **Ross S.M. (1983): Stochastic Processes, John Wiley.**
3. **Srinivasan.S.K. and Mehta.K.M. (1976): Stochastic Processes, Tata McGraw Hill Pub Comp Ltd**

Books for Reference:

1. **Karlin S. and Taylor H.M. (1975): A first course in Stochastic Processes, Academic Press.**
2. **Cinlar E. (1975): Introduction to Stochastic Processes, Prentice**

PRACTICALS: Conduct any 6 practical's

1. **Stationary Problems**
2. **State spaces**
3. **Markov Chain**
4. **Markov Chain –II**
5. **Poisson Process**
6. **Branching Process**
7. **Queuing Models**

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CBCS SYLLABUS (Semester Wise) 2018-19
III B.A Statistics/Semester-VI
(Non- Mathematics Combination)
Stochastic Processes and its applications (ELECTIVE -3)
Paper –VIII
MODEL QUESTION PAPER

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

SECTION-A

Answer any FIVE questions. **5 x 4= 20M**

1. **What is Stochastic Process?**
2. **Explain State Spaces**
3. **Explain Stationary Process**
4. **Explain Markov Chain**
5. **Explain the uses of Markov chain**
6. **Describe the Branching Process**
7. **Describe the purpose of Poisson Process**
8. **Explain about Queuing Theory**

SECTION-B

Answer any FOUR questions. **4x 8 = 32M**

9. **Explain the nature and Scope of Stochastic Process.**
10. **Explain the application of stochastic Process**
11. **What are the various State spaces? Explain**
12. **Explain the Random walk**
13. **What are the Poisson Process? Explain**
14. **Explain about Queuing Theory?**
15. **Explain M/M/1 Model**

SECTION-C

Answer any FOUR questions. **4 x 2 = 8M**

22. Define State space

23. What is meant by Stochastic Process

24. Dfine Poisson Process

25. Define Markov Chain

26. Write the uses of Poisson Process

27. Define Stationary

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CBCS SYLLABUS (Semester Wise) 2018-19

III B.A. Statistics/Semester-VI

(Non-Mathematics Combination)

Applied Statistics (Cluster-1, Paper-1)

Paper –VIII A1

Total hrs. Per week: 04 **Total credits: 03**

Unit-I

Time series: Meaning components, trend- graphical, semi-averages, straight line, parabola, moving average methods. Seasonal indices methods- simple averages –ration to trend, ratio to moving average, link relatives methods.

Unit-II

Index numbers: **Definition and meaning of Index Numbers. Problems involved in the construction of index numbers, Simple and Weighted Index Numbers-Lapser's Paasche's and Fisher's indices. Cost of living index numbers.**

Unit-III

Vital Statistics: Meaning, definition, uses, source of vital statistics – registration method, Census method Death rates-, crude death rates – age specific death rate, standardized Death rates Birth rates crude birth rate, age specific fertility rate, general fertility rate, Total fertility rate

Unit-IV

Reproductive rates: Gross reproductive rate and net Reproductive rate life tables and abridged life tables.

Unit-V

Official Statistics: CSO ,NSSO Functions National income, methods to estimate national income, problems involved in estimating national income, agricultural statistics.

Reference Books:

1. Statistical methods-S.P.Gupta
2 Fundamentals of statistics-Goon Gupta and Das Gupta Vol I and Vol II
3. Anuvarthitha Sankyaka Sastramu – Telugu Academy book.
4. Applied Statistics-V.K.Kapoor & S.C.Gupta
5. Applied Statistics-Parimal Mukhopadhyay.

PRACTICALS:

1. Birth rates
2. Death rates
3. Trend-Straight line
4. Seasonal indices-Simple Average
5. Index numbers

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CBCS SYLLABUS (Semester Wise) 2018-19
III B.A Statistics/Semester-VI
(Non- Mathematics Combination)
Applied Statistics (Cluster-1, Paper-1)
Paper –VIII A1

MODEL QUESTION PAPER

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

SECTION-A

Answer any FIVE questions. **5 x 3= 20M**

1 Explain Total Fertility Rate and Age Specific Fertility Rate

2 Explain abridged life tables

3 Explain the determination of trend by Semi averages method

4 Explain Link Relatives method

5 Write the uses of Index numbers

6 Explain Specification limits

7 Explain CSO

8. Describe a Life table

SECTION-B

Answer Any FOUR questions **4 x8=32M**

9. Explain Vital statistics. What are the sources of vital statistics? Explain

10. Explain Reproductive rates

11. Explain the construction of life tables

12. Explain the various components of time series.

13. Explain the method of moving average in measuring trend

14. Explain the importance of NSSO in industry

15. Explain the construction of INDEX NUMBERS

SECTION-C

Answer any FOUR questions: **4x2=8M**

13. Define Vital statistics

14. Define Gross Reproduction Rate

15. Write about the Force of Mortality

18. Write the normal equations in fitting a straight line

19. Give an example for Irregular variations

21 Define Time series

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CBCS SYLLABUS (Semester Wise) 2018-19

III B.A. Statistics/Semester-VI

(Non-Mathematics Combination)

Computer Applications (Cluster-1, Paper-2)

Paper –VIII -A2

Total hrs. Per week: 04 **Total credits: 03**

Unit-I:

Introduction to Operating system: Structure of an Operating system the purpose of Operating systems –Features of an Operating systems-Types of an Operating Systems –Proving a User interface-Running Programs-managing Hardware-Enhancing an OS utility software.

Unit-II:

MS Word: Starting word, Creating new documents when Word is running, Standard tool bar, Formatting tool bar, File menu, Edit and manipulating text, Page setup, tab keys ,undo and redo commands, bullets and numbered list, Exiting word, Inserting page breaks, Inserting headers and footers, Inserting page numbers.

Unit-III:

Tables: creating a simple table using table button, creating a table using table menu, entering and editing text in a table, adding rows, changing row heights, deleting rows, inserting columns, deleting columns, Graphics in MS Word-Adding a clipart, editing a graphic, Auto shapes, Template, Mail merge. Macro-recording a macro, running a macro.

Unit-IV:

MS EXCEL: Save and print workbooks, Enter and edit data. Modify a worksheet and workbook. Work with cell references. Learn to use functions and formulas. Create and edit charts and graphics, Filter and sort table data and charts. Import and export data. Excel Basics Work with Cells and Worksheets Calculate Your Data Format your Workbook Add Charts and Graphics Collaborate with Others Analyze your Data Work

Unit-V:

MS POWER POINT: Basics, Creating presentations-auto content wizard, design template. Working with menus-file menu, edit menu, view menu, insert menu, format menu, tools menu, slide show menu, windows, help. Tool bars-standard tool bar, Formatting tool bar, draw tool bar, Slide control tool bar, Picture tool bar. Opening a presentation, Insert a new slide, selecting slides-single, multiple, deleting a slide. Cut, Copy, Paste slides, saving a presentation, closing a presentation, slide numbering, printing presentation. Applying a design to presentation, Slide transition.
Additional Input: Photo Shop

Prescribed Books:

1. **Working in Microsoft Office by Ron Mansfield, Tata McGraw Hill.**
2. **Advanced Microsoft office 2000 by Meredith Flynn & Nita rutkosky, BPB publications.**
3. **Fundamentals of computers by V.Rajaraman,PHI**
4. **Computer System Architecture by M.Morris Mano**
5. **Operating System by Dhumdhere**

PRACTICALS:

1. **Design a visiting card for a managing director of a company as per the following specification. Size of the visiting card should be 31/2 "X2"**
2. **Name of the company with a big font using word art. Phone number, Fax number and Email address with appropriate left and right margins and page number in the footer and name on top right side.**
3. **Prepare a resume of an MCA graduate with proper headings, appropriate left and right margins and page number in the footer and name on top right side.**
4. **Create an interview call letter as the main document and create 8 records for 8 persons. Use mail merge to create letters for 6 selected persons among the 8.**
5. **Write a macro to format a document as below.**
   - **i) Line spacing is two**
   - **ii) Paragraph indent of 0.8**
   - **iii) Justification formatting style.**
   - **iv) Arial font of 8 point size.**
6. **Filter and sort table data and charts.**
7. **Work with Cells and Worksheets Calculation**
8. **Make a Presentation of a slide for a given DATA**
9. **Make a Power Point presentation about our college with statistical DATA**

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CBCS SYLLABUS (Semester Wise) 2018-19

III B.A. Statistics/Semester-VI

(Non-Mathematics Combination)

Computer Applications (Cluster-1, Paper-2)

Paper-VIII-A2

MODEL QUESTION PAPER

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

SECTION-A

Answer any FIVE of the following questions. : **4 x8=32M**

1. How to create new document in MS-Word?

2. Write any 10 shortcut keys in Computer?

3. Write about Headers and Footers?

4. How to create Mail-Merge?

5. Write Mathematical tools in MS-Excel?

6. Write tools in MS-PowerPoint?

7. Write about commands in MS-Word?

8. Write about UNDO and REDO?

SECTION-B

Answer any FIVE of the following questions. **5 x 4 = 20M**

9. What are the Generations of Computer?

10. Describe about MS-Word?

11. Write about the basic procedure to create Table?

12. Write briefly about concept of MACRO

13. Explain the concept of Operating system through Diagram?

14. Explain the procedures for import and export data in MS-Excel?

15. Explain the concept of MS-PowerPoint?

SECTION-C

Answer FOUR of the following questions: 4X2=8M

16. Define Table?

17. Write about Recycle bin?

18. Define Wizard?

19. What is Worksheet?

20. What is Slide transition?

21. Write about Templates?

Government College [A] Rajamahendravaram

CBCS SYLLABUS (Semester Wise) 2018-19

III B.A. Statistics/Semester-VI

(Non-Mathematics Combination)

Official Statistics and Design of Experiments (Cluster-2, Paper-1)

Paper –VIII- B1

Total hrs. Per week: 04 **Total credits: 03**

Unit-I:

Official Statistics: National income, methods to estimate national income, problems involved in estimating national income, agricultural statistics.

Unit-II

Area, yield of statistics, Functions and organization of CSO, NSSO

Unit-III

Analysis of variance: Meaning, definition, assumptions, one way and two way classifications.

Unit-IV

Principles of design of experiments: Principles of experiment, Completely Randomized design, Randomized block design and Latin square design.

Unit-V

Missing plot techniques: RBD, LSD, Concepts of Factorial experiments 2^2 & 2^3

Text Books:

1. Fundamentals of Statistics: Goon Gupta, Das Gupta
2. Applied Statistics-Parimal Mukhopadhyaya

Reference Books

1. Design of Experiments by Gupta Kapoor:
2. Applied Statistics-V.K.Kapoor & S.C.Gupta
3. Anuvarthitha Sankyaka Sastramu – Telugu Academy book.

PRACTICALS:

1. ANOVA-equal one way classifications
2. ANOVA-unequal one way classifications
3. ANOVA-Two way classifications
4. CRD
5. RBD
6. LSD

GOVERNMENT COLLEGE (A), RAJAHMAHENDRAVARM
IIIB.A. SEMESTER: VI

(For Non-Mathematics Combination)

Official Statistics and Design of Experiments (Cluster-2, Paper-1)

(Without mathematical derivations)

Paper-VIII-B1

Time; 3hrs **MODEL PAPER** **Max Marks: 60**

SECTION-A

Answer any FIVE of the following questions. **5 x 3 = 15M**

1. **Explain National Income**
2. **Explain Agricultural statistics**
3. **Explain Yield statistics**
4. **Write the uses of SQC**
5. **Explain specification limits**
6. **Explain C Chart**
7. **Describe a Life table**
8. **Define Treatment**

SECTION-B

Answer Any FOUR the questions: **4x8=32M**

9. **Discuss the problems involved in measuring National Income.**
10. **Discuss the various methods to estimate the National income**
11. **Explain the functions of C.S.O**
12. **Explain the functions of N.S.S.O**
13. **Explain ANOVA one way classification**
14. **Define and Explain ANOVA? Write its assumptions**
15. **Explain the basic principles of experimental design.**

SECTION-C

Answer any FOUR of the following questions **4 x 2= 8M**

16. Define C.S.O

17. Define NSSO

18. Define ANOVA

19. What are the assumptions in ANOVA TECHNIQUE?

20. What are the basic principles involved in C.R.D

21. Write advantages of R.B.D

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CBCS SYLLABUS (Semester Wise) 2018-19

III B.A. Statistics/Semester-VI

(Non-Mathematics Combination)

Mortality and Actuarial Statistics (Cluster-2, Paper-2)

Paper –VIII-B2

Total hrs. Per week: 04 **Total credits: 03**

Unit-I:

Rates and Ratio's in Mortality- Exposed to Risk Aggregate Rates- Life Year and other rate Intervals

Unit-II

Select Rates – Multiple Decrement Tables – Its role in Actuarial Statistics

Unit-III

Principles and Purposes of Graduation – The Graphic Method - Graduation by reference to a Standard table.

Unit-IV

Compression of Rates of Selection – Social and Economic factors in Mortality – Population Structures and Projections – Age Sex Pyramid

Unit-V

U.K. Assured lives and Annuitants Mortality.- The English life Tables – Individual Policy Sickness Experience – Indian Assured Lives Mortality.

Recommended Books:

1. **Benjamin, B and Pollard: Analysis of Mortality and other Actuarial Sciences Published by Heinemann8,11,12,15,19.**
2. **Special Note: Exposed to Risk using the Direct and Census methods including mortality rates by age and Multiple Decrements.**
3. **Special Note: Population Structures and Projections -1990 Edition**
4. **English Life Tables No. 14-1980/82 HMSC: Chapters 1,**

Practical's:

1. **Rates and Ratios in Mortality**
2. **Multiple Decrement Tables**
3. **Graphic Method**
4. **Age Sex Pyramid**
5. **Annuitants Mortality**

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CBCS SYLLABUS (Semester Wise) 2018-19

III B.A. Statistics/Semester-VI

(Non-Mathematics Combination

Mortality and Actuarial Statistics (Cluster-2, Paper-2)

Paper –VIII-B2

Time; 3hrs **MODEL PAPER** **Max Marks: 60**

SECTION-A

Answer any FIVE of the following questions: **5 x4 = 20M**

1. **Explain about life year and other rate intervals?**
2. **Explain about Select Rates?**
3. **Explain the Graphic Method?**
4. **Explain Age Sex Pyramid?**
5. **Describe about English Life tables?**
6. **Explain about Mortality?**
7. **Explain the need of Actuarial Statistics?**
8. **Explain about Risk Aggregate Rates?**

SECTION-B **4x8=32M**

Answer any FOUR the following questions:

9 Explain about Rates and Ratio's in Mortality?

10. Explain about life year and other rate intervals?

11. Explain Multiple Decrement Tables?

12. What is the role of Multiple Decrement Tables in Actuarial Statistics? Explain

13. Explain the Principles and Purposes of Graduation?

14. What do you mean by Compression of Rates of Selection?

15. Explain Indian Assured Lives Mortality?

SECTION-C

Answer any FOUR the following questions: 4X2=8M

16. Define Rates

17. Define Mortality

18. Define Actuaries

19. Define Life table

20. Define Insurance

21. Define Interval time

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CBCS SYLLABUS (Semester Wise) 2018-19

III B.A. Statistics/Semester-VI

(Non-Mathematics Combination)

Testing of hypothesis (Cluster-3, Paper-1)

Paper –VIII-C1

Total hrs. Per week: 04 **Total credits: 03**

Unit-I:

Statistical Hypothesis Simple and composite hypothesis, Null and Alternative Hypothesis Two types of errors Critical region p-value Power of a test Most powerful test Neyman Pearson Lemma Simple problems.

Unit-II

Uniformly most powerful tests definition and simple applications Likelihood Ratio tests Definition and LR tests for means and variance (one and two sample problem only).

Unit-III

Test of significance: Exact and Asymptotic tests based on Normal, Student s t, Chi- square and F-distribution for testing the means, proportions, variances and correlation coefficient Chi-square test

Unit-IV;

Sequential tests – Need for sequential tests Walds SPRT with illustrations Approximate OC and ASN functions for tests regarding parameters of binomial and normal distributions.

Unit-V

Non-parametric methods: Sign test Wilcoxon Signed rank test- Mann Whitney U test - Median test - Run test Chi-square goodness – of fit test - Kolmogrov-Smirnov test Kruskal Wallis test.

Books For Study:

1. **Mood A M, Graybill F A and Boes D C(1974): Introduction to Theory of Statistics, McGraw Hill Publishing Co., New York**
2. **Hogg R V and Craig A T(1998): Introduction to Mathematical Statistics, McGraw Hill Publishing Co., New York.**
3. **Goon A.M, Gupta M.K., Das Gupta B. (1980): An Outline of Statistical Theory, Vol. 2, 6th revised edition, World Press, Calcutta.**

Practical's:

1. **Testing of Hypothesis**
2. **Neymann Method**
3. **LR tests**
4. **Chi-Square Distribution**
5. **Non-Parametric Tests**
6. **Non-Parametric Tests-II**

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CBCS SYLLABUS (Semester Wise) 2018-19

III B.A. Statistics/Semester-VI

(Non-Mathematics Combination

Testing of hypothesis (Cluster-3, Paper-1)

Paper –VIII-C1

Time; 3hrs **MODEL PAPER** **Max Marks: 60**

SECTION-A

Answer any FIVE of the following questions: **5 x4 = 20M**

1. **Explain about Testing of Hypothesis?**
2. **Explain about Hypothesis types?**
3. **Explain the LR test?**
4. **Explain Exact Sampling Distributions?**
5. **Describe Variance Ratio Test?**
6. **Explain about RUN test?**
7. **Explain the need of Hypothesis?**
8. **Explain about Non-Parametric Test?**

SECTION-B **4x8=32**

Answer any FOUR the following questions:

9. **Explain Terms involved in Hypothesis?**
10. **Explain about most powerful tests?**
11. **Explain Nyman Theorem?**
12. **What is the role of Non parametric tests in Statistics? Explain**
13. **Explain Median Test?**
14. **What do you mean by Compression of Rates of Selection?**
15. **Explain difference between parametric tests Non parametric test?**

SECTION-C

Answer any FOUR the following questions: 4X2=8M

16. Define Hypothesis

17. Define MP test

18. Define Chi-square test

19. Define Variance ratio test

20. Define Run test

21. Define Simple hypothesis

CBCS SYLLABUS (Semester Wise) 2018-19
III B.Sc. Statistics/Semester-VI
(With Mathematics Combination)
Decision Making Analysis (Cluster-3, Paper-2)
Paper –VIII-C2

Total hrs. Per week: 03 **Total credits: 03**

Unit 1

- **Decision Problem: Goals and objectives, Conflict between Possible solutions Constraints=Feasible solutions Objective function Costs and benefits, notional and criteria for optimality.**

Unit 2

Steps in decision-making: Determining objective(s), identifying alternative feasible solutions, determining (expected) costs and benefits associated with a feasible solution, developing a measure of effectiveness, finding the optimal solution Sensitivity analysis and post-optimality problems, controlling a solution.

Unit 3

Structure of decision, Development of the pay-off measure Bernoulli an utility Expected value, Pay-off without a natural measure, Standard gamble, Strategies and states of nature – Analysis of decisions Pay-off matrix Decisions under certainty, uncertainty, risk and competition, Optimality criteria of pessimism, optimism and regret A decision among decision criteria Laplace criterion.

Unit 4

Sequential decisions-Decision trees, Informal analysis of decision trees-Cutting decision trees Decision making using expected money value and utility. Expected profit with perfect information Value of sample information. Expected net gain due to sampling

Unit 5

Decision problems in marketing Brand-loyalty model Brand-share model Pricing problem Competitive bidding Allocation of advertising funds Decision problems in finance Investment decision trees Risk analysis Portfolio selection Dividend policy

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CBCS SYLLABUS (Semester Wise) 2018-19
III B.Sc. Statistics/Semester-VI
(With Mathematics Combination)
Decision Making Analysis (Cluster-3, Paper-2)
Paper –VIII –C2
MODEL QUESTION PAPER THEORY

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

SECTION-A

Answer Any Five of the following questions. **5 x 4 = 20M**

1. Explain **Decision Problem**

2. Explain **Criteria for optimality**

3. Explain **Structure of decision**

4. Explain **Risk analysis**

5. Explain **Dividend policy**

6. Give the **controlling a solution**

7. Explain **Optimality criteria of pessimism**

8. Explain **Standard gamble**

SECTION-B

Answer all the following questions **4X8=32M**

9A.Explain Scope and objectives of Decision Making

(OR)

b. Explain **feasible solutions Objective function Costs and benefits**

10A.Explain **determining costs and benefits associated with a feasible solution**

(OR)

B. Describe **developing a measure of effectiveness**

11A.Define **Sequential decisions-Decision trees, Informal analysis of decision trees-**

Cutting decision trees

(OR)

B. Describe **Pay-off matrix Decisions under certainty**

12A. **Expected profit with perfect information Value of sample information**

(OR)

B. **Portfolio selection Dividend policy**

SECTION-C

Answer any FOUR questions. **4X2=8M**

13. **Define Decision**
14. **Define Feasible solution**
15. **Define Allocation of advertising funds**
16. **Define Pay-off matrix**
17. **Define Risk analysis**
18. **Define optimality**