BLDE ASSOCIATION'S
S.B.ARTS AND K.C.P SCIENCE COLLEGE,
VIJAYAPUR

DEPARTMENT OF STATISTICS

Course: B.A / B.Sc

Programme Outcomes (PO's), Programme Specific Outcome(PSO's)

Course Outcomes (CO's)

2019-20

Principal,
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PROGRAM OUTCOME:

PROGRAM	OBJECTIVES
PO1: Understanding of fundamental knowledge.	Definition,concept,principles,types, ,diagrams,graphs,analysis etc.
PO2: Experimental learning Methods.	Collection, tabulation, classification, presentation, interpretation, conclusion
PO3: Opportunities	Higher Education ,Competitive exams, self business and Job Career.

PROGRAM SPECIFIC OUTCOME:

PROGRAM	OBJECTIVES
PSO1:Fundamental approach to statistics.	Definition, concept, probability, randomness, types, principles, distributions, properties.
PSO2: Development of Laboratory skills	Measures of Central Tendency, Measures of Dispersion, diagrams, graphs, charts, tables.
PSO3:Problem solving techniques.	Hypotheses, Formulae, Classification, Tabulation, Test Statistic, Inference.
PSO4: Enhancement of skills through design of experiments.	Analysis of Variance, Designs of experiments, Factorial Experiments.
PSO5: Data analysis.	Types of Data, Methods of Data Collection, Sampling.
PSO6: Case Studies.	z-test, Chi-square test, t-test, F-test, Non parametric Tests.
PSO7: Ability to apply research and development.	Estimation, Demography, Operation Research, Research Methodology.
PSO8: Use of technology.	MS Excel, R-programming.
PSO9: Development of business skills.	Actuarial Statistics, Statistical Quality Control, Game Theory.
PSO10: Self Employment.	Tutorials, Data analysis.

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Department
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B.Sc I Semester (Univariate Data Analysisand Probability-**THEORY**)

CO1- Understanding the fundamental concepts of statistics.

CO2-Diagramatic and Graphical representation.

CO3- Evaluation of Measures of Dispersion and Location.

CO4- Evaluation of chance of occurrence of an event through probability.

CO5-Student will learn the mapping of the outcomes of a random process to numeric values.

MAPPING of COs with POs and PSO's on THEORY:

COs\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	2	3	3	2	1	-	-	2	-	1	-	1	2
CO2	2	3	3	-	3	2	-	2	2	2	3	2	2
CO3	3	3	2	2	3	3	2	1	1	1	2	2	1
CO4	3	3	3	3	2	3	-	2	2	2	3	2	2
CO5	2	2	2	3	2	3	1	2	3	2	3	3	2

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B.Sc I Semester (Univariate Data Analysis and Probability-**PRACTICAL**)

PCO1- Understand the computation of frequency distribution for both classified and unclassified data.

PCO2- Interpretation of data using diagrams and graphs.

PCO3-Computation of Airthmetic mean, geometric mean, harmonic mean for unclassified and classified data.

PCO4- Computation of median and mode for unclassified and classified data.

PCO5-Computation of measures of dispersion for classified and unclassified data.

PCO6- Students will learn the probability concept through problems.

PCO7-Student will learn the computation of skeweness and kurtosis.

MAPPING of PCOs with POs and PSO's on PRACTICAL:

PCO\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
PCO1	3	3	1	1	2	2	-	2	-	-	-	1	1
PCO2	2	3	1	2	3	2	-	1	2	2	2	1	1
PCO3	2	3	-	2	2	2	1	1	-	-	-	-	-
PCO4	2	3	1	2	2	3	-	2	-	2	-	-	-
PCO5	2	2	1	1	2	2	-	-	-	-	-	-	-
PCO6	1	2	-	-	1	2	-	2	-	1	-	1	2
PCO7	1	-	-	2	-	2	-	1	-	-	-	1	1

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B.Sc II Semester (Bivariate Data Analysis and Probability Distributions-THEORY)

CO1- Student will learn about the use of bivariate distributions and their properties.

CO2- Student will learn the concept of correlation and regression.

CO3- Students will learn about the standard discrete distribution.

CO4- Student will learn about the standard continuous distribution.

CO5- Understand the concept of Index numbers and their applications.

MAPPING of Cos with Pos and PSO's on THEORY:

Cos\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	2	1	1	-	1	-	-	2	-	2	1	1	1
CO2	1	-	1	-	1	2	1	1	-	3	1	1	-
CO3	-	1	-	-	-	3	2	1	1	1	2	-	-
CO4	-	-	-	1	-	3	1	1	1	1	3	-	-
CO5	1	1	-	1	1	3	2	2	-	-	2	1	3

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B.Sc II Semester (Bivariate Data Analysis and Probability Distributions- **PRACTICAL**)

PCO1- Student will learn about the computation of marginal and conditional distribution.

PCO2- Student will learn about the computation of Correlation.

PCO3- Student will learn construction of regression equation.

PCO4-Student will learn fitting of binomial distribution.

PCO5- Student will learn fitting of poisson distribution.

PCO6-Student will learn fitting of Normal distribution.

PCO7- Students will get the knowledge of construction of Index numbers.

PCO8-Students will get the knowledge of Tests of consistency.

PCO9 - Students will learn construction of cost of living index numbers.

MAPPING of PCos with Pos and PSO's on PRACTICAL:

Pco\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
PCO1	1	2	1	1	2	1	1	1	-	1	1	3	2
PCO2	-	3	1	2	2	3	2	2	-	1	2	2	2
PCO3	-	1	-	1	1	-	-	-	2	-	-	3	2
PCO4	-	2	2	2	2	2	-	1	2	1	1	3	1
PCO5	2	1	2	1	3	2	-	-	2	1	-	2	-
PCO6	-	1	1	-	-	1	-	-	1	1	1	1	2
PCO7	1	-	-	2	3	2	1	2	3	-	2	2	2
PCO8	2	1	-	3	2	2	2	3	-	2	1	2	2
PCO9	3	2	3	-	1	1	2	2	-	2	2	2	2

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B.Sc III Semester (Sampling Distribution and Non Parametric Tests-**THEORY**)

CO1- Students will learn about the Sampling distributions and large sample tests.

CO2- Students will attain knowledge about exact sampling distributions.

CO3- Students will learn about Student's 't' and Snedecore's 'F' distributions.

CO4- Student will learn about theNon-parametric tests.

CO5- Students will acquire the knowledge of Multiple and Partial Correlation and Regression

MAPPING of COs with POs and PSO's on THEORY:

COS\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	1	2	-	3	-	-	-	-	-	1	-	-	-
CO2	3	3	3	3	2	2	-	3	3	3	2	-	1
CO3	2	-	3	3	2	3	3	3	3	3	3	-	-
CO4	2	-	3	3	-	2	-	2	3	3	-	-	-
CO5	-	1	2	3	3	3	-	1	-	1	2	1	2

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B.Sc III Semester (Sampling Distribution and Non Parametric Tests-

PRACTICAL)

PCO1- Student will learn Application of Chi-square distribution: Goodness of fit.

PCO2- Student will learn Application of Chi-square distribution: Independence of attributes.

PCO3- Students will learn about Application of t-distribution.

PCO4- Student will learn about Application of F-distribution.

PCO5- They will learn about Non-parametric tests.

PCO6- Students will get the knowledge Partial and Multiple correlation.

PCO7- Students will get the knowledge Partial correlation.

PCO8- Students will learn about Large sample tests.

MAPPING of PCOs with POs and PSOs on PRACTICAL:

PCO\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
PCO1	2	-	3	-	3	3	-	1	3	2	3	-	1
PCO2	-	-	3	-	3	3	-	1	3	2	3	-	2
PCO3	-	-	2	-	3	3	-	1	3	1	3	-	-
PCO4	-	-	2	-	2	3	2	2	3	1	3	-	1
PCO5	-	-	3	-	3	3	-	3	3	1	-	-	1
PCO6	-	-	3	-	3	3	-	-	3	-	3	-	1
PCO7	-	-	3	-	2	3	-	-	-	-	3	-	2
PCO8	-	-	1	-	1	3	-	2	-	-	-	-	2

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PCO4- Student will learn about Application of F-distribution.

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PCO8- Students will learn about Large sample tests.

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PCO\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
PCO1	2	-	3	-	3	3	-	1	3	2	3	-	1
PCO2	-	-	3	-	3	3	-	1	3	2	3	-	2
PCO3	-	-	2	-	3	3	-	1	3	1	3	-	-
PCO4	-	-	2	-	2	3	2	2	3	1	3	-	1
PCO5	-	-	3	-	3	3	-	3	3	1	-	-	1
PCO6	-	-	3	-	3	3	-	-	3	-	3	-	1
PCO7	-	-	3	-	2	3	-	-	-	-	3	-	2
PCO8	-	-	1	-	1	3	-	2	-	-	-	-	2

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PCO2- Student will learn Application of Chi-square distribution: Independence of attributes.

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PCO4- Student will learn about Application of F-distribution.

PCO5- They will learn about Non-parametric tests.

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PCO7- Students will get the knowledge Partial correlation.

PCO8- Students will learn about Large sample tests.

MAPPING of PCOs with POs and PSOs on PRACTICAL:

PCO\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
PCO1	2	-	3	-	3	3	-	1	3	2	3	-	1
PCO2	-	-	3	-	3	3	-	1	3	2	3	-	2
PCO3	-	-	2	-	3	3	-	1	3	1	3	-	-
PCO4	-	-	2	-	2	3	2	2	3	1	3	-	1
PCO5	-	-	3	-	3	3	-	3	3	1	-	-	1
PCO6	-	-	3	-	3	3	-	-	3	-	3	-	1
PCO7	-	-	3	-	2	3	-	-	-	-	3	-	2
PCO8	-	-	1	-	1	3	-	2	-	-	-	-	2

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B.Sc IV Semester (Statistical Inference-**THEORY**)

CO1- Students will learn about Point Estimation.

CO2- Students will learn knowledge about Methods of estimation.

CO3- Students will learn about Interval Estimation.

CO4- Student will learn about Testing of Statistical Hypothesis.

CO5- Students will learn UMP and Likelihood Ratio Tests.

MAPPING of COs with POs and PSO's on THEORY:

COs\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	2	1	3	2	1	2	2	1	2	-	3	1
CO2	1	1	2	-	1	2	3	1	3	-	-	2	2
CO3	2	2	1	2	3	1	1	2	-	1	3	-	1
CO4	3	2	-	1	2	3	2	3	3	1	1	1	-
CO5	3	1	1	1	1	1	3	2	3	2	3	2	-

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B.Sc IV Semester (Statistical 1Inference-**PRACTICAL**)

PCO1- Student will learn about the Comparison of Estimation by plotting Mean square error.

PCO2- Student will learn about Estimation of Parameters: Maximum Likelihood Method.

PCO3- Students will learn about the Estimation of Parameters: Methods of Moments.

PCO4- Student will learn about the Evaluation of Type-I & Type-II errors and Power of tests (Based on Bonomial,Possion Uniform & Normal Distributions).

PCO5- Student will learn about the Construction of M.P-tests and computation of power of tests based on Bonomial, Poisson & Normal Distributions.

PCO6- Student will learn about the Construction of M.P-tests and computation of power of tests based on Normal Distributions.

MAPPING of PCOs with POs and PSO's on PRACTICAL:

PCO\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
PCO1	-	2	2	-	2	3	1	1	-	3	1	-	1
PCO2	-	2	3	-	1	2	-	-	-	3	2	1	2
PCO3	-	3	2	-	-	3	-	-	-	2	1	-	-
PCO4	-	2	3	-	2	3	1	-	-	3	-	-	-
PCO5	-	1	2	2	1	2	2	2	-	2	-	-	1
PCO6	-	2	3	1	-	3	1	1	-	2	-	-	2

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B.Sc V Semester (Paper I: ANOVA, Design of Experiments and SPRT-**THEORY**)

CO1- Student will study Analysis of Variance.

CO2- Student will get the knowledge about Design of Experiments.

CO3- Students will learn about Factorial Experiments.

CO4- Student will learn about the Spilt-Plot design.

CO5- They will learn the Sequential Testing.

MAPPING of COs with POs and PSO's on THEORY:

COs\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	1	3	3	3	3	3	-	3	2	3	2	3
CO2	3	2	3	3	-	3	3	-	2	2	-	-	2
CO3	3	2	3	3	-	3	3	-	3	1	-	-	-
CO4	3	3	2	3	-	3	3	2	1	1	-	-	-
CO5	3	2	2	3	2	3	3	1	-	-	-	-	-

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B.Sc V Semester (Paper I: ANOVA, Design of Experiments and SPRT - **PRACTICAL**)

PCO1- Student will learn about the ANOVA for one way classified data.

PCO2- Student will learn about the ANOVA for two way classified data: Single observation per cell.

PCO3- Student will learn about the ANOVA for two way classified data: multipal but equal number of observation per cell (assuming interaction).

PCO4- Student will learn about the Analysis of CRD, RBD and LSD and efficiency.

PCO5- Students will learn about the Missing plot technique for RBD and LSD with single- observation missing.

PCO6- Students will learn about the Analysis 2^2 factorial experiment.

PCO7- Students will learn about the Analysis 2^3 factorial experiment.

PCO8- Students will learn about the Exercises of SPRT (Bernoulli, Binomial, Poisson& Normal distributions).

MAPPING of PCOs with POs and PSO's on PRACTICAL:

PCO\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
PCO1	-	3	3	-	3	3	3	2	2	2	3	-	1
PCO2	-	3	2	-	3	3	3	1	2	1	3	-	-
PCO3	-	3	1	-	3	3	3	3	2	1	3	-	-
PCO4	-	3	-	-	3	3	3	-	3	-	-	1	1
PCO5	-	3	2	-	3	3	3	2	1	1	-	1	-
PCO6	-	3	3	-	3	3	3	1	1	-	-	-	-
PCO7	-	3	-	-	3	3	3	3	2	-	-	-	1

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B.Sc V Semester (Paper II: Sampling and Demography -**THEORY**)

CO1- Students will learn about the concept of sampling and sampling technique.

CO2- Students will get the knowledge about simple random sampling.

CO3- Students will learn about the Stratified random sampling.

CO4- Students will learn about the systematic random sampling.

CO5- Students will learn about the Demography and life tables.

MAPPING of COs with POs and PSO's on THEORY:

COs\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	-	2	3	1	-	-	3	-	1	-	1	-
CO2	3	1	3	3	1	1	-	3	1	2	1	2	-
CO3	3	1	2	3	1	1	-	3	2	1	1	3	-
CO4	3	1	2	3	1	1	-	3	1	2	1	-	-
CO5	1	3	3	3	1	1	-	3	-	3	2	-	2

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B.Sc V Semester (Paper II:Sampling and Demography -**PRACTICAL**)

PCO1- Student will learn about the drawing random samples using random number tables (grouped and ungrouped cases).

PCO2- Student will learn about thecomputational way of simple random sampling.

PCO3-Student will learn about the computational way of stratified random sampling.

PCO4- Students will estimate mean, total and the standard error of the estimators in case of stratified random sampling.

PCO5- Students will study the sampling mean and its relative comparisons in case systematic sampling.

PCO6- Students will learn about the measurement of mortality, infant mortality, and standardized death rates.

PCO7- Students will learn about the measurement of fertility, ASFR, TFR and reproduction rates.

PCO8- Students will learn to construct life tables.

MAPPING of PCOs with POs and PSO's on PRACTICAL:

PCO\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
PCO1	-	3	-	-	-	3	-	1	-	-	-	-	-
PCO2	-	3	1	-	1	3	-	2	2	1	1	1	1
PCO3	-	3	1	-	2	3	-	1	1	1	1	1	2
PCO4	-	3	2	-	1	3	-	2	1	2	1	1	1
PCO5	-	3	1	-	1	3	-	3	3	3	1	1	1
PCO6	-	3	1	-	2	3	-	1	2	3	1	1	1
PCO7	-	3	3	-	1	3	-	1	3	3	1	1	2

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B.Sc VI Semester (Paper I: Statistical Quality management and Ecnometrics-THEORY)

CO1- Student will get the knowledge of Statistical quality control.

CO2- Student will earn the knowledge on Control charts for variables.

CO3- Students will learn control charts for attributes.

CO4- Student will learn about the time series analysis.

CO5- Students will learn the concept ofecnometrics.

MAPPING of COs with POs and PSO's on THEORY:

COs\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	-	3	3	-	-	-	-	-	-	-	3	1
CO2	3	2	2	3	1	1	-	2	3	3	2	3	2
CO3	3	2	2	3	1	1	-	2	3	3	2	3	2
CO4	3	2	1	3	2	2	-	3	2	3	1	2	3
CO5	3	2	2	3	2	1	2	2	2	1	1	2	1

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B.Sc VI Semester (Paper I:Statistical Quality management and Ecnometrics-PRACTICAL)

PCO1- Student will lean about the control charts for variables.
PCO2- Student will learn about the control chart attributes.
PCO3- Students will get the knowledge of simple linear regression model.
PCO4- Student will learn about the ordinary least squares method.
PCO5- Students will get the knowledge ofmeasurement of trend by moving averages and by least squares.
PCO6- Students will learn to construct the seasonal indices by simple averages and ratio to moving averages.
PCO7- Students will learn to construct the seasonal indices by link relative method.

MAPPING of PCOs with POs and PSO's on PRACTICAL:

PCo\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
PCO1	-	3	-	-	3	3	-	1	1	2	1	2	2
PCO2	-	3	1	-	3	3	-	2	1	2	1	2	2
PCO3	-	3	2	-	3	3	-	-	2	1	2	1	1
1PCO4	-	3	2	-	3	3	-	2	-	1	2	1	1
PCO5	-	3	-	-	3	3	-	-	-	1	2	1	1
PCO6	-	3	-	-	3	3	-	1	-	1	2	1	1

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B.Sc VI Semester (Paper II: Operations Research-**THEORY**)

CO1- Student will understand the linear programming problem.
CO2- Student will earn the knowledge of transportation problem,.
CO3- Students will understand the assignment problem.
CO4- Student will learn about the statistical decision theory.
CO5- They will learn about the inventory theory.

MAPPING of COs with POS and PSO's on THEORY:

COs\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	3	-	3	3	-	-	-	-	-	-	-	3
CO2	3	3	2	2	3	1	1	-	2	3	3	2	3
CO3	3	3	2	2	3	1	1	-	2	3	3	2	3
CO4	3	3	2	1	3	2	2	-	3	2	3	1	2
CO5	3	3	2	2	3	2	1	2	2	2	1	1	2

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B.Sc VI Semester (Paper I:Statistical Quality management and Ecnometrics-PRACTICAL)

PCO1- Student will lean about the control charts for variables.
PCO2- Student will learn about the control chart attributes.
PCO3- Students will get the knowledge of simple linear regression model.
PCO4- Student will learn about the ordinary least squares method.
PCO5- Students will get the knowledge ofmeasurement of trend by moving averages and by least squares.
PCO6- Students will learn to construct the seasonal indices by simple averages and ratio to moving averages.
PCO7- Students will learn to construct the seasonal indices by link relative method.

MAPPING of PCOs with POs and PSO's on PRACTICAL:

PCo\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
PCO1	-	3	-	-	3	3	-	1	1	2	1	2	2
PCO2	-	3	1	-	3	3	-	2	1	2	1	2	2
PCO3	-	3	2	-	3	3	-	-	2	1	2	1	1
1PCO4	-	3	2	-	3	3	-	2	-	1	2	1	1
PCO5	-	3	-	-	3	3	-	-	-	1	2	1	1
PCO6	-	3	-	-	3	3	-	1	-	1	2	1	1

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DEPARTMENT OF STATISTICS

Course: B.A / B.Sc

Programme Outcomes (PO's), Programme Specific Outcome(PSO's)

Course Outcomes (CO's)

2019-20

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PROGRAM OUTCOME:

PROGRAM	OBJECTIVES
PO1: Understanding of fundamental knowledge.	Definition,concept,principles,types, ,diagrams,graphs,analysis etc.
PO2: Experimental learning Methods.	Collection, tabulation, classification, presentation, interpretation, conclusion
PO3: Opportunities	Higher Education ,Competitive exams, self business and Job Career.

PROGRAM SPECIFIC OUTCOME:

PROGRAM	OBJECTIVES
PSO1:Fundamental approach to statistics.	Definition, concept, probability, randomness, types, principles, distributions, properties.
PSO2: Development of Laboratory skills	Measures of Central Tendency, Measures of Dispersion, diagrams, graphs, charts, tables.
PSO3:Problem solving techniques.	Hypotheses, Formulae, Classification, Tabulation, Test Statistic, Inference.
PSO4: Enhancement of skills through design of experiments.	Analysis of Variance, Designs of experiments, Factorial Experiments.
PSO5: Data analysis.	Types of Data, Methods of Data Collection, Sampling.
PSO6: Case Studies.	z-test, Chi-square test, t-test, F-test, Non parametric Tests.
PSO7: Ability to apply research and development.	Estimation, Demography, Operation Research, Research Methodology.
PSO8: Use of technology.	MS Excel, R-programming.
PSO9: Development of business skills.	Actuarial Statistics, Statistical Quality Control, Game Theory.
PSO10: Self Employment.	Tutorials, Data analysis.

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B.A I Semester (Basic Statistics-**THEORY**)

CO1- Undestanding the fundamental concepts of statistics.

CO2-Diagramatic and Graphical representation.

CO3- Evaluation of Measures of Central Tendency.

CO4- Evaluation of Measures of Dispersion

CO5- Evaluation of Skewness and kurtosis.

MAPPING of COs with Pos and PSO's on THEORY:

COs\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	2	3	3	2	1	-	-	2	-	1	-	1	2
CO2	2	3	3	-	3	2	-	2	2	2	3	2	2
CO3	3	3	2	2	3	3	2	1	1	1	2	2	1
CO4	3	3	3	3	2	3	-	2	2	2	3	2	2
CO5	2	2	2	3	2	3	1	2	3	2	3	3	2

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B.A II Semester (Descriptive Statistics-**THEORY**)

CO1- Student will learn about the Index numbers.

CO2- Student will learn the concept of Time series.

CO3- Students will learn about the Correlation.

CO4- Student will learn about the Regression.

CO5- Understand the concept of Association of attributes.

MAPPING of COs with POs and PSO's on THEORY:

COs\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	-	3	3	-	-	-	-	-	-	-	3	1
CO2	3	2	2	3	1	1	-	2	3	3	2	3	2
CO3	3	2	2	3	1	1	-	2	3	3	2	3	2
CO4	3	2	1	3	2	2	-	3	2	3	1	2	3
CO5	3	2	2	3	2	1	2	2	2	1	1	2	1

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B.A III Semester (Probability and Distribution -THEORY)

CO1- Student will learn about the Theory of probability.

CO2- Student will attain knowledge about random variable and mathematical expectation.

CO3- Students will learn about Binomial distribution.

CO4- Student will learn about the Poisson Distribution.

CO5- They will acquire the knowledge of Normal distribution.

MAPPING of COs with POs and PSO's on THEORY:

COs\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	2	1	1	-	1	-	-	2	-	2	1	1	1
CO2	1	-	1	-	1	2	1	1	-	3	1	1	-
CO3	-	1	-	-	-	3	2	1	1	1	2	-	-
CO4	-	-	-	1	-	3	1	1	1	1	3	-	-
CO5	1	1	-	1	1	3	2	2	-	-	2	1	3

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B.A IV Semester (Statistical Inference -**THEORY**)

CO1- Student will learn about Sampling Distribution.

CO2- Student will learn knowledge about Methods of estimation.

CO3- Students will learn about Testing of Statistical Hypothesis.

CO4- Student will learn about Chi-square distribution.

CO5- Students will learn t-test and F-test.

MAPPING of COs with POs and PSO's on THEORY:

COs\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	1	2	-	3	-	-	-	-	-	1	-	-	-
CO2	3	3	3	3	2	2	-	3	3	3	2	-	1
CO3	2	-	3	3	2	3	3	3	3	3	3	-	-
CO4	2	-	3	3	-	2	-	2	3	3	-	-	-
CO5	-	1	2	3	3	3	-	1	-	1	2	1	2

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B.A V Semester (Paper I: Theory of Sampling -**THEORY**)

CO1- Student will understand Indian Official Statistics.

CO2- Student will get the knowledge Sampling Theory.

CO3- Students will learn about Simple random sampling.

CO4- Student will learn aboutSystematic random sampling.

CO5- They will learn Stratified random sampling.

MAPPING of COs with POs and PSO's on THEORY:

COs\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	-	2	3	1	-	-	3	-	1	-	1	-
CO2	3	1	3	3	1	1	-	3	1	2	1	2	-
CO3	3	1	2	3	1	1	-	3	2	1	1	3	-
CO4	3	1	2	3	1	1	-	3	1	2	1	-	-
CO5	1	3	3	3	1	1	-	3	-	3	2	-	2

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B.A V Semester (Paper II: Population Studies and Industrial Statistics-THEORY)

CO1- Students will understand National Population Census.

CO2- Students will get the knowledge of Census Survey.

CO3- Students will learn about Population studies.

CO4- Students will learn about the Measurement of fertility and mortality measures.

CO5- Students will learn about the Industrial statistics.

MAPPING of COs with POs and PSO's on THEORY:

COs\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	-	3	3	-	-	-	-	-	-	-	3	1
CO2	3	2	2	3	1	1	-	2	3	3	2	3	2
CO3	3	2	2	3	1	1	-	2	3	3	2	3	2
CO4	3	2	1	3	2	2	-	3	2	3	1	2	3
CO5	3	2	2	3	2	1	2	2	2	1	1	2	1

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B.A VI Semester (Paper I: Operation Research -**THEORY**)

CO1- Student will get the knowledge of linear programming problem.
CO2- Student will earn the knowledge Transportation problem.
CO3- Students will learn Assignment problem.
CO4- Student will learn about the Game Theory.
CO5- Students will learn about the concept of Replacement Theory.

MAPPING of COs with POs and PSO's on THEORY:

COs\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	3	-	3	3	-	-	-	-	-	-	-	3
CO2	3	3	2	2	3	1	1	-	2	3	3	2	3
CO3	3	3	2	2	3	1	1	-	2	3	3	2	3
CO4	3	3	2	1	3	2	2	-	3	2	3	1	2
CO5	3	3	2	2	3	2	1	2	2	2	1	1	2

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B.A VI Semester (Paper II: Analysis of Variance and Design of Experiments-THEORY)

CO1- Student will get the knowledge of Analysis of variance one-way classification.

CO2- Student will earn the knowledge Two-way classification.

CO3- Students will learn Designs of Experiments Completely Randomized Design

CO4- Student will learn about the Randomized Block Design.

CO5- Students will learn about the Latin Square Design.

MAPPING of COs with POs and PSO's on THEORY:

COs\POs and PSO's	PO1	PO2	PO3	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	1	3	3	3	3	3	-	3	2	3	2	3
CO2	3	2	3	3	-	3	3	-	2	2	-	-	2
CO3	3	2	3	3	-	3	3	-	3	1	-	-	-
CO4	3	3	2	3	-	3	3	2	1	1	-	-	-
CO5	3	2	2	3	2	3	3	1	-	-	-	-	-

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