Course Outcomes (CO)

B.Sc.Part–I Semester –I

DSC–7A – STATISTICS – I

(DESCRIPTIVESTATISTICS– I) (Credits: 02)

The students will acquire knowledge of

CO1.meaning and scope of Statistics, various statistical organizations,

CO2.data and types of data, various data presenting methods,

CO3.population, sample and various methods of sampling,

CO4.various measures of central tendencies and dispersion, .moments,skewness and kurtosis

B.Sc.Part–I Semester –I

DSC–8A – STATISTICS – II

(ELEMENTARY PROBABILITY THEORY) (Credits: 02)

The students will acquire knowledge of

CO5.distinguish between random and non-random experiments

CO6.acquire knowledge of concepts of probability

CO7.use the basic probability rules, including additive and multiplicative laws, understand concept of univariate random variable and its probability distributions

CO8.understand concept of conditional probability and independence of events, acquire knowledge of mathematical expectation of univariate random variable.

B.Sc.Part–I Semester –II

DSC–7B – STATISTICS – III

(DESCRIPTIVE STATISTICS – II) (Credits: 02)

The students will acquire knowledge of

CO9.correlation coefficient and interpret its value.

CO10.regression coefficients, interpret its value and use in regression analysis.

CO11.qualitative data including concept of independence and association between two attributes

CO12.vital statistics and concept of mortality and fertility and growth rates.

B. Sc. Part–I Semester –II

DSC–8B – STATISTICS – IV

(DISCRETE PROBABILITY DISTRIBUTIONS) (Credits: 02)

The students will acquire knowledge of

CO13.bivariate discrete distributions,independence of bivariate r.vs., Mathematical expectation of bivariate discrete random variable.

CO14.one pointdistribution, two point distribution, Bernoulli distribution,

CO15.Uniform distribution, Binomial distribution, Hypergeometric distribution,

CO16.Poisson distribution, Geometric distribution and Negative binomial distribution.

B. Sc. Part-I

SUBJECT: STATISTICS

Practical Paper-I (Credit2)

The students will acquire knowledge of

CO17.acquire knowledge of computations using MS-Excel.

CO18.represent statistical data diagrammatically and graphically, know applications of some standard discrete probability distributions, compute the various fertility rates, mortality rates and growth rates.

CO19.computevariousmeasuresof centraltendency,dispersion,moments,skewnessandkurtosis.

CO20.compute correlation coefficient, regression coefficients, understand consistency, association and independence of attributes

B. Sc. Part-II: SEMESTER III

DSC - 7C- STATISTCS –V

Probability Distributions–I (Credit 2)

The students will acquire knowledge of

CO21.understand concept of discrete and continuous probability distributions with real life situations.

CO22.distinguish between discrete and continuous distributions.

CO23.find the various measures of random variable and probabilities using its probability distribution.

CO24.know the relations among the different distributions, understand the concept of transformation of univariate and bivariate continuous random variable.

B. Sc. Part-II: SEMESTER III

DSC - 8C- STATISTCS –VI

Statistical Methods-I (Credit 2)

The students will acquire knowledge of

CO25. Understand the concept of Multiple Linear Regression.

CO26.Understand the concept of Multiple Correlations and Partial Correlation.

CO27. know the concept of sampling theory.

CO28.Understand the need of vital statistics and concept of mortality and fertility.

B. Sc. Part-II: SEMESTER IV

DSC-7D-STATISTCS –VII

Probability Distributions-II (Credit 2)

The students will acquire knowledge of

CO29.know some standard continuous probability distributions with real life situations.

CO30. distinguish between various continuous distributions. find the various measures of continuous random variable and probabilities using its probability distribution.

CO31.understand the relations among the different distributions.

CO32.understand the Chi-Square, t and F distributions with their applications and inter relations.

B. Sc. Part-II: SEMESTER IV

DSC-8D - STATISTICS – VIII

Statistical Methods-II (Credit 2)

The students will acquire knowledge of

CO33. know the concept and use of time series.

CO34.understand the meaning, purpose and use of Statistical Quality Control, construction and working of control charts for variables and attributes

CO35.Know the concept of Testing of Hypothesis , significance, Type I error , Type II error ,P-value

CO36.apply the small sample tests and large sample tests in various situations.

B. Sc. Part-II

SUBJECT: STATISTICS

Practical Paper- II and III(Credit 2+2)

The students will acquire knowledge of

CO37.compute probabilities of standard probability distributions.

CO38. compute the expected frequency and test the goodness of fit.

CO39. understand how to obtain random sample from standard probability distribution and

sketch of the p. m. f. / p. d. f. for given parameters, construct various control charts.

CO40.fit plane of Multiple regression and compute Multiple and Partial correlation coefficients, draw random samples by various sampling methods, understand the applications of Poisson, Geometric and Negative Binomial distributions.

B. Sc. Part-III Semester V

DSE-E13– STATISTICS - IX

ProbabilityDistributions(Credit 02)

The students will acquire knowledge of

CO41.knowledge of important univariate distributions such as Laplace, Cauchy,

CO42.Lognormal, Weibull, Logistic, Pareto, Power Series Distribution.

CO43.knowledge of Multinomial and Bivariate Normal Distribution, knowledge of Truncated Distributions.

CO44.information of various measures of these probability distributions, acument to apply standard continuous probability distributions todifferentsituations.

B. Sc. Part-III Semester V

DSE-E14 – STATISTICS - X

Statistical Inference-I(Credit 02)

The students will acquire knowledge of

CO45.knowledge about important inferential aspect of point estimation.

CO46.concept of random sample from a distribution, sampling distribution of a statistic,

standard error of important estimates such as mean and proportions, knowledge of various important properties of estimator,

CO47.knowledge about inference of parameters of standard discrete and continuous

distributions.

CO48.concept of Fisher information and CR inequality, knowledge of different methods of estimation.

B. Sc. Part-III Semester V

DSE-E15– STATISTICS - XI

Design of Experiments (Credit 02)

The students will acquire knowledge of

CO49.knowledge of basic terms used in design of experiments.

CO50. concept of one-way and two-way analysis of variance.

CO51.knowledge of various designs of experiments such as CRD, RBD, LSD and factorial

experiments.

CO52.knowledge of using an appropriate experimental design to analyze the experimental data.

B. Sc. Part-III Semester V

DSE-E16– STATISTICS - XII

R-Programming and Quality Management(Credit 02)

The students will acquire knowledge of

CO53.importance of R- programming

CO54. knowledge of identifiers and operators used in R.

CO55. knowledge of conditional statements and Loops used in R.

CO56.knowledge of quality tools used in Quality management, knowledge of process and product control used in Quality management.

B. Sc. Part-III Semester VI

DSE-F13 – STATISTICS - XIII

Probability Theory and Applications(Credit 02)

The students will acquire knowledge of

CO57.knowledge about order statistics and associated distributions

CO58. concept of convergence and Chebychev's inequality and its uses

CO59.concept of law large numbers and central limit theorem and its uses.

CO60..knowledge of terms involved in reliability theory as well as concepts and measures.

B. Sc. Part-III Semester VI

DSE-F14 – STATISTICS - XIV

Statistical Inference-II (Credit 02)

The students will acquire knowledge of

CO61.concept of interval estimation.

CO62.knowledge of interval estimation of mean, variance and population proportion.

CO63.knowledge of important aspect of test of hypothesis and associated concept.

CO64.concept about parametric and non-parametric methods, Knowledge of some important parametric as well as non–parametric tests.

B. Sc. Part-III Semester V

DSE-F15 – STATISTICS - XV

Sampling Theory (Credit 02)

The students will acquire knowledge of

CO65.basic knowledge of complete enumeration and sample, sampling frame sampling distribution, sampling and non-sampling errors, principle steps in sample surveys, sample size determination, limitations of sampling etc.

CO66.concept of various sampling methods such as simple random sampling, stratified random sampling, systematic sampling and cluster sampling.

CO67.an idea of conducting sample surveys and selecting appropriate samplingtechniques.

CO68.knowledge of comparing various sampling techniques, knowledge of ratio and regression estimators.

B. Sc. Part-III Semester V

DSE-F16– STATISTICS - XVI

Operations Research(Credit 02)

The students will acquire knowledge of

CO69.Concept of Linear programming problem.

CO70.Knowledge of solving LPP by graphical and Simplex method.

CO71.Knowledge of Transportation, Assignment and Sequencing problems.

CO72.Concept of queuing theory, Knowledge of simulation technique and Monte Carlo technique of simulation.

B.Com. (SEM-III)

BUSINESS STATISTICS PAPER-I

The students will acquire knowledge of

CO73. Explain the scope of statistics in business, perform classification and tabulation, and represents the data by means of simple diagrams and graphs.

CO74.Explain and apply sampling techniques in real life.

CO75.Summarize data by means of measures of central tendency and dispersion.

CO76.Explain the merits and demerits of various measures of central tendency and dispersion. Perform analysis of bivariate data using simple correlation and simple linear regression.

B.Com. (SEM-IV)

BUSINESS STATISTICS PAPER-II

The students will acquire knowledge of

CO77.Compute unconditional and conditional probabilities and apply laws of probabilities.

CO78.Identify the applications of Binomial and normal distributions.

CO79.Measure trend and seasional variations in time series data.

CO80.Compute and interpret simple and weighted index numbers, Construct and apply variable and attribute control charts.