Rajaram College, Kolhapur

Department of Statistics
B.Sc. Undergraduate

Programme Specific Outcome (PSO)

After successfully completing B.Sc. Statistics Programme students will be able to:

PSO1: Develop a positive attitude towards statistics as an interesting and valuable subject of study.

PSO2: Acquire good knowledge of the basic concepts of statistics which include the major areas of Mathematical and Applied Statistics.

PSO3: Practical's done will enable students to analyze and interpret data and also to draw valid conclusions. This will enable students to face real life applications.

PSO4: To understand and develop the necessary computer skill in practical by using MS-Excel, R- software.

PSO5: Peruse as higher studies in Statistics in reputed institute of our country like IITs, ISI and central universities and to appear in several competitive examination like MPSC, UPSC, RBI, Railways, SSC.

PSO6: To pursue advanced studies and research in statistics.

Course Outcome (CO) - F. Y. B. Sc.

Course Title:DSC – 7A – STATISTICS – I (DESCRIPTIVE STATISTICS – I)

After Completion of this course the students will be able:

CO1: To compute various measures of central tendencies, dispersion, moments, skewness, kurtosis and to interpret them.

CO2: To analyze data pertaining to attributes and to interpret the results.

Course Title:DSC – 8A – STATISTICS - II (ELEMENTARY PROBABILITY THEORY)

After Completion of this course the students will be able:

CO1: To distinguish between random and non-random experiments.

CO2: To find the probabilities of various events.

CO3: To understand concept of conditional probability and independence of events.

Course Title:DSC – 7B - STATISTICS III (DESCRIPTIVE STATISTICS – II)

After Completion of this course the students will be able:

CO1: To compute correlation coefficient, interpret its value.

CO2: To compute regression coefficient, interpret its value and use in regression analysis.

CO3: To compute various index numbers.

Course Title: DSC – 8B - STATISTICS IV (DISCRETE PROBABILITY DISTRIBUTIONS)

After Completion of this course the students will be able:

CO1: To apply discrete probability distributions studied in this course in different situations.

CO2: Distinguish between discrete variables and study of their distributions.

CO3: Know some standard discrete probability distributions with real life situations.

CO4: Understand concept of bivariate distributions and computation of related probabilities.

Course Outcome (CO) - S. Y. B. Sc.

Course Title:DSC - 7C: Probability Distributions–I

After Completion of this course the students will be ableto :

CO1:understand concept of discrete and continuous probability distributions with real lifesituations.

CO2: distinguish between discrete and continuous distributions

CO3: find the various measures of random variable and probabilities using its probabilitydistribution.

CO4:understand the concept of transformation of univariate and bivariate continuous randomvariable.

CO5:understand the concept of transformation of univariate and bivariate continuous randomvariable.

Course Title:DSC - 8C: Statistical Methods-I

After Completion of this course the students will be able to :

CO1: understand the concept of Multiple Linear Regression.

CO2: understand the concept of Multiple Correlations and Partial Correlation.

CO3: know the concept of sampling theory.

CO4: understand the need of vital statistics and concept of mortality and fertility.

Course Title: DSC-7D: Probability Distributions-II

After Completion of this course the students will be able to :

CO1:know some standard continuous probability distributions with real life situations.

CO2: distinguish between various continuous distributions.

CO3: find the various measures of continuous random variable and probabilities using itsprobability distribution.

CO4:understand the relations among the different distributions.

CO5:understand the Chi-Square, t and F distributions with their applications and interrelations.

Course Title:DSC-8D: Statistical Methods-II

After Completion of this course the students will be able to :

CO1: know the concept and use of time series.

CO2: understand the meaning, purpose and use of Statistical Quality Control, construction andworking of control charts for variables and attributes

CO3:apply the small sample tests and large sample tests in various situations.

Course Outcome (CO) - T. Y. B. Sc.

Course Title:DSE-E13: ProbabilityDistributions

After Completion of this course the students will acquire:

CO1: knowledge of important univariate distributions such as Laplace, Cauchy, Lognormal, Weibull, Logistic, Pareto, Power Series Distribution.

CO2: knowledge of Multinomial and Bivariate Normal Distribution.

CO3: knowledge of Truncated Distributions.

CO4: information of various measures of these probability distributions.

CO5: acumen to apply standard continuous probability distributions todifferent situations.

Course Title: DSE-E14:Statistical Inference-I

After Completion of this course the students will acquire:

CO1: knowledge about important inferential aspect of point estimation.

CO2: concept of random sample from a distribution, sampling distribution of a statistic,standard error of important estimates such as mean and proportions.

CO3:knowledge of various important properties of estimator.

CO4: knowledge about inference of parameters of standard discrete and continuous distributions.

CO5: concept of Fisher information and CR inequality.

CO6: knowledge of different methods of estimation.

Course Title:DSE-E15: Design of Experiments

After Completion of this course the students will acquire:

CO1: knowledge of basic terms used in design of experiments.

CO2:concept of one-way and two-way analysis of variance.

CO3: knowledge of various designs of experiments such as CRD, RBD, LSD and factorialexperiments.

CO4: knowledge of using an appropriate experimental design to analyze the experimentaldata.

Course Title:DSE-E16: R-Programming and Quality Management

After Completion of this course the students will acquire:

CO1: importance of R- programming
CO2: knowledge of identifiers and operators used in R.
CO3: knowledge of conditional statements and Loops used in R.
CO4: knowledge of quality tools used in Quality management.
CO5: knowledge of process and product control used in Quality management.

Course Title: - DSE-F13: Probability Theory and Applications

After Completion of this course the students will acquire:

CO1: knowledge about order statistics and associated distributions
CO2: concept of convergence and Chebychev'sinequality and its uses
CO3: concept of law large numbers and central limit theorem and its uses.
CO4: knowledge of terms involved in reliability theory as well as concepts and measures.

Course Title:DSE-F14: Statistical Inference-II

After Completion of this course the students will acquire:

CO1: concept of interval estimation.
CO2: knowledge of interval estimation of mean, variance and population proportion.
CO3: knowledge of important aspect of test of hypothesis and associated concept.
CO4: concept about parametric and non-parametric methods.
CO5: Knowledge of some important parametric as well as non–parametric tests.

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Course Title:DSE-F15: Sampling Theory

After Completion of this course the students will acquire:

CO1: basic knowledge of complete enumeration and sample, sampling frame samplingdistribution, sampling and non-sampling errors, principle steps in sample surveys,sample size determination, limitations of sampling etc.
CO2: concept of various sampling methods such as simple random sampling, stratified random sampling, systematic sampling and cluster sampling.
CO3: an idea of conducting sample surveys and selecting appropriate sampling techniques.
CO4: knowledge of comparing various sampling techniques.
CO5: knowledge of ratio and regression estimators.

Course Title: DSE-F16: Operations Research

After Completion of this course the students will acquire:

CO1: Concept of Linear programming problem.

CO2: Knowledge of solving LPP by graphical and Simplex method.

CO3: Knowledge of Transportation, Assignment and Sequencing problems.

CO4: Concept of queuing theory.

CO5: Knowledge of simulation technique and Monte Carlo technique of simulation.