

Y&M Anjuman Khairul Islam's
Poona College of Arts, Science and Commerce, Pune
Department of Statistics

Programme/Programme Specific/Course Outcomes

Sr. No.	Programme	Duration
1	B.A.Statistics	3 years

Sr. No.	Class	Course	Duration
1	F.Y.B.Sc.	S-I, S-II, S-III	1 years
2	S.Y.B.Sc.	S-I, S-II, S-III	2 Semester 6 months each
3	F.Y.B.A.	Statistics, Mathematical Statistics	1 years
4	S.Y.B.A.	Statistics (Special) Statistics (General) Mathematical Statistics (General) Statistics Practical (Special)	1 years
5	T.Y.B.A.	Statistics (Special) Statistics (General) Mathematical Statistics (General) Statistics Practical (Special)	1 years
6	F.Y.B.Sc.(CS)	S-I, S-II, S-III	1 years

F.Y. B.Sc. Statistics S-I, S-II & S-III

Title of the Course : Descriptive Statistics

Objective : The main objective of this course is to acquaint students with some basic concepts in Statistics. They will be introduced to some elementary statistical methods of analysis of data. At the end of this course students are expected to be able :

CO 1 : To compute various measures of central tendency, dispersion, skewness and kurtosis.

CO 2 : To analyze data pertaining to attributes and to interpret the results.

CO 3 : To compute the correlation coefficient for bivariate data and interpret it.

CO 4 : To fit linear , quadratic and exponential curves to the bivariate data to investigate relation between two variables.

CO 5 : To fit linear regression model to the bivariate data.

CO 6 : To compute and interpret various index numbers.

Title of the Course : Discrete Probability and probability distributions

Objective: The main objective of this course is to introduce to the students the basic concepts of probability, axiomatic theory of probability, concept of random variable, probability distributions (univariate and bivariate) discrete random variables, expectation and moments of probability distributions. By the end of this course students are expected to be able:

CO 1: To distinguish between random and non random experiments.

CO 2: To find the probabilities of events.

CO 3: To obtain a probability distribution of random variable (one or two dimensional) in the given situation.

CO 4: To apply standard discrete probability distribution to different situations

Title of the Course : Practical

Objective : At the end of this course students are expected to be able :

CO 1: To use various graphical and diagrammatic techniques and interpret.

CO 2: To compute various measures of central tendency, dispersion, skewness and kurtosis.

CO 3: To compute correlation coefficient, regression coefficients.

CO 4: To fit binomial and poisson distributions.

CO 5: To analyze data pertaining to discrete and continuous variables and to interpret the results.

CO 6: To compute probabilities of bivariate distributions.

CO 7: To interpret summary statistics of computer output.

CO 8: To summarize and analyze the data using computer.

CO 9: To draw random samples from poisson and binomial distributions.

S.Y. B.Sc. Statistics S-I & S-II

CO 1: To fit various discrete and continuous probability distributions and to study various real life situations.

CO 2: To identify the appropriate probability model that can be used.

CO 3: To use forecasting and data analysis techniques in case of univariate and multivariate data sets.

CO 4: To use statistical software packages .

CO 5: To test the hypothesis particularly about mean, variance, correlation, proportions and goodness of fit.

CO 6: To study applications of statistics in the field of demography etc.

Title of the Course : Practical

CO 1: To compute multiple and partial coefficients, to fit trivariate multiple regression plane, to find residual sum of squares and adjusted residual sum of squares (using calculators and MS-EXCEL)

CO 2: To fit various discrete and continuous distributions, to test the goodness of fit, to draw model samples (using calculators , MS-EXCEL and R-software)

CO 3: To test various hypotheses included in theory.

CO 4: To analyze time series data.

F.Y. B.Sc.(Comp.Sc.) Statistics S-I, S-II & S-III

Title of the Course : Statistical Methods I

Objective : The main objective of this course is to acquaint students with some basic concepts in Statistics. They will be introduced to some elementary statistical methods of analysis of data. At the end of this course students are expected to be able :

CO 1 : To compute various measures of central tendency, dispersion, skewness and kurtosis.

CO 2: To obtain a probability distribution of random variable (one or two dimensional) in the given situation.

CO 3: To apply standard discrete probability distribution to different situations

CO 4 : To compute the correlation coefficient for bivariate data and interpret it.

CO 5 : To fit linear , quadratic and exponential curves to the bivariate data to investigate relation between two variables.

CO 6 : To fit linear regression model to the trivariate data.

CO 7: To analyze time series data.

Title of the Course : Statistical methods II

Objective: The main objective of this course is to introduce to the students the basic concepts of probability, axiomatic theory of probability, concept of random variable, probability distributions (univariate) continuous random variables, expectation and variance of probability distributions. By the end of this course students are expected to be able:

CO 1: To distinguish between random and non random experiments.

CO 2: To find the probabilities of events.

CO 3: To obtain a probability distribution of random variable (one dimensional) in the given situation.

CO 4: To apply standard continuous probability distribution to different situations

CO 5: To test the hypothesis particularly about mean, variance, correlation, proportions and goodness of fit.

Title of the Course : Practical

Objective : At the end of this course students are expected to be able :

CO 1: To use various graphical and diagrammatic techniques and interpret.

CO 2: To compute various measures of central tendency, dispersion, skewness and kurtosis.

CO 3: To compute correlation coefficient, regression coefficients.

CO 4: To fit binomial , poisson geometric and normal distributions (using calculator and using MS-EXCEL).

CO 5: To interpret summary statistics of computer output.

CO 6: To summarize and analyze the data using computer.

CO 7: To draw random samples from uniform, exponential and normal distributions. (using calculator and using MS-EXCEL).

CO 8: To test various hypotheses included in theory.

CO 9: To analyze time series data.

F.Y. B.A. Statistics

Title of the Course : Descriptive Statistics

Objective : The main objective of this course is to acquaint students with some basic concepts in Statistics. They will be introduced to some elementary statistical methods of analysis of data. At the end of this course students are expected to be able :

CO 1 : To compute various measures of central tendency, dispersion, skewness and kurtosis.

CO 2 : To analyze data pertaining to attributes and to interpret the results.

CO 3 : To compute the correlation coefficient for bivariate data and interpret it.

CO 4 : To fit linear , quadratic and exponential curves to the bivariate data to investigate relation between two variables.

CO 5 : To fit linear regression model to the bivariate data.

CO 6 : To compute and interpret various index numbers.

Title of the Course : Mathematical Statistics

Objective: The main objective of this course is to introduce to the students the basic concepts of probability, axiomatic theory of probability, concept of random variable, probability distributions (univariate and bivariate) discrete random variables, expectation and moments of probability distributions. By the end of this course students are expected to be able:

CO 1: To distinguish between random and non random experiments.

CO 2: To find the probabilities of events.

CO 3: To obtain a probability distribution of random variable (one or two dimensional) in the given situation.

CO 4: To apply standard discrete probability distribution to different situations

S.Y. B.A. Statistics Special, Mathematical Statistics

CO 1: To fit various discrete and continuous probability distributions and to study various real life situations.

CO 2: To identify the appropriate probability model that can be used.

CO 3: To use forecasting and data analysis techniques in case of univariate and multivariate data sets.

CO 4: To use statistical software packages .

CO 5: To test the hypothesis particularly about mean, variance, correlation, proportions and goodness of fit.

CO 6: To study applications of statistics in the field of demography etc.

Title of Course : S.Y. B.A. Statistics General

CO1: A student should be able to recall basic facts about Statistics and should be able to display knowledge of conventions such as notations, terminology and recognize basic geometrical figures and graphical displays state important facts resulting from their studies.

CO2: A student should get a relational understanding of Statistical and mathematical concepts and concerned structures, and should be able to follow the patterns involved.

CO3: A student should get adequate exposure to global and local concerns that explore them many aspects of Statistics.

CO4: A student be able to apply their skills and knowledge, that is, translate information presented verbally into mathematical form, select and use appropriate mathematical formulae or techniques in order to process the information and draw the relevant conclusion.

CO5: A student should be made aware of history of Statistics and hence of its past, present and future role as part of our culture.

Title of Programme : B.A. Statistics

- PSO1:** A student should be able to recall basic facts about Statistics and should be able to display knowledge of conventions such as notations, terminology and recognize basic geometrical figures and graphical displays state important facts resulting from their studies.
- PSO2:** A student should get a relational understanding of Statistical and mathematical concepts and concerned structures, and should be able to follow the patterns involved.
- PSO3:** A student should get adequate exposure to global and local concerns that explore them many aspects of Statistics.
- PSO4:** A student be able to apply their skills and knowledge ,that is, translate information presented verbally into mathematical form, select and use appropriate formulae or techniques in order to process the information and draw the relevant conclusion.
- PSO5:** A student should be made aware of history of Statistics and hence of its past, present and future role as part of our culture.

T.Y. B.A. Statistics General

Title of Course : Design of experiments and operations research

CO 1: Analysing various experimental designs such as CRD, RBD and LSD.

CO 2: To compute efficiency of designs.

CO 3: Analyze ANOCOVA with one concomitant variable and factorial experiments.

CO 4: Formulation and solution of Linear Programming Problems.

CO 5: Solution of transportation and assignment problems.

CO 6: Student should know types and methods of simulation.

CO 7: Network analysis methods such as PERT and CPM.

Title of Course : Distribution theory

CO 1: Should be able to evaluate various univariate continuous distributions

CO 2: Study of bi-variate normal distribution.

CO 3: To study distributions of order statistics.

CO 4: Applications of Central Limit Theorem and Weak Law of Large Numbers.

CO 5: Study of Finite Morkov Chains.

Title of Course : Statistical Inference

CO 1: Methods, types and criteria of estimation.

CO 2 : Knowledge of different parametric tests and their use in different situations.

CO 3 : Application of likely-hood ratio test.

CO 4 : Different types of sequential tests and their applications.

CO 5 : Concept and use of non-parametric tests.