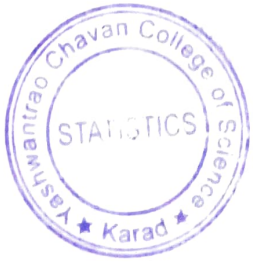
Yashwantrao Chavan College of Science, Karad

Department of Statistics

PSO's for B.Sc. Statistics are as follows

Upon successful completion of the course the students will be able to,	
PSO1	Analyze various real life situations by using statistical methods .
PSO2	Select appropriate test to investigate research hypothesis.
PSO3	Apply likelihhod principles, calculus to derive fundamental results in probability.
PSO4	Apply likelihhod principles, calculus to derive fundamental results in probability.
PSO5	Write code to extract reformat real data and to utilize statistical programming envirorment.
PSO6	Solving statistical problems by using R- software. M.S. Excel, to solve statistical problems.
PSO7	Illustrate various probability distributions which are useful in various situations.
PSO8	Survey sampling method to solve real life problems.
PSO9	Skills to write examinition and get opportunities for job placements invarious sectors.
PSO10	Pursue higher education and research.

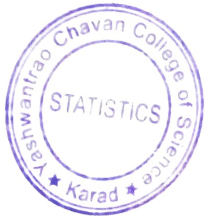


Yashwantrao Chavan College of Science, Karad

Department of Statistics

PO's for B.Sc. Statistics are as follows

PO1	Provide basic knowledge of the statistical techniques which are used to analyze various situations .
PO2	Statistics has wide applications in every walk of life. As per the interest of students they are guided to develop their interest in applied fields and also in research.
PO3	To increase empolyability of students due to technique covered in papers such as "Design of experiment", "Sampling Theory " ,Operation research", R-Programming & quality management.
PO4	To enable the students to flourish in society with knowledge of subject and its application.
PO5	To motived the students for data analysis data mining and their applications in industries and real-life situations.
PO6	Understand use of R- software. M.S. Excel, to solve statistical problems.
PO7	To understand various probability distributions which are useful in various situations.
PO8	To give an approriate result for various real life situations by using survey sampling.
PO9	Students learn to design data collection plans and basic tools of descriptive statistics.
PO10	Develop ability and statistical skills through an appropriate blending of theoretical education, practical exercises, and proj



Course Outcomes (CO)

B.Sc.-I

Course Name	Course Outcome
	Upon successful completion of the course, students will be able to:
Descriptive Statistics - I	Knowledge about meaning and scope of Statistics, various statistical organizations
	Illustrate the data and types of data, various data presenting methods.
	Evaluate population, sample and various methods of sampling.
	To compute various measures of central tendencies, dispersion, moments, skewness, kurtosis and to interpret them.
Elementary Probability Theory	Distinguish between random and non-random experiments.
	Acquire knowledge of concepts of probability and use the basic probability rules, including additive and multiplicative laws.
	Understand concept of conditional probability and independence of events.
	Illustrate univariate random variable and its probability distributions and it's mathematical.
Descriptive Statistics –II	Evaluate correlation coefficient and interpret its value.
	Explain the regression coefficients, interpret its value and use in regression analysis.
	Knowledge of qualitative data including concept of independence and association between two attributes
	Evaluate vital statistics and concept of mortality and fertility and growth rates
Discrete Probability Distributions	Understand the bivariate discrete distributions, independence of bivariate r.vs., Mathematical expectation of bivariate discrete random variable.
	Describe probability distributions on finite range.
	Describe probability distributions on countably infinite range.

B.Sc.-II	
Probability Distributions – I	Understand bivariate discrete distributions with real life situations.
	Describe the continuous random variable and find the various measures, probabilities using its probability distribution.
	Illustrate transformation of univariate continuous random variable.
	Explain some standard continuous probability distributions with real life situations.
	Evaluate relations among the different distributions.
Statistical Method –I	Obtaining multiple linear regression equations and their applications.
	Interpret the the concept of multiple correlations, partial correlation and their computations.
	Understand need, construction and utility of various index numbers.
	Explain concepts related to national income and different methods of estimation of national income.
Probability Distributions – II	Evaluate some standard continuous probability distributions with real life situations.
	Finding the various measures of continuous random variable and probabilities by using its probability distributions.
	Illustatrate relationships among different distributions.
	Describe continuous bivariate r.vs. and probability distributions of their transformations.
	Knowledge of sampling distribution of a statistic and theire applications.
Statistical Methods – II	Explain use of time series analysis.
	Purpose and use of Statistical Quality Control, construction and working
	Applying the appropriate small sample tests and large sample tests in various situations.

B.Sc.-III	
ProbabilityDistributions	Acquire knowledge of important univariate , bivariate ,multivariate distributions
	Evulate Truncated Distributions .
	Illustrate vrious measures on the distributions.
	acumen to apply standard continuous probability distributions todifferent situations.
Statistical Inference-I	Knowledge about important inferential aspect of point estimation.
	Concept of random sample from a distribution, sampling distribution of a statistic.
	knowledge of various important properties of estimator and inference of parameters of standard discrete and continuous distributions.
	Illustrate Fisher information and CR inequality.
	Knowledge of different methods of estimation.
Design of Experiments	Knowledge of basic terms used in design of experiments.
	Concept of one-way and two-way analysis of variance.
	Knowledge of various designs of experiments such as CRD, RBD, LSD and factorial experiments.
	Illustration of appropriate experimental design to analyze the experimental data.
R-Programming and Quality Management	Importance of R- programming .
	Knowledge of identifiers and operators also illustration of conditional statements and Loops used in R.
	Knowledge of quality tools used also process and product control used in Quality management.
	Knowledge about order statistics and associated distributions

Probability Theory and Applications	Concept of convergence and Chebychev'sinequality and its uses
	Concept of law large numbers and central limit theorem and its uses.
	Knowledge of terms involved in reliability theory as well as concepts and measures.
Statistical Inference-II	Illustation of interval estimation.
	Knowledge of important aspect of test of hypothesis and associated concept.
	Concept about parametric and non-parametric methods.
	Knowledge of some important parametric as well as non–parametric tests.
Sampling Theory	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.
	Concept of various sampling methods such as simple random sampling, stratified random sampling, systematic sampling and cluster sampling and their comparison.
	An idea of conducting sample surveys and selecting appropriate sampling techniques.
	Knowledge of ratio and regression estimators.
Operations Research	Knowledge of solving LPP by graphical and Simplex method.
	Knowledge of Transportation, Assignment and Sequencing problems.
	Concept of queuing theory.
	Knowledge of simulation technique and Monte Carlo technique of simulation.

Yashwantrao Chavan College of Science ★ Karad ★ STATISTICS

HEAD
Department of Statistics
Yashwantrao Chavan College of Science,
Karad

Principal
Yashwantrao Chavan College of Science
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