Koyana Education Society, Patan
BALASAHEB DESAI COLEGE, PATAN
DEPARTMENT OF STATISTICS

| SEMESTER TEACHING PLAN |
| Academic Year 2024-2025 |
| Semester I |

Class: B.Sc. 1

Paper No.: I and II (Theory)

Month	No. of Teaching Days	Periods Allotted	Unit / Topic	Subunits Planned
June	12	07	**Paper 1 : Descriptive Statistics-1** Unit 1.1 Introduction to Statistics (3)	Introduction with student, Syllabus, Nature of the Exam. Meaning, Definition and Importance of Statistics, Various fields where Statistics is used and Various statistical organizations in India
			Unit 1.2 Population and Sample (4)	Statistical population and Types, Census & Sampling method, Sampling methods
July	26	17	Unit 1.3 Nature of Data (4)	Primary and Secondary data Quantitative and Qualitative data Different scales
			Unit 1.4 Presentation of Data (4)	Discrete and Continuous frequency distribution, Classification of data
			Unit 2.1 Measures of Central Tendency (6)	Central tendency, A. M., G.M. and H.M. and its properties, Median Mode, Partition Values. Graphical Method, Uses of averages & Examples
			Unit 2.2 Measures of Dispersion (3)	Dispersion, Range, Q.D., M.D. and M.S.D. with its Minimal property
August	26	17	Unit 2.1 Measures of Dispersion (2)	Variance, S.D. & its properties, C.V. , Examples
			Unit 2.3 Moments, Skewness and Kurtosis (5)	Raw & Central Moments, Relation between moments, Skewness, Kurtosis and Examples
			Paper II : Elementary Probability Theory Unit 1.1 (4)	Experiment and Random experiment. Types of Sample space, Types of Events, Algebra of Events, Power Set and Symbolic representation
			Unit 1.2 (4)	Equally likely events and a priori definition, examples
September	19	13	Unit 1.2 (5)	Axiomatic definition, Proof of the results and examples, Definition and Theorem on conditional probability
			Unit 2.1 (8)	Independence of events and Theorems. Pair wise & Mutual independence, Baye's theorems and Examples, Discrete random variable. p.m.f. and c.d.f., Properties of c.d.f., Median and Mode and Problems
October	21	14	Unit 2.2 (7)	Expectation of a r. v. and their function, Results on expectation. Mean ,Variance, Raw and central moments, p.g.f. properties
			Revision (7)	Revision
		68		

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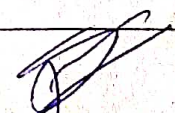
SEMESTER TEACHING PLAN
Academic Year 2024-2025
Semester III

Class: B.Sc. II   **Paper No.: V and VI (Theory)**

Month	No. of Teaching Days	Periods Allotted	Unit / Topic	Subunits Planned
June	12	04	Unit 1.1: Some Bivariate Discrete Distributions (04)	**Trinomial Distribution:** Introduction, Definition, p.m.f., p.g.f., means, variances and covariance, Correlation coefficient. Generalization
July	26	22	Unit 1.1: Some Bivariate Discrete Distributions (06)	**Bivariate Poisson Distribution:** Definition, p.m.f., The marginal and conditional distributions, with mean and variance,
			Unit 1.2: univariate Continuous distribution (08)	Definition of the continuous sample space and continuous r. v., p. d. f., c. d. f, mean, median, mode, quartiles, variance. moments, skewness and kurtosis, m.g.f and c.g.f. Transformations of univariate continuous random variable
			2.1 Some Univariate Continuous Distributions defined on Finite Interval (06)	Uniform distribution: Beta distribution of first kind
			2.2 Some Univariate Continuous Distributions defined on Infinite Interval (02)	Beta distribution of second kind
August	26	22	2.2 Some Univariate Continuous Distributions defined on Infinite Interval (10)	Exponential Distribution Gamma distribution Laplace (Double Exponential) Distribution
			Paper VI: Statistical methods I Unit 1.1 Multiple linear regression. (09)	Concept of multiple linear regression, Fitting of regression plane, definition of partial regression coefficients Residual: definition, properties, mean and variance, Covariance
			Unit 1.2 Multiple and Partial correlation (03)	Definition of multiple correlation coefficient & derivation of formula, Properties
September	19	16	Unit 1.2 Multiple and Partial correlation (06)	Definition of partial correlation coefficient & derivation of formula, Properties.
			Unit 2.2 1.1 Index Numbers (10)	Meaning and utility, problems in construction of I.N., Types of I.N. Tests of I.N. Cost of living I.N.
October	21	16	2.2 National Income (10)	Definitions of national income, Different concept of national income Methods of estimation of national income. The difficulties in methods. Importance of national income.
			Revision (6)	Revision
		80		

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