

“Dissemination of Education for Knowledge, Science and Culture”

-Shikshanmaharshi Dr. Bapuji Salunkhe



VIVEKANAND COLLEGE, KOLHAPUR
(Empowered AUTONOMOUS)

DEPARTMENT OF STATISTICS

Three/Four- Years UG Programme Department/Skill Enhancement
Course (SEC)

for

B.Com-I Statistics

Semester-I & II

(Implemented from academic year 2024-25 onwards)

Shri Swami Vivekanand Shikshan Sanstha's

VIVEKANAND COLLEGE, KOLHAPUR (Empowered AUTONOMOUS)

Department of Statistics

B. Com. I (Semester I and II)

Teaching & Evaluation Scheme
(2024-25 onwards for NEP-Phase-II)
Three/Four- Years UG Programme

Semester	Paper No.	Course Code	Course Title	No. of Credits
I	I	SEC02STA11	Business Statistics I	02
II	II	SEC02STA21	Business Statistics II	02

B. Com. Part – I (SEC) Syllabus with effect from June 2024
Semester: I Business Statistics – I (2 credit)

Theory: 30 Hours

(Marks-50)

Course Outcomes - At the end of this course students will be able to:

CO1. Understand basic terms in sampling and different sampling methods.

CO2. Visualize data and compute descriptive statistics.

Unit	Contents	Hours Allotted
1	<p>Introduction to Statistics & Sampling Techniques A] Introduction to Statistics: 1.1 Meaning of the word Statistics. 1.2 Scope of Statistics: In Industry, Economics, and Management. 1.3 Meaning of primary and secondary data. 1.4 Qualitative and Quantitative data, Discrete and Continuous variable, Frequency and Frequency Distribution 1.5 Basic Terms: Class interval, frequency, class frequency, class mark, class width, open end classes Classification, Methods of Classification, Tabulation, Frequency Distribution, Discrete and continuous frequency distribution, Cumulative Frequencies, Relative frequency. 1.6 Diagrammatic Representation of Data: Bar diagram, subdivided bar diagram, Multiple bar diagram, Box plot, Pie chart. 1.7 Graphical Representation of Data: Histogram, Ogive curves, Frequency polygon and frequency curves. 1.8 Illustrative Examples. B] Sampling Techniques: 1.9: Population, Sample, Sampling unit, Sampling frame, Sampling method, Census method. 1.10: Advantages and disadvantages of sampling methods 1.11 Sample Survey: Designing a questionnaire, Characteristics of good Questionnaire. 1.14 Methods of Sampling: Simple random sampling with and without replacement, Stratified random sampling (only concept and real-life examples).</p>	15
2	<p>Measures of Central Tendency & Dispersion A) Measures of Central Tendency (Averages): 2.1 Concept of Central Tendency. 2.2 Requirements of good statistical average. 2.3 Arithmetic Mean: Definition, Properties of A.M. (without proof), combined mean. 2.4 Positional Averages: Median and Mode, Determination of mode and median by graph, Partition values (Quartiles and Deciles). 2.5 Empirical relation between Mean, Median and Mode. 2.6 Merits and Demerits of Mean, Median and Mode.</p>	15

	<p>B) Measures of Dispersion:</p> <p>2.7 Concept of Dispersion, Requirements of good measures of dispersion.</p> <p>2.8 Absolute and Relative measures of dispersion. Range- Definition, Coefficient of Range.</p> <p>2.9 Quartile Deviation (Q.D.) Definition, Coefficient of Q.D.</p> <p>2.10 Mean Deviation (M.D.): Definition of M.D. about Mean, Coefficient of M.D. about mean.</p> <p>2.11 Standard Deviation (S.D.) and Variance: Definitions, Coefficient of S.D., Combined S.D. for two groups. Coefficient of Variation (C.V.): Definition and its uses.</p> <p>2.12 Merits and Demerits of Range, Q.D., M.D. and S.D.</p> <p>2.13 Numerical Examples.</p>	
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Reference Books: -

- 1) Statistical Methods, by Dr. S. P. Gupta, Sultan Chand and Sons Publication.
- 2) Introduction to Statistics, by C.B. Gupta.
- 3) Mathematical Statistics, by H.C. Saxena and J.N. Kapur.
- 4) Business Statistics, by S.S. Desai.
- 5) Business Statistics, by G.V. Kumbhojkar.
- 6) Fundamentals of Statistics, by S.C. Gupta.

Note: Use of non-programmable calculator is allowed.

Semester: II Business Statistics – II (2 Credit)

Theory: 30 Hours (Marks-50)

Course Outcomes - At the end of this course students will be able to:

CO1. Understand the concept of probability, probability distributions and its applications in real life.

CO2. Distinguish between process and product control, plot various control charts.

Unit	Contents	Hours Allotted
1	<p>Probability and Discrete Probability Distributions:</p> <p>Probability:</p> <p>1.1 Trial, Sample Space, Events, Classical definition of Probability.</p> <p>1.2 Mutually exclusive events, Exhaustive events.</p> <p>1.3 Complement of an event, Union, Intersection of two events.</p> <p>1.4 Addition and Multiplication laws of Probability (without proof).</p> <p>1.5 Conditional probability.</p> <p>1.6 Examples without use of permutations and computations.</p> <p>1.7 Random variable, types of random variable, probability distribution, Probability mass function (p.m.f.), cumulative distribution function(c.d.f.), Expectation of r.v.(Mean) , Variance , Median and Mode</p> <p>Binomial Distribution:</p> <p>1.8 P. m. f., mean and variance (statement only).</p> <p>1.9 Simple examples to find probabilities and parameters.</p> <p>Poisson Distribution:</p> <p>1.10 P. m. f., mean and variance (statement only).</p> <p>1.11 Simple examples to find probabilities and parameters.</p>	15
2	<p>Statistical Quality Control (S.Q.C.):</p> <p>2.1 Concept and need of S.Q.C.</p> <p>2.2 Advantages of S.Q.C.</p> <p>2.3 Chance and assignable causes, process control and product control.</p> <p>2.4 Control chart and its construction.</p> <p>2.5 Control charts for variable:Mean and range chart.</p> <p>2.6 Control charts for attribute: Control chart for number of defectives (np-chart) for fixed sample size,Control chart for number of defects per unit (C-chart).</p> <p>2.7 Numerical examples.</p>	15

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Marking scheme
For Course having 2 credits

1. CA = 40 Marks (Written Examination)
2. CIE = 10 Marks (Assignment 5 Marks, Online test – 5 Marks)

Nature of Question Paper for CA
Written Examination

Total Marks = 40

Time = 2.00 hours

Instructions:

1. Question No. 1 and Question No. 5 are Compulsory.
2. Attempt any two questions from Question No. 2 to Question No. 4.

Question	Nature of Question	Marks
Question No. 1	a) Choose correct alternative (06 Marks)	10
	b) State True or False (04 Marks)	
Question No. 2	Long answer / Problem	10
Question No. 3	Long answer / Problem	10
Question No. 4	Long answer / Problem	10
Question No. 5	Short Notes (Any Two out of three)	10
Total Marks		40




HEAD
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