

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 2023-24 onwards)

Shri Swami Vivekanand Shikshan Sanstha's

VIVEKANAND COLLEGE, KOLHAPUR (Empowered AUTONOMOUS)

Department of Statistics

B. Com. I (Semester I and II)

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

B. Com. Part – I (SEC) Syllabus with effect from June 2023 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. Apply Statistics in various fields and learn its applications.

CO2. Classify data and representing it graphically and diagrammatically.

CO3. Understand basic terms in sampling and different sampling methods.

CO4. Learn to compute various descriptive statistics.

Unit	Contents	Hours Allotted
	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	1.6 Diagrammatic Representation of Data: Bar diagram,	15
	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 leconfiques:	
	1.9. Population, Sample, Sampling unit, Sampling name, Sampling	
	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).	
	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	2.3 Arithmetic Mean: Definition, Properties of A.M. (without	15
	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, Med	lian and Mode.
2.6 Merits and Demerits of Mean, Median	and Mode.
B) Measures of Dispersion:	
3.1 Concept of Dispersion, Requirements of	of good measures of
dispersion.	
3.2 Absolute and Relative measures of dis	persion.
3.3 Range- Definition, Coefficient of Rang	ge.
3.4 Quartile Deviation (Q.D.) Definition, Q	Coefficient of Q.D.
3.5 Mean Deviation (M.D.): Definition o	f M.D. about Mean,
Coefficient of M.D. about mean.	
3.6 Standard Deviation (S.D.) and Variance	e: Definitions,
Coefficient of S.D.,Combined S.D. for	two groups.
3.7 Coefficient of Variation (C.V.): Definit	ion and its uses.
3.8 Merits and Demerits of Range, Q.D., N	I.D. and S.D.
3.9 Numerical Examples.	

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 and probability distributions.

CO2: Learn the concept and type of random variable.

CO3: Know applications of probability distributions in real life.

CO4. Distinguish between process and product control, plot various control charts.

Unit	Contents	Hours Allotted
	Probability and Discrete Probability Distributions:	
	Probability:	
	1.1 Trial, Sample Space, Events, Classical definition of	
	Probability.	1.5
1	1.2 Mutually exclusive events, Exhaustive events.	15
	1.3 Complement of an event, Union, Intersection of two events.	
	1.4 Addition and Multiplication laws of Probability (without	
	proof).	
	1.5 Conditional probability.	
	1.6 Examples without use of permutations and computations.	
	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	
	Binomial Distribution:	
	1.8 P. m. f., mean and variance (statement only).	
	1.9 Simple examples to find probabilities and parameters.	
	Poisson Distribution:	
	1.10 P. m. f., mean and variance (statement only).	
	1.11 Simple examples to find probabilities and parameters.	
2	Statistical Quality Control (S.Q.C.):	
	4.1 Concept and need of S.Q.C.	
	4.2 Advantages of S.Q.C.	
	4.3 Chance and assignable causes, process control and product	
	control.	
	4.4 Control chart and its construction.	
	4.5 Control charts for variable: Mean and range chart.	
	4.6 Control charts for attribute:	15
	Control chart for number of defectives (np-chart) for fixed	
	sample size, Control chart for number of defects per unit	
	(C-chart).	
	4.7 Numerical examples.	

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Marking scheme

For Course having 2 credits

I- CA = 40 Marks (Written Examination)

II- 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

Instruction:

1. Question No. 1 and Q. No. 2 are Compulsory.

2. Attempt any two questions from Q. No. 3 to 5.

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



