

**SES'S L. S. RAHEJA COLLEGE OF
ARTS AND COMMERCE
(AUTONOMOUS)**



Syllabus of Mathematical and Statistical Techniques-I under NEP 2020 vertical (OE)
with effect from 2024-25

Programme: Bachelor of Commerce

Department of Mathematics, Statistics and Computer

HoD/Sr. Person of the Department: Dr. Seema Ukidve

Date of approval by the BoS:24/04/2024

Approved by the Academic Council: 29/04/2024

Approved by the Governing Body: 06/05/2024



Program: Bachelor of Commerce				Semester: I	
Course: Mathematical and Statistical Techniques-I Academic Year: 2024-2025 Batch: 2024-2027				Code:UGBCOMIOE324	
Teaching Scheme				Evaluation Scheme	
Lectures	Practicals	Tutorials	Credits	Internal Continuous Assessment (ICA) (weightage)	Term End Examination (TEE) (weightage)
30	Nil	Nil	02	20 Marks	30 Marks
Internal Component					
Class Test (Duration 30 Mins)			Presentation		Class Participation
10			5		5
Learning Objectives:					
<ul style="list-style-type: none"> • To provide an overview to the students with the basic concepts involved in Mathematics and Statistics. • To apply the basics of Mathematical skills which are imperative in Economics and Management. • To provide an overview to the students with the basic concepts involved in Statistics. • To apply the basics of Statistical skills which are imperative in Economics and Management. • To take well informed decisions in predictable and uncertain situations 					
Course Outcomes: After completion of the course, students would be able to:					
<ul style="list-style-type: none"> • Illustrate the basic concepts of Share Market and Mutual Funds. • Illustrate the knowledge of Maxima, Minima and applications in Economics. • To understand the various issues involved in the collection, analysis and arriving at conclusive Decisions regarding quantitative data. • To understand the various issues involved in the collection, analysis and arriving at conclusive. • Decisions regarding quantitative data. • To understand and appreciate the practical relevance of various basic statistical tools in the Field of finance and economics. 					

Pedagogy: The objective of the course is to encourage students to learn and appreciate the use of the various tools of Mathematics and Statistical Techniques with regard to scientific management in businesses. Hence,

- Adaptive teaching methods.
- To invoke Computational thinking in problem solving.
- Classroom session with applications in MS-excel in Lecture.
- Students would be given project/field work for better understanding of the concepts.

Detailed Syllabus: (per session plan) Session Outline for Statistics
Each lecture session would be of one hour duration (30 Sessions)

Module	Module Content	Module Wise Pedagogy Used	Module Wise Duration
I	<p>Shares and Mutual Funds</p> <p>a. Shares: Concept of share, face value, market value, dividend, equity shares, Preferential shares, bonus shares, Right issue of Share, Split and Consolidation.</p> <p>b. Mutual Funds: types of Mutual funds, Simple problems on calculation of Net income after considering entry load, dividend, change in Net Asset Value (N.A.V.) and exit load. Averaging of price under the Systematic Investment Plan (S.I.P.) systematic withdrawal plan (S.W.P.).</p>	Classroom sessions with computational thinking.	7+8
II	<p>Introduction and Descriptive Statistics:</p> <p>a. Descriptive Statistics:</p> <p>I) Measures of Central Tendency: Definition of Average, Types of Averages: Arithmetic Mean, Combined and Weighted arithmetic mean, median, and Mode for raw data, ungrouped frequency distribution, grouped frequency distribution. Quartiles, Deciles and Percentiles.</p>	Classroom sessions with adaptive methods & computational thinking	7+8
	<p>Measures of Dispersions: Concept of dispersion. Absolute and relative measures of dispersion, Range, Quartile Deviation, Mean Deviation, Standard Deviation and corresponding coefficients. Combined Standard deviation.</p> <p>II) Use of excel in solving problems</p>		

Reference Books:

- Business Mathematics D. C. Sancheti and V. K. Kapoor Sultan Chand & Sons, 2006
- Mathematics for Business Economics: J. D. Gupta, P. K. Gupta and Man Mohan, Tata Mc- Graw Hill Publishing Co. Ltd., 1987
- Schaum Series STATISTICS Murray Spiegel, Larry Stephens Mc Graw Hill Operations Research Gupta and Kapoor S. Chand & Sons Co. Statistical Methods S.G. Gupta S. Chand & Sons Co.4.
- Business Mathematics & Statistics B Aggarwal Ane Book Pvt. Limited

QUESTION PAPER PATTERN

Details of Internal Continuous Assessment (ICA)

Internal Marks: 20

- 1 Internal Test of 10 marks will be conducted.
- 1 Assignment of 10 Marks will be given.

Term End Examination Question Paper Pattern Total Marks: 30

Q1 Answer any **three** out of the following Four questions (based on Module I) 5*3=15

Q2 Answer any **three** out of the following Four questions (Based on Module II) 5*3=15

