

Program: Bachelor of Commerce (Economics)				Semester : I	
Course : Course : Business Mathematics Academic Year: 2023-2024 Batch: 2023-2025				Code:	
Teaching Scheme				Evaluation Scheme	
Lectures	Practicals	Tutorials	Credits	Internal Continuous Assessment (ICA) (weightage)	Term End Examinations (TEE) (weightage)
30	Nil	Nil	02	20 Marks	30 Marks
Internal Component					
Class Test (Duration 30 Mins)			Projects / Assignments	Class Participation	
10 Marks			10 Marks	-	
Learning Objectives :					
<ol style="list-style-type: none"> To provide an overview to the students with the basic concepts involved in Mathematics. To apply the basics of Mathematical skills which are imperative in Economics and Management. 					
Learning Outcomes : After completion of the course, students would be able to:					
<ol 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. 					
Pedagogy:					
<p>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,</p> <ol style="list-style-type: none"> Adaptive teaching methods. To invoke Computational thinking in problem solving. Classroom session with applications in MS-excel in Tutorial Lecture. Students would be given project/field work for better understanding of the concepts. 					
Detailed Syllabus: (per session plan)					
<u>Session Outline For Business Mathematics</u>					
Each lecture session would be of one hour duration (30 sessions)					

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Module	Module Content	Module Wise Pedagogy Used	Module Wise Duration	Module Wise Reference Books
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	<p>1. Financial Mathematics by Prarthana Shahi. (Ane's Student Edition)</p> <p>2. Business mathematics and statistics by V.R. Nikam (Chandralok Prakashan)</p>
II	<p>Derivative of functions and Applications :</p> <p>a. Functions: Introduction to functions and Types of Functions: Explicit, Implicit, Single valued, Multi valued, constant, polynomial, Exponential and logarithmic (concepts only) Functions in Economics: Demand function, Supply Function, Cost Function, Total Revenue function, Profit Function</p> <p>b. Derivatives: Derivatives as rate Measure: Derivatives of $x^n, e^x, a^x, \log x$. Rules of differentiation: Scalar multiplication, Sum, difference, product, Quotient and chain rule (statement only) simple problems. Problems on parametric, taking log on both sides not included.</p> <p>c. Applications of Derivatives concerning only economic applications: Marginal Cost, Marginal Revenue, Elasticity of Demand, Maxima and Minima for functions in Economics and Commerce. (Examination Questions on this unit should be application oriented only.)</p>	Classroom sessions with adaptive methods & computational thinking	3+7+5	<p>1. Business Mathematics D.C. Sancheti and V.K. Kapoor. (Sultan Chand & Sons.</p> <p>2. Mathematics for business economics by J.D. Gupta, P.K. Gupta and Man Mohan</p>

Reference Books:

Title	Author(s)	Publisher
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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.
Business Mathematics & Statistics	B Aggarwal	Ane Book Pvt. Limited
Statistics for management	Richard Levin, David S. Rubin, Sanjay Rastogi /Masooos Husain siddiqui.	Pearson
Mathematics & Statistics	Ajay Goel & Alka Goel.	Taxmann's Publication
Quantitative Techniques of Decision Making	Anand Sharma	Himalaya Publishing House
Business Statistics Using Excel & SPSS	Nick Lee & Mike	SAGE
Business mathematics and statistics	V.R.Nikam	(Chandralok Prakashan)

Evaluation Pattern

The performance of the learner will be evaluated for 50 marks in two components. The first component will be a Continuous Assessment with a weightage of 40% of total marks per course. The second component will be a Semester end Examination with a weightage of 60% of the total marks per course. The allocation of marks for the Continuous Assessment and Semester end Examinations is as shown below:

a). Details of Continuous Assessment (CA)

40% of the total marks per course:

Continuous Assessment	Details	Marks
Component 1 (CA-1)	Class Test Average of two class tests of 10 marks	10
Component 2 (CA-2)	Assignment	10

Term End Examination Question Paper Pattern

Total Marks: 30

Q1 Answer any **two** out of the following Three questions (based on Module I) 5*2=10

Q2 Answer any **two** out of the following Three questions (Based on Module II) 5*2=10

Q3 Answer any **two** out of the following Three questions (Based on Both Module I&II) 5*2=10

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