AC

Item No.

As per NEP 2020

Tolani College of Commerce
(Autonomous)

Knowledge is Supreme

Title of the Course : Business Mathematics

Programmes: Bachelor of Commerce - Semester - I

Syllabus for 4 Credits Course from the academic year- 2024-2025

Sr. No.	Heading	Particulars
1	**Description of the course:**	Business mathematics is a branch of mathematics that applies mathematical techniques to solve business problems and make informed business decisions. Its primary focus is on the practical application of mathematical concepts in various business and financial contexts. Business mathematics helps the individuals to develop their mathematical skills and knowledge necessary to solve practical problems, make sound financial decisions, and contribute to the success and efficiency of businesses across various industries.
2	**Vertical :**	Open Elective
3	**Type :**	Theory / Practical
4	**Credit**:	4 credits (3 Credits = Theory and 1 Credit = Practical Work)
5	**Hours Allotted :**	60 Hours
6	**Marks Allotted**:	Total 100 Marks Continuous Evaluation 40 Marks Semester End Examination 60 Marks
7	**Course Objectives**: 1. To enable the students to understand the basic concepts of shares and mutual funds, including their definitions, characteristics, and functions in financial markets. 2. To enable the students to understand the Concepts of Linear Programming 3. To enable the students to understand the concept of Central Tendency and Measures of Dispersion 4. To enable the students to understand the basic definitions used in Probabilities and	

	help them t.o understand different types and properties in Probabilities.
8	**Course Outcomes**: 1. Students gained a deep understanding about the different types of shares and mutual funds and also were able to apply their knowledge to solve problems based on it. 2. Students will be able to apply their knowledge to solve the problems based permutation and combination 3. Students will be able to apply their knowledge to solve the problem based on Measure of Central Tendency and Measures of Dispersion 4. Students gain a deep understanding of fundamental probability concepts, such as random variables, probability distributions, independence
9	**Module I: Shares and Mutual Fund (15 Hours)**
	● Concept of shares, Types of Share, face Value, Market Value, Dividend ● Equity Shares, Preferential Shares, Bonus shares and problems on shares ● Net Asset Value, Entry Load, Exit Load, Calculation of Net Income after considering Entry Load ● Systematic Investment Plan, Averaging of Price under the Systematic Investment Plan (S.I.P)
	Module II: Permutation , Combination, Linear Programming Problems ● **Permutation and Combination:** Factorial Notation, Fundamental principle of counting, Permutation as arrangement, Simple examples, combination as selection, Simple examples ● Relation between ${}^{n}C_{r}$ and ${}^{n}P_{r}$ Examples on commercial application of permutation and combination ● **Linear Programming Problem:** Sketching of graphs of (i) linear equation Ax + By + C= 0 (ii) linear inequalities. ● Mathematical Formulation of Linear Programming Problems upto 3 variables. Solution of Linear Programming Problems using graphical method up to two variables.
	Module 3: Measures of Central Tendency (15 Hours) ● Averages, Types of Average, Mean, Median, Mode for grouped and ungrouped data ● Quartiles, Deciles and Percentiles ● Concept and Ideas of Dispersion, Range, ● Quartile Deviation, Mean Deviation Standard Deviation, Variance, Combined Variance
	Module 4: Elementary Probability Distribution (15 Hours) ● Concept of Random Experiment/Trial and possible outcomes, Sample Space and Discrete Sample Space ● Events and their types: Complementary Events, Mutually Exclusive and Exhaustive Event ● Classical Definition of Probability, Addition Theorem (Without Proof) Multiplication Theorem (Without Proof) ● Probability Distribution of a Discrete Random Variable, Expectation and Variance of Random Variable
10	**Reference Books** **1.** B Aggarwal, Business Mathematics & Statistics: B Aggarwal, Ane Book Pvt. Limited, 2016 **2.** J. D. Gupta, P. K. Gupta and Man Mohan, Mathematics for Business Economics, 1987 3. By S. Saha and S. Mukerji, Quantitative Methods, New Central Book, 5th Revised

	Edition, 2002	
11	**Internal Continuous Assessment: 40%**	**Semester End Examination : 60%**
12	**Continuous Evaluation through:**	**Assignments and Practical**
13	**Format of Question Paper:** Q. 1 Attempt any Three (15 marks) a. b. c. d. Q. 2 Attempt any Three (15 marks) a. b. c. d. Q. 3 Attempt any Three (15 marks) a. b. c. d. Q. 4 Attempt any Three (15 marks) a. b. c. d.	

Signatures of Team Members

Sr.No	Name	Signature
1.	Ms. Shubha Chaubal	
2.	Ms. Priyanka Malvankar	