

COURSE TITLE	BUSINESS MATHEMATICS
COURSE CODE	04BC1102
COURSE CREDITS	4

Objective:

- 1 NA

Course Outcomes: After completion of this course, student will be able to:

- 1 Understand dimensions of Business Mathematics
- 2 Formulate different functions and apply them in business problems
- 3 Integrate and Apply knowledge on Permutation and Combination
- 4 Formulate different applications of sequence and series and apply them in business problems.
- 5 Designing the framework of Matrix and Determinants and its usefulness for solving business problems.
- 6 Analyse how matrices are used as mathematical tools in representing a system of equations.

Pre-requisite of course:NA

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	1	0	50	30	20	0	0

Contents : Unit	Topics	Contact Hours
1	Introduction to Business Mathematics: : Scope and Importance, Steps in Quantitative Analysis Approach of Problem Solution, , Number System Basics of Algebra: Algebraic Identity, Basics of Algebra: Algebraic Identity, Equalities and Inequalities, Factorization, Linear and Quadratic Equations, Solution Of Simultaneous Linear Equations, Solution (roots) of quadratic equations, Laws of Indices (Without Proof)	13
2	Functions and Their Applications Definition, Types of Functions, Demand Function, Cost Function, Revenue Function, Profit Function, Break Even Point, Applications to Business Problems. Use of MS Excel to Plot Straight Line	10
3	Permutation and Combination: Fundamental Rule of counting, Factorial, Permutation, Restricted Permutation, Circular Permutation, Combination, Restricted Combination, Division into Groups. Us, of MS Use of MS Excel to Calculate Permutation and Combination	13

Contents : Unit	Topics	Contact Hours
4	Sequence and Series: Different Types of Sequence, Arithmetic and Geometric Sequence, Arithmetic Progression (AP), Geometric Progression (GP), Arithmetic and Geometric means, Harmonic Progression (HP).	12
5	Determinant, Matrices and Applications Introduction, Definition, Types of Matrices, Operations on Matrices, Conversion of Business Problems into a Linear System of Equations (LSE) (Max 3X3) , Determinant of a Matrix, Properties of Determinant, Matrix Equation, , Solution of System of Linear Equations using inverse of coefficient matrix (Max 3), Use of MS Excel to Calculate Determinant and Inverse of Matrix	12
Total Hours		60

Textbook :

- 1 Business Mathematics, P. Mariappan, Pearson Education, 2012
- 2 A Textbook of Business Mathematics , P. Hazarika, S. Chand Publication, 2014
- 3 Business Mathematics, D C Sancheti and V K Kapoor, Sultan Chand and Sons, 2010

References:

- 1 Business Mathematics, Business Mathematics, A. Dikshit and J. Jain, Himalaya Publishing House, 2014
- 2 Business Mathematics, Business Mathematics, Zamarudeen and Qazi, Vikas Publishing, 2015
- 3 Business Mathematics, Business Mathematics, Trivedi Kashyap, Pearson Education, 2016

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking / Creative
20.00	30.00	25.00	15.00	10.00	0.00

Instructional Method:

- 1 NA

Supplementary Resources:

- 1 NA
- 2 <https://www.coursera.org/learn/mathematical-thinking>

Supplementary Resources:

- 3 <https://www.excel-easy.com/functions/math-functions.html>
- 4 <https://www.youtube.com/watch?v=A18v-vxL3TY>
- 5 https://www.youtube.com/watch?v=KoOofjq_fGQ
- 6 <https://www.youtube.com/watch?v=cypZDjH1ImA>