B.COM. SEMESTER – 1

4	MDC 1	MATHEMATICS FOR COMMERCE – 1

Name of the Course: **Mathematics for Commerce – 1**
Course credit: **04**
Teaching Hours: **60 (Hours)**
Total marks: **100**

Objectives:

The course aims to familiarize students with the applications of Mathematics techniques in business decision making

Learning Outcomes:

After completion of the course, learners will be able to:

Acquire proficiency in using different mathematical tools (Set Theory, Permutations, Combinations, Binomial Theorem, Interpretation & Extrapolation, Arithmetic Progression & Geometric Progression) in solving real life business and economic problems.

PARTICULAR	NO. OF LECTURES
UNIT NO. 1 : SET THEORY	
Introduction, Concept and Definition of Set, Method of Representing Sets, Types of Sets, Some important Number Sets, **Operation of Sets:** 1) Intersection of Set 2)Union of Sets, **Distributive Laws:** 1) Union over Intersection, 2) Intersection over Union, Complimentary of Set, De'Morgan's Laws (With Proof), Differences of Two Sets, Cartesian Product, **Practical Examples**	12
UNIT NO. 2 : PERMUTATION & COMBINATION	
Permutation: Introduction, Concept and Formula of Permutations, Permutations of different things, Permutations of Similar things , Restricted Permutation, **Combinations**: Introduction, Meaning, Formula, Combinations of things taken some or all at time, Some Restricted Combinations, **Practical Examples**	12
UNIT NO. 3 : BINOMIAL THEOREM	
Introduction and Meaning, Binomial Theorem (Without Proof), Position of terms, Characteristics of Binomial Theorem, Binomial Coefficient, **Practical Examples**	12
UNIT NO. 4 : INTERPRETATION & EXTRAPOLATION	
Introduction, Meaning and Uses, Newton's Forward Method, Newton's Backward Method, Binomial Expansion Method, Lagrange's Method, **Practical Examples**	12
UNIT NO. 5 : ARITHMETIC PROGRESSION & GEOMETRIC PROGRESSION	
Introduction and Meaning, Arithmetic Progression, Sum of Series in ArithmeticProgression, Geometric Progression, Sum of Series in Geometric Progression, **Practical Examples**	12
Total Lectures/Hours	60

Suggested Readings:

1. Sharma J. K, Business Mathematics: Theory and Applications, Ane Pub. House, Delhi.
2. Soni R.S., Business Mathematics, Pitamber Publishing House.
3. Kapoor V.K., Business mathematics, Sultan Chand & Sons, Delhi.
4. Dowling, E.T. Mathematics for Economics: Schaum Series, McGraw Hill, London.
5. Vohra, N.D.: Quantitative Techniques in Management: Tata McGraw Hill, New Delhi.

Note: Learners are advised to use latest edition of text/reference books