Syllabus for
M.Com (Banking & Insurance)

Course Name: Mathematics for Business   Semester: II
Course Code: 205   Marks Distribution: 80+20

Unit- I: Arithmetic and Geometric Progressions:
Sequence- Series- Discovery of Series- Sigma Notation- Arithmetic Progression: Suma of a Series in AP- Arithmetic Mean- Representation of Terms in AP- Geometrics Progression: Sum of a series in GP- Sum of Infinite Geometric Series- Representation of Terms in GP- Geometric Mean- Series of Natural Numbers and Their Powers (Problems)

Unit:- II: Permutations and Combinations:
Introduction- Fundamental Rules of Counting- Factorial Notation- Permutations of n Different Things – Circular Permutations- Permutations of Things not all Different- Restricted Permutations- Combinations- Complementary Theorems- Restricted Combinations- Combinations of Things not All Different. (Problems)

Unit:- III: Matrices:
Introduction- Definition- Types of Matrices- Scalar Multiplication of a Matrix- Algebra of Matrices: Addition and Subtraction of Metrices- Multiplication of Matrices- Transpose of a Matrix- Determinant of a Square Matrix: Determinats of Order Two- Determinates of Order Three- Cramer's Rule- Minors and Cofactors of Elements of Determinants- Adjoint of a Square Matrix- Inverse of a Matrix- System of Linear Equations: Methods of Solving System of Linear Equation. (Problems)

Unit: IV   Mathematics of Finance:
Compound Interest: Introduction- Simple Interest- Compound Interest- Nominal and Effective Rates of Interest- Equation of Value, (Problems) Annuities: Introduction- Types of Annuities- The amount of an Ordinary Annuity: Sinking Fund- Present Value of an Ordinary Annuity: Amortization- Deferred Annuity- Leasing, Capital Expenditure and Bonds. (Problems)

Unit: V   Basic Calculus and Applications:
Introduction- Limit and Continuity- Concept of Slope and Rate of Change- Concept of Derivative- Rules of Differentiation ion- Applications of the Derivative- Concept of Maxima and Minima with Management Applications. (Problems)

Reference Books:
1. D C. Sanchati & V K Kapoor, Business Mathematics, Sultan Chand & Sons, New Delhi.
2. C Satyadevi, Quantitative Techniques, Sultan Chand & Sons, New Delhi
3. Dr. P C Twshan, Bharat Zunzunwal- Business Statistics S Chand
4. Dr. B. N. Asthaman- Elements of statistic