B.A. (2019 Pattern) (Semester - I)

Subject : Mathematics   Paper Code: 122C-II

Title of the Paper: Mathematics Paper III : Financial Mathematics – II

Unit 1 :   Exponential and Logarithmic functions in Economics
1.1. Interest Compounding
1.2. Discounting
1.3. Converting Exponential to Natural Exponential functions
1.4. Estimating growth rates from data points.

Unit 2 : The Fundamentals of Linear Algebra
2.1. The role of linear algebra
2.2. Definitions and Terms
2.3. Addition and Subtraction of Matrices
2.4. Scalar Multiplication
2.5. Multiplication of Matrices
2.6. Commutative, Associative and Distributive laws in Matrix Algebra
2.7. Identity and null matrices
2.8. Matrix Expression of a System of Linear Equations
2.9. Determinants and Nonsingularity
2.10. Minors and Cofactors
2.11. Cofactor and Adjoint Matrices
2.12. Inverse Matrix
2.13. Solving Linear EquationsWith Inverse

Unit 3 : Integral Calculus: The Indefinite Integral
3.1. Integration
3.2. Rules of Integration
3.3. Initial Conditions and Boundary Conditions
3.4. Integration by Substitutions
3.5. Integration by Parts
3.6. Economic Applications.

Unit 4 :   Integral Calculus: The Definite Integral
4.1. Area Under a Curve
4.2. The definite Integral
4.3. Properties of Definite Integral
4.4. Area Between Curves
4.5. Consumers and Producer's Surplus.