

**M.A (ECONOMICS) SECOND SEMESTER
MATHEMATICS FOR ECONOMISTS**

ECO-204

**Maximum Marks: 100
Time: 3 Hrs.**

**External Examination: 80
Internal Assessment: 20**

Note: There shall be nine questions in all. Question no. 1 shall be compulsory, consisting of eight short answer type questions covering the entire syllabus. Two questions will be asked from each unit. Student will have to attempt one question from each unit. Each question shall carry equal marks.

Unit-I

Basics : real number system, sets and set operations; concept of a function and types of functions, solution of linear equations in two variables, solution of quadratic equation and simple applications in Economics. logarithms and exponents; exogenous and endogenous variables

Unit-II

Matrices–Types and simple operations on matrices, multiplication, transpose, adjoint, inverse of matrices and rank of matrices. Solution of a system of two and three equations by matrix inverse method and Cramer’s rule.

Unit-III

Differentiation- meaning and economic interpretations of derivative, rules of differentiation including logarithms and exponential functions. Economic application of differentiation.

Integration - meaning and economic interpretation. Indefinite and definite integration. Simple techniques including integration by substitution and integration by parts; Economic application of integration.

Unit-IV

Linear Programming - Relevance and basic concepts; graphical and simplex method to solve LPP; duality in linear programming.

SUGGESTED READINGS:

- Agarwal, D.R , “Mathematics for Economist”, Vrinda Publications, New Delhi
- Aggarwal, S. C. and R. K. Rana, “Basic Mathematics for Economists (latest edition)”, V.K. (India), Enterprises, Delhi.
- Allen RGD, “Mathematical Analysis for Economists”, Trinity Press
- Chiang, Alpha C. "Fundamental Methods of Mathematical Economics" (Mcgraw Hill).
- Dowling, Edward T. "Introduction to Mathematical Economics" (Schaum's Outline Series, McGraw Hill Education).
- Hoy et.al., “ Mathematics for Economics”, Prentice Hall India Learning Private Limited
- Mehta and Madnanai, “Elementary Mathemtics in Economics”, Lakshmi Narain Agarwal Educational Publishers
- Sysdaeter, Knut and Peter J Hammond “Mathematics for Economic Analysis”, Pearson Education India