Paper Code :2333

B.A. HONOURS IN ECONOMICS
SECOND YEAR HONOURS
Paper – VII
MATHEMATICAL ECONOMICS

Course Outcome:

CO1: This course will equip students to understand the economic concepts and theories with the use of mathematical tools and techniques to refine the verbal logic.

CO2: The Modern algebraic tools will allow convenient handling of simultaneous equations in the context of linear programming and input-output analysis.

UNIT – I

Utility function, Indifference Curves and their characteristics, Budget line, Constrained Optimization, Consumer's Equilibrium, Slutsky equation -Income effect, Substitution effect and Price effect. Derivation of Simple Demand Curve and Elasticity of Demand.

UNIT – II

Properties of Production Function – Homogeneous and Non-Homogeneous, Cobb-Douglas, CES, Returns to Scale. Choice of Optimal Combination of Factors of Production; Cost and Revenue Functions, Derivation of Cost Curves, Relation between total, Average and Marginal cost and revenue, Adding up theorem.

UNIT – III

Concept of Equilibrium – Equilibrium of the firm under Perfect Competition, Monopoly and Monopolistic Competition, Monopoly – Price Discrimination, Cobweb Model.

UNIT – IV

Pricing under Duopoly- The Cournot Model, The Bertrand Model, and the Stackelberg Model. Collusive Oligopoly. Kinked Demand Curve Model.

Trade Cycle Model of Hicks and Samuelson. Harrod-Domar Growth Model.

UNIT – V

Input-Output Analysis – The simple closed and open model, Linkages, Concepts and Measurement, Dynamic Input-Output Model.

Linear programming- Concept and Assumptions, Basic theorem of Linear Programming, Primal and Dual, Graphic and Simplex Method.

Basic Reading List

1. Henderson, J. and R.E. Quandt (1980) – Microeconomic Theory: a Mathematical Approach, McGraw Hill, New Delhi.
2. Mehta and Madnani – Mathematics for Economists, Sultan Chand and Sons, New Delhi.
3. Madnani, G.M.K. – Mathematical Economics: Oxford and IBH Publishing Co., New Delhi.
4. Cliang, A.C. – Fundamentals of Mathematical Economics, McGraw Hill, New York.
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