

## MATHEMATICAL ECONOMICS

3 Hours/Week ( Total Hours : 54)

2 Credits

- Text – 1:-** Singh S.P, Anil K.Parashar, Singh H.P, **Econometrics and Mathematical Economics, S. Chand & Company, 2002.**
- Text – 2:-** Jean E. Weber, **Mathematical Analysis Business and Economic Applications, Fourth edition, Harper & Row Publishers, New York.**
- Module:-** 1 The theory of consumer behaviour- Introductory, Maximization of utility, Indifference curve approach, Marginal rate of substitution, Consumer's equilibrium, Demand curve, Relative preference theory of demand, Numerical problems related to these theory part.
- (Chapter – 13 .Sections 13.1, 13.2, 13.3, 13.4, 13.5, 13.6 & 13.13 of text - 1)
- Module:-2** The production function:- Meaning and nature of production function, The law of variable proportion, Isoquants, Marginal technical rate of substitution, Producer's equilibrium, expansion path, The elasticity of substitution, Ridge lines and economic region of production, Euler's theorem, Cobb Douglas production function, The CES Production function, Numerical problems related to these theory parts.
- (Chapter – 14. Sections 14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.7, 14.8, 14.9, 14.10 & 14.11 of text - 1)
- Module:-3** Input – Output Analysis:- Meaning of input – output, main features of analysis, Assumptions, Leontief's static and dynamic model, limitations, Importance and Applications of analysis, Numerical problems related to these theory parts..
- (Chapter – 15. Sections 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, 15.7, 15.8 & 15.9 of text - 1)
- Module:- 4** Difference equations –Introduction, Definition and Classification of Difference equations, Linear Difference equations, Solution of Difference equations, Linear First-Order Difference equations with constant coefficients, Behaviour of the solution sequence, Equilibrium and Stability, Applications of Difference equations in Economic Models, The Harrod Model, The General Cobweb Model, Consumption Model, Income – Consumption – Investment Model.
- ( Chapter 6 Sections 6.1 to 6.5 of text 2)

### Question paper pattern

	Section A	Section B	Section C
Module I	3	2	1
Module II	2	2	1
Module III	3	2	1
Module IV	2	2	1
Total	10	8	4

#### References:-

1. Allen.R.G..D, Mathematical Economics, 1959.
2. Alpha C Chiang, Fundamental methods of Mathematical Economics.
3. Koutsoyiannis. A, Modern Microeconomics, Macmillan.
4. Samuelson. P.A, Foundation of Economic Analysis.
5. Josef Hadar, Mathematical theory of economic behaviour, Addison-Wesley

\* “Mathematical Economics” Course is offered in lieu of Project / Dissertation for private registration candidates.