Dr. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY, AURANGABAD
DEPARTMENT OF ECONOMICS

M.A. (Economics) SYLLABUS

Course Code No.: ECO-211	No. of Credits:04	Semester: II
Course Title:	MATHEMATICL METHODS	

Course Objectives:

1. To create mathematical awareness regarding economic phenomena.
2. To provide with a simple and rigorous introduction to various mathematical techniques used in economics and business.
3. To develop the economic analysis skill with mathematical tools along students.

Unit	Course Content	Periods
I	**Limit & Continuity** 1.1 Basic mathematical concepts 1.2 Limit: meaning & problems 1.3 Continuity – meaning & problems 1.4 Applications in Economics	13
II	**Meaning** 2.1 Rules of differentiation of one variable function with proff (4) 2.2 Higher order derivative (2) 2.3 Meaning, rules of differentiation of two variables function (2) 2.4 Partial higher order derivative, cross derivative (4) 2.5 Applications of differentiation (4)	10
III	**Integration:** 3.1 Meaning of integration (1) 3.2 Some basic rules of integration & problems (3) 3.3 Applications in Economics (4)	08
IV	**Determinant & Matrices:** 4.1 Types of Matrices (2) 4.2 Algebra of Matrices – Addition, subtraction, Multiplication, Inverse (Adjoint method) (6) 4.3 Laws – Associative, Commutative, Distributive (1) 4.4 Rank of Matrix (2) 4.5 Determinant (1) 4.6 Cramer's Rule (2) 4.7 Eigen values & Eigenvector (2) 4.8 Matrix differentiation (5)	21
V	**Input – Output Analysis:** 5.1 Meaning and assumptions of input – output (1) 5.2 Types of model – open, closed static, dynamic model (1) 5.3 Output for a given final demand – Leontief open and closed system (5) 5.4 Hawkin – Simon conditions (1)	08

Learning Outcomes

Student will aware regarding economic analysis mathematical techniques.

Student will learn various mathematical techniques for economics interpretation

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