

KANYA MAHA VIDYALAYA, JALANDHAR (AUTONOMOUS)

SCHEME AND CURRICULUM OF EXAMINATION OF TWO YEAR DEGREE PROGRAMME

(Under Credit Based Continuous Evaluation Grading System) (CBCEGS)

Master of Arts (Economics)

Session: 2023-24

Semester-I										
Course Code	Course Title	Course Type	Hours Per week	L-T-P	Total Credits	Marks				Examination time (in Hours)
						Total	Th.	P	CA	
MECL-1453	Quantitative Methods for Economists-I	C	4	4-0-0	4	100	80	-	20	3

C-Compulsory

Master of Arts (Economics)
Semester-I
Session: 2023-24
Course Title: Quantitative Methods for Economists–I
Course Code: MECL-1453
Course Outcomes

After the completion of this course, students should be able to

CO 1: Recognize the concept of functions and rules of differentiation and apply this to find out revenue, cost, demand, supply function, elasticity and their types.

CO 2: Manage to solve the problem related to maxima and minima in single and Multivariable functions for application in market equilibrium. Learn concepts of integration and its applications to consumer's surplus and producer's surplus.

CO 3: Determine the solution of simultaneous equation using crammer's rule and understand the concept of quadratic forms, Eigen roots and Eigen vectors.

CO 4: Recognize linear programming problem and its formulation and solution through graphical and simplex methods. Well understanding the concept of duality, concept of a game, saddle point solution and its simple applications in economics.

Master of Arts (Economics)
Semester-I
Session: 2023-24
Course Title: Quantitative Methods for Economists–I
Course Code:MECL-1453

Examination Time: 3 Hrs

Max.Marks: 100

L T P

Theory: 80

4 0 0

CA:20

Instructions for the Paper–Setters/Examiners:

Eight questions of equal marks(16 marks each) are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any section. The students can use only Non Programmable& Non Storage Type Calculator.

Unit– I

Concept of function and types of functions; Rules of differentiation; Application to revenue, cost, demand, supply functions; Elasticities and their types; production function; Rules of partial differential and interpretation of partial derivatives; homogeneous functions and Euler's theorem.

Unit– II

Problem of maxima and minima in single and multivariable (upto 3) functions; Unconstrained and constrained optimization in simple economic problems; Simple applications in market equilibrium; Concept of integration; Simple rules of integration; Application to consumer's surplus and producer's surplus.

Unit– III

Determinants and their basic properties; Solution of simultaneous equations through Cramer's rule, Concept of matrix–their types, simple operations on matrices, matrix inversion and rank of a matrix; Concept of quadratic form, Eigen roots and Eigen vectors; Introduction to input–output analysis

Unit– IV

Linear Programming –Formulation and solution through graphical and simplex method. Statement of basic theorems of linear programming; Formulation of the dual of primal and its interpretation; Shadow prices and their uses; Concept of duality; Concept of a game; Strategies – simple and mixed; Value of a game; Saddle point solution; Simple applications.

Text Book:

S.C. Aggarwal, R.K. Rana, L. Gupta, Mathematics for Economists (Quantitative Methods for Economists), VK Global Publications, Haryana, 2022.

Reference Books:

1. A.C. Chiang, K. Wainwright, Fundamental Methods of Mathematical Economics, McGraw Hill, New York, Fourth Edition.
2. R.G.D. Allen, Mathematical Analysis for Economics, A.I.T.B.S. Publisher, Delhi, 2006.
3. C.R. Kothari, An Introduction to Operational Research, Vikas Publishing House, New Delhi, Third Edition, Reprint 2010.