

FIFTH SEMESTER (OPEN COURSE)
(For students not having Mathematics as Core Course)

MTS5 D03 LINEAR MATHEMATICAL MODELS

3 hours/week

3 credits

75marks [Int:15+Ext:60]

Text *Finite Mathematics and Calculus with Applications (9/e) Margaret L. Lial, Raymond N. Greenwell & Nathan P. Ritchey Pearson Education, Inc(2012) ISBN: 0-321-74908-1*

Module I 18 hrs

Chapter-1 Linear Functions

1.1: Slopes and Equations of Lines

1.2: Linear Functions and Applications 1.3:

The Least Squares Line

Chapter-2 Systems of Linear Equations and Matrices

2.1: Solution of Linear Systems by the Echelon Method

2.2: Solution of Linear Systems by the Gauss-Jordan Method

2.3: Addition and Subtraction of Matrices

2.4: Multiplication of Matrices

2.5: Matrix Inverses

2.6: Input-Output Models

Module II 12 hrs

Chapter-3 Linear Programming: The Graphical Method

3.1: Graphing Linear Inequalities

3.2: Solving Linear Programming Problems Graphically

3.3: Applications of Linear Programming

Module III 18 hrs

Chapter-4 Linear Programming: The Simplex Method

4.1: Slack Variables and the Pivot

4.2: Maximization Problems

4.3: Minimization Problems; Duality

4.4: Nonstandard Problems

References:

1	Soo T Tan: Finite Mathematics For the Managerial, Life, and social sciences(11/e) <i>Cengage Learning(2015) ISBN: 1-285-46465-6</i>
2	Ronald J. Harshbarger, James J. Reynolds: Mathematical Applications for the Management, Life, and Social Sciences (9/e) <i>Brooks/Cole Cengage Learning(2009) ISBN: 978-0-547-14509-9</i>
3	Stefan Waner, Steven R. Costenoble: Finite Mathematics and Applied Calculus(5/e) <i>Brooks/Cole Cengage Learning(2011) ISBN: 978-1-4390-4925-9</i>
4	Seymour Lipschutz, John J. Schiller, R. Alu Srinivasan: Beginning Finite Mathematics <i>Schaum's Outline Series, McGraw-Hill(2005)</i>
5	Howard L. Rolf: Finite Mathematics <i>Enhanced Edition(7/e) Brooks/Cole, Cengage Learning(2011) ISBN:978-0-538-49732-9</i>
6	Michael Sullivan: Finite Mathematics An Applied Approach(11/e) <i>John Wiley & Sons, Inc(2011)ISBN: 978-0470-45827-3</i>