



Course Name: Bachelor of Science

Discipline: Mathematics

(For those who join in 2015 and After)

Self Learning Course:

Subject	Credit	Ext =Tot	Subject Code
Advanced Programming Techniques	5	100 = 100	U1MASL1

ADVANCED PROGRAMMING TECHNIQUES

Credit: 5

Subject code: U1MASL1

TOTAL MARKS: 100

Objectives:

To know various techniques of programming

Unit I: Dynamic programming: Introduction – The recursive equation approach – Characteristics of dynamic programming – Dynamic programming algorithm – Solution of discrete dynamic programming.

(Chapter 13)

Unit II: Integer Programming: Introduction – Gomory's all –I.P.P method – Construction of Gomory's constraints – Fractional cut methods - Branch and Bound method

(Chapter 7)

Unit III: Advanced Linear Programming: Introduction – Revised simplex method

(Chapter 9)

Unit IV: Non Linear Programming: Introduction – Formulating a non-linear programming – General NLPP – Constrained optimization with equality constraints

(Chapter 24)

Unit V: Non Linear Programming methods: Graphical solutions – Kuhn-Tucker conditions with non-negative constraints

(Chapter 25)

Text Book

1. Kanti Swarup, P.K. Gupta and Man Mohan, Operations Research, Sultan and Sons, Reprint 2006

Reference Book(s)

1. P.K. Gupta and Man Mohan, Problems in quantitative techniques, Sultan and Sons.
2. Hamdy A. Taha, Operations Research, 8th edition, prentice Hall, New Delhi, 2008