Subject Code : SYMM3

MATHEMATICS-III (DISCRETE STRUCTURES – II)

UNIT – I

Geometric Transformation – Plane Linear Transformation properties – Rotation – Reflection – Translation – Successive and Inverse Transformation – (through Matrix Theory)

UNIT – II

Cosets and Lagrange's Theorem – Normal Groups and Quotient Groups – Different types of Morphisms of Groups Fundamental Theorem of Homomorphism.

UNIT – III

Connected Graphs and Disconnected Graphs and components – Euler Graphs – Hamiltonian Paths and Circuits.

UNIT – IV

Trees – properties of Trees – pendent vertices – Distance and centers in a Tree – noted and Binary Trees.

UNIT – V

Finite State machines – Transition diagram – Theorem on Finite State machines –simple problems.

Text Book Recommended:

1. For Unit I : "Discrete Maths", by B.S., Vatssa – Wishwa Prakashan (A Division of Wiley Eastern Ltd., - 1993, - Chennai)
2. For Unit II : "Modern Algebra", by Dr.S.Arumugam and Mr.S.Dthanga Pandi Issac – (Section 3.8, 3.9 of chapter 3) New Gamma Publishing House – Palayam Kottai, 1997.
3. For Unit III & IV : Graph – Theory by Narsingh – Deo – Prentice Hall of India Private Ltd., 1997.
4. For Unit IV : "Discrete Mathematical Structures by J.P.Tremblay and R.Manohar. McGraw Hill International Editions–1987. (Sec 4.6 of chapter 4)

Reference Book:

1. Transformation geometry
2. Modern Algebra by Sri.S.Narayanan and Sri. T.K. Manickavachagam (S.Viswanathan Printers and Publishers Pvt., Ltd., 1993)
3. Theory of computing by John – C – Martin – McGraw Hill series – 1993.II – SEMESTER – MAJOR PAPER – II