

**Mathematics – III : Discrete Structure – 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 sub groups and quotient Groups – Different types of Morphisms of Groups Fundamental Theorem of Homomorphism.

**Unit : III**

Graph Theory – Basic concepts – Finite and infinite Graphs – Incidence and Degree ideas on vertices – Isomorphism, Subgraph, walks - paths and circuits.

**Unit : IV**

Connected Graphs and Disconnected Graphs and components – Euler Graphs – Hamiltonian paths and circuits.

**Unit : V**

Trees – properties of Trees – Pendent vertices – Distance and centres in a Tree – rooted and Binary Trees.

**Text Books**

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.Ariumugam and Mr.S.Thanga pandi Issac – (section 3.8, 3.9 of Chapter 3 New Gamma Publicating House – Palayam Kottai, 1997.
3. For Unit III , IV & V : Graph – Theory by Narshing – Deo - Prentice Hall of India Private Limited., 1997.

**Reference Books**

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 – MC Graw – Hill series -1993.