Subject Code : ACSY36A

FIRST ALLIED COURSE – I - DISCRETE STRUCTURE

UNIT I

Set Operations – Union Intersection - -Complementation – Symmetric Difference - Power sets Cartesian Product - Relations – Functions – Inverse functions and composition of functions.

UNIT II

Matrices – Types of Matrices – Addition, Multiplication of Matrices – Inverse of a Matrix – Solving system of equations in three unknowns by CRAMERS RULE.

UNIT III

Groups - Types – properties of groups – Semi Groups – Monoids – Problems in Groups – cyclic Groups and subgroups – cyclic Groups and subgroups.

UNIT IV

Graph – Theory Basic concepts – Finite and infinite Graphs – Incidence and degree ideas on vertices – Isomorphism sub graphs, walks – paths and circuits.

UNIT V

Introduction to computability Theory – Finite State Acceptors and Regular Grammars.

TEXT BOOKS

1. For Units I, II:
   "Discrete Maths", by B.S.Vatssa; Wishwa Prakasham (A Division of Wilcy Eastern Limited)1993.
2. For Unit III:
   "Algebra ", by Arugam Issa. New Gamma Publishing – House – Palayamkottai 1997.
3. For Unit IV:
   "Graph Theory", by Nasingh Deo; Prentice Hall of India – (p) Ltd. New Delhi 1997.
4. For Unit V:
   "Discrete Mathematical Structures" by j.p.Tremblay and R.Manohar. MC Graw Hill International Editions, 1987.

REFERENCE BOOKS

1. "Theory of Computing", by john C – Martin MC – Graw _ Hill – International Editions – 1993.
2. "Modern Algebra", by K.S Narayanan – Manicka Vachagam Pillai(S.Vishwanathan – Printers and publishers(Pvt) Ltd., Madras – 1993.