Discrete Mathematical Structure Code: MM101 **CREDITS: 4**

Set Theory foundation mapping (bijective, surjective, injective), Relations-equivalence, Poset, Lattice

Mathematical induction, Propositional logic, Logical equivalence.

Permutation and combinations.

Generating functions, Recurrence relations.

Concepts of Graph Theory, sub-graphs, cyclic graphs.

Trees, spanning trees, binary trees.

Algorithms- Kruskal's , Prim's , Dijkstra's , Flyod's , Warshall's, DFS, BFS.

Isomorphism, Homomorphism of Graphs.

Finite automata – Construction & Conversion of NFA, DFA, State minimization, Mealy M/C, Moore M/C.

Definition Of Grammars – Type 0,1,2,3.

Fuzzy sets – basic properties