

Syllabus

1.DISCRETE MATHEMATICS

Combinatorics: Basic counting arguments, Permutations and Combinations, Recurrence relations.

Graph Theory: Elementary properties of graphs, Paths, Cycles, Trees, Connectivity, Matchings, Euler tours in a graph.

Discrete Probability: Discrete probability spaces, Events, Conditional probability, Bayes Theorem, Independent events, Random Variables, Expected value.

Algebra: Groups, Lagrange's theorem, Subgroups, Cyclic subgroups.

Logic and Set Theory: Boolean logic, Basic set theory.