Code: CST204	Discrete Structures	Credit: 03
		L-T-P: (3-0-0)
Course Content	Mathematical Reasoning – Induction; Counting – Pigeonhole principle, permutation, combination, probability Sets, relations, functions, operations, and equivalence Relations, relation of partial order, partitions, binary relations, Equivalence relations. Recursion, Number-theoretic algorithms: Greatest Common Divisor, Chinese Remainder Theorem, Primality testing, polynomial representation of binary number, Galois fields, primitive roots, discrete logarithms. Graph Theory: Connectivity, Binary tree, Spanning tree, tree enumeration, cycles, Planarity, cut-set, coverings, colourings, matroid.	
Important Text Books/References	1. Kolman B., Busby R: Discrete Mathematical Structures for Compute Science, PHI. 2. Liu: Introduction to Discrete Mathemetics, McGraw-Hill. 3. Graham, Knuth, Pratshnik : Concrete Mathematics. 4. Grimaldi: Discrete Mathematical Structures. 5. Rosen, Discrete Mathematics and Its Applications, McGraw Hill. 6. Koshy, Discrete Mathematics with Applications, Elsevier. 7. Foulds: Graph Theory Applications, Narosa. 8. Harary: Graph Theory, Narosa. 9. N. Deo: Graph Theory, PHI.	