

DEPARTMENT OF BACHELOR OF COMPUTER APPLICATIONS

COURSE MODULE: DISCRETE MATHEMATICAL STRUCTURE [BBCA203]

Course Coordinator: Ms. Sushmitha B H				Academic Year: 2025-26	
Department: BCA					
Course Code	Course Title	Core/Elective	Prerequisite	Contact Hours	Total Hrs/ Sessions
				L: P: S	
BBCA203	Discrete Mathematical Structure	Core	-	3:0:0	40
Course Learning Objective:					
<ul style="list-style-type: none"> The objective of this course is to better understanding on the concepts of Sets, Relations and Functions, Laplace transformations and multiple integrals. 					
Teaching-Learning Process (General Instruction):					
<ol style="list-style-type: none"> 1. Core concepts such as logic, set theory, relations, functions, algebraic structures, and graph theory are explained using board work and presentations. 2. Adopt collaborative (Group Learning) Learning in the class. 3. Adopt Problem Based Learning (PBL), Regular practice problems are given to improve analytical thinking. 					
Module-1					
PROPOSITIONAL LOGICS: Propositional Logic, Applications of Propositional Logic, Propositional Equivalences, Predicates and Quantifiers, Nested Quantifiers, Rules of Inferences, Introduction to Proofs, Proof methods and Strategy. TLP: Chalk and Talk, Power Point Presentation.					
Module-2					
SETS, RELATIONS AND FUNCTIONS: Operations on sets, power set, Venn diagram, Cartesian product, Relations and their properties, Closures of Relations, Equivalence Relations, Partial Orderings. Functions, Types of Functions, Inverse and Compositions, The Graphs of Functions. TLP: Chalk and Talk, Power Point Presentation.					
Module-3					
INDUCTION AND RECURSION: Mathematical Induction, Strong Induction and Well Ordering, Recursive Definitions and Structural Induction, Recursive Algorithms, Program Correctness. TLP: Chalk and Talk.					
Module-4					
COUNTING: The Basics of Counting, The Pigeonhole Principle, Permutations and Combinations, Binomial Coefficients and Identities. TLP: Power Point Presentation, Chalk and Talk					
Module-5					
GRAPHS: Graphs and Graph Models, Graph Terminology and Special Types of Graphs, Representing Graphs and Graph Isomorphism, Connectivity, Euler and Hamilton Paths, Shortest- Path Problems, Planar Graphs, Graph Coloring. TLP: Chalk and Talk					

DEPARTMENT OF BACHELOR OF COMPUTER APPLICATIONS

The Correlation of Program Specific Outcome's (PSO's) and Course Outcome (CO's)

Subject Code	BBCA203	Title: DISCRETE MATHEMATICAL STRUCTURE	
List of Course Outcome's	PSO1	PSO2	Total
CO-1			
CO-2			
CO-3			
CO-4			
Total			

Note: 3 = Strong Contribution 2 = Average Contribution 1= Weak Contribution - = No Contribution

DEPARTMENT OF BACHELOR OF COMPUTER APPLICATIONS
