

(For those admitted in June 2025 and later)

PROGRAMME AND BRANCH: M.Sc., COMPUTER SCIENCE

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
I	PART - III	CORE - 1	P25CS101	ANALYSIS AND DESIGN OF ALGORITHM

Date & Session : 03.11.2025/FN

Time : 3 hours

Maximum: 75 Marks

[illegible]

Course Outcome	Bloom's K-level	Q. No.	SECTION – B (5 X 5 = 25 Marks) Answer <u>ALL</u> Questions choosing either (a) or (b)
CO1	K2	11a.	Illustrate the methods to calculate the Space and Time Complexity? (OR)
CO1	K2	11b.	Elaborate the procedure to perform Heap Sort.
CO2	K2	12a.	Describe the Abstract Data type of Graph. (OR)
CO2	K2	12b.	Demonstrate the Algorithm for Merge Sort.
CO3	K3	13a.	Describe Greedy technique with an example. (OR)
CO3	K3	13b.	Discover the steps in Dijkstra's Algorithm.
CO4	K3	14a.	Evaluate 0/1 knapsack problem using dynamic programming with an example. (OR)
CO4	K3	14b.	Illustrate an Optimal Binary Search Tree.
CO5	K4	15a.	Discuss the Steps to find Sum of Subsets. (OR)
CO5	K4	15b.	Analyze the advantages of Branch and Bound Methods.

Course Outcome	Bloom's K-level	Q. No	SECTION – C (5 X 8 = 40 Marks) Answer <u>ALL</u> Questions choosing either (a) or (b)
CO1	K4	16a.	Discover the various operations of Queue. (OR)
CO1	K4	16b.	Illustrate the steps to perform Binary Search Tree Operations.
CO2	K5	17a.	Describe the procedure to perform Binary Search? (OR)
CO2	K5	17b.	Discuss the steps to perform Quick Sort & Assess how it is effective from other type of Sorting.
CO3	K5	18a.	Examine knapsack problem with an example. (OR)
CO3	K5	18b.	Discuss about Prim's algorithm with an example.
CO4	K5	19a.	Identify All pairs shortest path (Floyd's Warshall's Algorithm) with suitable example. (OR)
CO4	K5	19b.	Discuss about Travelling Salesman Problem.
CO5	K6	20a.	Illustrate the Steps to Solve 8 Queens Problem. (OR)
CO5	K6	20b.	Describe the structure of Hamiltonian Circuits.