



END SEMESTER EXAMINATION, MAY 2023
S.T. SEMESTER IV (CBCGS-HME 2020)

Branch:	B.Tech AI&DS	Q.P. Code:	T2415002-2
Subject:	Design Analysis and Algorithm	Duration:	2 hours
Subject Code:	PCC-AIDS401	Max. Marks:	60

- Instructions:
1. All sections are compulsory
 2. Figures to the right indicate full marks.
 3. Assume suitable data if necessary and state the assumptions clearly.

Section-I		Short Answer Questions (Answer any 05 questions out of 06) (Fundamental, Core Types)				(10 Marks)
Q. No.		Marks	CO	RBT Level	PI	
1	Describe Properties of algorithm	2	CO1	R	1.1.1	
2	Application of Greedy Algorithm	2	CO2	R	1.1.1	
3	Describe Single source shortest path	2	CO3	R	1.1.1	
4	Explain 8 Queen Problem	2	CO4	U	1.3.1	
5	What is Finite Automata with 5 tuple	2	CO5	U	1.3.1	
6	Draw and explain NP complete Problem	2	CO6	R	1.1.1	
Section-II		Descriptive Answer Questions (Answer any 04 out of 06) (Descriptive, Comprehension Types)				(20 Marks)
1	Short note on Multistage graph	5	CO3	R	1.1.1	
2	Describe Naïve String Matching Algorithm	5	CO5	R	1.1.1	
3	Explain order of growth of Function	5	CO1	U	1.3.1	
4	Describe Graph coloring with its Application	5	CO5	U	1.3.1	
5	Short note on Finite automata	5	CO5	U	1.3.1	
6	Differences between Prim's & Kruskal Algorithm	5	CO4	R	1.1.1	
Section-III		Long Answer Question (Answer any 03 out of 05) (Application, Analytical, Evaluation, Design Type)				(30 Marks)
1	Explain the idea behind backtracking? Write an algorithm for N-queen Problem. Draw state space tree for 4 queen Problem	10	CO4	A	2.1.3	
2	Explain Multi graph Shortest path Algorithm with example	10	CO3	A	2.1.3	



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3	<p>Solve by Travelling salesperson problem using Dynamic Programming</p>	10	CO4	AN	3.1.1
4	Describe the type of complexity classes	10	CO6	A	2.1.3
5	Explain How branch and bound strategy can be used in 15 puzzle problem	10	CO5	A	2.1.3

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