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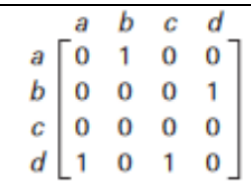
Internal Assessment Test 2 – May/June 2026

Sub:	**Analysis and Designs of Algorithms**					Sub Code:	BCS401	Branch:	ISE	
Date:	30-05-2026	Duration:	90 min's	Max Marks:	50	Sem/Sec:	IV / A, B, C		OBE	

Answer any FIVE FULL Questions

		MARKS	CO	RBT
1.	Design Horspool's Algorithm for string Matching Apply Horspool algorithm too find pattern BARBER in the test JIM_SAW_ME IN_A_BARBERSHOP.	10	CO3	L3
2.	Design an algorithm for Heap sort. Construct bottom - up heap for the list 15, 19, 10, 7, 17, 16.	10	CO3	L3
3.	What are Huffman trees? Construct the Huffman tree for the following data Character: A, B, C, D, - ; Probability: 0.35, 0.1, 0.2, 0.2, 0.15 i) Encode the text DAD ii) Decode the code 10011011011101.	10	CO4	L3
4.	Define transitive closure of a graph. Apply Warshall's algorithm to compute transitive closure of a directed graph. 	10	CO4	L3
5.	Solve the following instance of the knapsack problem by using branch and bound method. Capacity W = 10. Item: 1, 2, 3, 4; Weight: 4, 7, 5, 3; Value: $40, $42, $25, $12	10	CO5	L3
6.	Construct a state space tree for subset sum problem using branch and bound for the set S = {3, 5, 6, 7} and d = 15.	10	CO5	L3

CI **CCI** **HOD**

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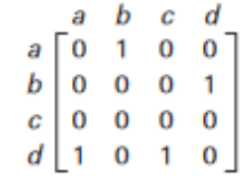
4.	Define transitive closure of a graph. Apply Warshall's algorithm to compute transitive closure of a directed graph. 	10	CO4	L3
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