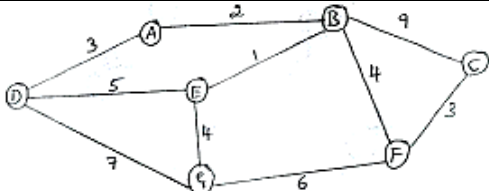


Internal Assessment Test 2 – May/June 2026

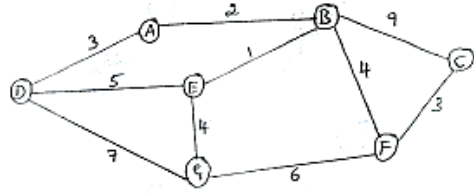
Sub:	Analysis and Designs of Algorithms				Sub Code:	BCS401	Branch:	ISE			
Date:	30-05-2026	Duration:	90 min's	Max Marks:	50	Sem/Sec:	IV / A, B, C				
Answer any FIVE FULL Questions								MARKS	CO	RBT	
1.	Design Horspool's Algorithm for string Matching Apply Horspool algorithm too find pattern BARBER in the test JIM SAW ME IN A BARBERSHOP.						10	CO3	L3		
2.	Define 2-3 Tree. Construct 2-3 tree for the list of keys: 9, 5, 8, 3, 2, 4, 7 by indicating each step of key insertion and node splits.						10	CO3	L3		
3.	Write Huffman's algorithm. Construct Huffman tree and resulting code word for the following and Encode the text DAD-CBE.						10	CO4	L3		
		Character	A	B	C	D	E	-			
		Probability	0.5	0.35	0.5	0.1	0.4	0.2			
4.	Apply Dijkstra's algorithm to find single source shortest path for the given graph by considering A as the source vertex.								10	CO4	L3
5.	Solve the following instance of the knapsack problem by using branch and bound method. Capacity $W = 10$.						10	CO5	L3		
		Item	1	2	3	4					
		Weight	4	7	5	3					
		Value	\$40	\$42	\$25	\$12					
6.	What is backtracking? Apply backtracking to solve the below instance of sum of subset problem $S = \{5, 10, 12, 13, 15, 18\}$ $d=30$						10	CO5	L3		

CI

CCI

HOD

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