



Jyothy Charitable Trust®

Jyothy Institute of Technology

Tataguni, off Kanakapura road, Bengaluru-560082

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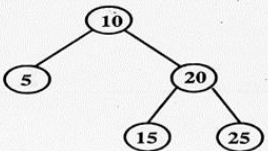
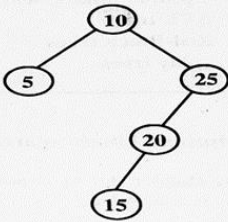
Department of Computer Science & Engineering

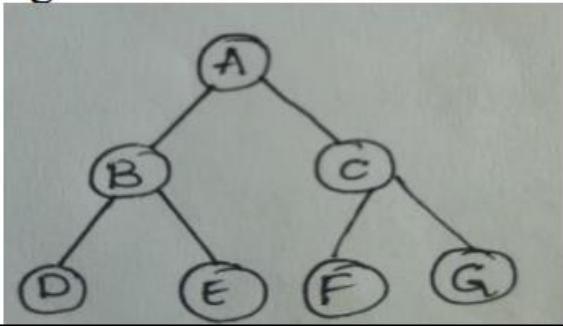
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EXHAUSTIVE QUESTION BANK

Batch	2022 - 2026		
Year/Semester/Section	2nd/3rd/B		
Course Code -Title	BCS304 – Data Structures and Applications		
Module No. -Title	5-Hashing, Priority Queues, Efficient Binary Search Tree.		
Name of the Course In charge	Mrs. Prathibha KN	Designation	Asst.Prof.

QNo.	Questions	COs	RBT
1	Consider the following 4 digit employee number 9614, 5882, 6713, 4409, and 1825. Find 2 digit hash address of each number using a) Division method With 97 b) Mid-square method. c) The folding method without reversing d) The folding method with reversing	CO4	L1
2	Explain in detail about static and dynamic hashing.	CO4	L3
3	Explain hashing and collision. Explain the methods to resolve the collision	CO4	L1
4	Define Hashing. Discuss the following Hash Functions with proper examples: a) Division b) Midsquare c) Folding	CO4	L3
5	Consider the hash table of size 10. Using Linear probing, insert the keys 72, 27, 36, 24, 63, 81, 92 & 101.	CO4	L2
6	Apply Dynamic Hashing technique and insert the following keys: 17, 5, 6, 22, 24, 11, 30, 7, 10, 21, 27	CO4	L2
7	Explain different types of Priority queues with an example?	CO4	L3
8	What is a Leftist Tree? Explain its types with an example each.	CO4	L3
9.	Explain Merge Operation of Leftist Tree with an example.	CO4	L2
10.	What is an optimal Binary Search Tree? Explain with an example ?	CO4	L2

11.	<p>Find the expected cost (Average number of comparisons)for the following trees with probabilities given in the table:</p> <div><div></div><div></div></div> <div><p>Keys : 5 10 15 20 25</p><p>a) Probabilities: 1/5 1/5 1/5 1/5 1/5</p><p>b) Probabilities: 0.3 0.3 0.05 0.05 0.3</p></div>	CO4	L1
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13	 <pre> graph TD A((A)) --- B((B)) A --- C((C)) B --- D((D)) B --- E((E)) C --- F((F)) C --- G((G)) </pre>		CO4	L3
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Course In charge

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