R22

ANURAG Engineering College
(An Autonomous Institution)
II B.Tech I Semester Supplementary Examinations, June/July–2024
DATA STRUCTURES
(COMMON TO CSE, IT & AIML)

Time: 3 Hours   **Max. Marks: 60**

Section – A (Short Answer type questions)   (10 Marks)
Answer All Questions

		Course Outcome	B.T Level	Marks
1.	What is a data structures?	CO1	L1	1M
2.	List the applications of stack data structures.	CO1	L2	1M
3.	Discuss about the importance of hashing.	CO2	L2	1M
4.	Define collision.	CO2	L1	1M
5.	List the applications of tree data structures.	CO3	L2	1M
6.	Distinguish binary search tree and binary tree?	CO3	L2	1M
7.	Define adjacency matrix.	CO4	L1	1M
8.	Compare internal sorting and external sorting.	CO4	L2	1M
9.	What is binary trie.	CO5	L1	1M
10.	What are the drawbacks of brute force method for pattern matching.	CO5	L1	1M

Section B (Essay Questions)
Answer all questions, each question carries equal marks.   (5 X 10M = 50M)

			Course Outcome	B.T Level	Marks
11.	A)	Explain the implementation of queue using Linked List.	CO1	L2	10M
		OR			
	B)	Explain the operations performed in Singly Linked List.	CO1	L2	10M
12.	A)	Define hashing? What are the properties of a good hash function? Explain any 5 hash functions with examples.	CO2	L3	10M
		OR			
	B)	What is skip list? How to perform insertion and deletion operations in skip list.	CO2	L3	10M
13.	A)	Write an algorithm for inserting and deleting a node in a binary search tree.	CO3	L3	10M
		OR			
	B)	Discuss about insertion and deletion operations on AVL trees.	CO3	L3	10M
14.	A)	What is a graph? Explain how graphs are represented	CO4	L3	10M
		OR			
	B)	Illustrate quick sort and merge sort algorithm on input {25,68,36,48,95,73,10,55}	CO4	L2	10M
15.	A)	Write Boyer –Moore algorithm for pattern matching and explain.	CO5	L3	10M
		OR			
	B)	Define trie data structure. Explain about different types of trie data structures.	CO5	L2	10M