

Code No: G4001/R13

M. Tech. I Semester Supplementary Examinations, December-2016

ADVANCED DATA STRUCTURES/ DATA STRUCTURES/
ADVANCED DATA STRUCTURES AND ALGORITHM ANALYSIS

(Common to IT, CS&T, CS and CS&E)

Time: 3 hours

Max. Marks: 60

Answer any FIVE Questions
All Questions Carry Equal Marks

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| 1. a | What is a Circular List? Write a program to search in a circular linked list that has a header node? | 6M |
| b | Define Queue. Write the advantages and disadvantages of Queues. | 6M |
| 2. a | Write a program to implement Doubly Linked List. | 6M |
| b | How Partition is done in Quick Sort? Explain with an example. | 6M |
| 3. a | What is binary tree? What for it is used? Mention its properties. | 6M |
| b | Explain about different graph storage representations with examples. | 6M |
| 4. a | Define dictionary. Give the applications of dictionary with duplicates in which sequential access is desired. | 6M |
| b | Explain how open hashing and closed hashing is done with examples. | 6M |
| 5. a | What is collision? Explain different collision resolution methods. | 6M |
| b | Explain the insertion and deletion operations performed on binary heap with an example. | 6M |
| 6. a | What is an Ascending Priority Queue? Explain how to implement this using Binary Heap. | 6M |
| b | Write a program for binary search tree ADT. | 6M |
| 7. a | Explain how AVL tree is different from the binary search tree. | 6M |
| b | Define B-Tree. Generate a B-Tree of order 3 (2-3 tree) for the following key values 25,10,12,15,39,64,53 | 6M |
| 8. a | Write the advantages of splay tree in representation of dictionaries. | 6M |
| b | What is meant by height balanced tree? Write a program to determine the height of an AVL tree? | 6M |
