

Code No: I4001/R16

M. Tech. I Semester Regular/Supple Examinations, Jan/Feb-2018

ADVANCED DATA STRUCTURES/ADVANCED DATA STRUCTURES AND
ALGORITHM ANALYSIS

Common to Information Technology (40), Computer Science (05), Computer Science &
Technology (59) and Computer Science & Engineering (58)

Time: 3 Hours

Max. Marks: 60

*Answer any FIVE Questions
All Questions Carry Equal Marks*

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| 1. a | Write an algorithm to insert nodes into a double linked list. | 8M |
| b | Explain any one application of Queue with an example. | 4M |
| 2. a | Implement Quick Sort Technique on the following 20, 6, 89, 32, 65, 92, 8 numbers. | 7M |
| b | Implement Insertion Sort Technique on the following 20, 6, 89, 32, 65, 92, 8 numbers. | 5M |
| 3. a | How do you represent Hash Table? Explain. | 6M |
| b | Explain double hashing with an example. | 6M |
| 4. | Write the procedure to implement priority queue using heap. | 12M |
| 5. | Explain Insertion, deletion and display procedures of AVL tree. | 12M |
| 6. a | How do you evaluate Prefix? Explain it with an example. | 6M |
| b | How do you compute the height of B Tree? Explain. | 6M |
| 7. a | Elaborate the significance of Red-Black tree. | 6M |
| b | Explain various Hash Functions in detail. | 6M |
| 8. a | Write the implementation of Circular Linked List. | 6M |
| b | Write the pseudo code for Depth First Traversal Technique. | 6M |

