Code No: R31053

R10

Set No: 1

III B.Tech. I Semester Supplementary Examinations, June/July - 2014
ADVANCED DATA STRUCTURES
(Com to CSE, IT)

Time: 3 Hours   **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
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1. a) What is meant by hash table? explain
   b) Explain about different hashing methods with examples

2. a) Explain how AVL tree is different from the binary search tree.
   b) Write a routine to delete an element from 2-3 tree with examples.

3. a) What is binary heap? Explain the procedure to insert an element into binary heap.
   b) Write a routine to insert an element into a binary heap.

4. a) Explain about the operations on graphs.
   b) Explain about different graph traversals with examples each.

5. a) Write a routine for Floyd;s algorithm.
   b) Explain about the kruskal's algorithm with example.

6. a) Sort the following elements using radix sort
   101, 56, 245, 389, 51, 678, 89, 9, 121, 3, 46, 712
   b) Explain about the lower bound on average case complexity.

7. a) Explain about the boyer-moore algorithm with example
   b) Explain about digital search trees

8. a) Explain about the system calls for file structure.
   b) Explain about the special characters in files.
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Code No: R31053   **R10**   **Set No: 2**

III B.Tech. I Semester Supplementary Examinations, June/July - 2014
ADVANCED DATA STRUCTURES
(Com to CSE, IT)

Time: 3 Hours   **Max Marks: 75**

Answer any FIVE Questions

All Questions carry equal marks

*****

1. a) Explain about different hashing functions with examples.
    b) Explain about the analysis of closed hashing for unsuccessful search and insertion.

2. a) What is 2-3 Tree? Construct the 2-3 Tree for the following data
    45, 23, 12, 29, 37, 11, 89, 38, 48
    b) Explain about the procedure to insert an element into an AVL tree.

3. a) Explain about lazy binomial queues.
    b) Explain about the operations of binomial queue and also analysis of Binomial queues.

4. a) Explain about the DFS procedure with examples.
    b) Explain about the operations of Graphs.

5. a) Write a routine for prim's algorithm.
    b) Explain about Floyd's algorithm.

6. a) Sort the following elements using quick sort
    9, 17, 5, 28, 3,11, 7, 78, 1, 33, 8, 45, 2, 4, 12, 6, 34
    b) For sorting n elements, which sorting technique is best? Why.

7. a) Write a routine for Knuth-Morris-Pratt algorithm
    b) Explain about binary trie with example.

8. a) Explain about the system calls of opening and closing files
    b) Explain about the special characters in files.

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Code No: R31053

R10

Set No: 3

III B.Tech. I Semester Supplementary Examinations, June/July - 2014
ADVANCED DATA STRUCTURES
(Com to CSE, IT)

Time: 3 Hours   **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
*****

1. a) What is skip lists? Explain about skip lists with examples.
   b) Explain about the analysis of skip lists.

2. a) Explain about the deletion procedure to delete an element from an AVL Tree with example.
   b) Write a routine to delete an element from an AVL tree.

3. a) Construct the binary heap for the following data
   11, 45, 23, 9, 4, 16, 8, 29, 1, 12, 21, 15
   b) Write a routine for delete min from binary heap.

4. a) Write a routine for BFS for non recursive case.
   b) Explain about the representations for graph storage.

5. a) Write a routine for Kruskal's algorithm.
   b) Explain about the Warshall's algorithm

6. a) Sort the following elements using merge sort
   9, 17, 5, 28, 3,11, 7, 78, 1, 33, 8, 45, 2, 4, 12, 6, 34
   b) Explain about the lower bound on average case complexity.

7. a) Write a routine for Boyer-moore algorithm.
   b) Explain about Patricia with examples.

8. a) Explain about the system calls of reading and writing file contents
   b) Discuss about the system calls of fixed length and fixed filed buffers
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Code No: R31053

R10

Set No: 4

III B.Tech. I Semester Supplementary Examinations, June/July - 2014
ADVANCED DATA STRUCTURES
(Com to CSE, IT)

Time: 3 Hours   **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
*****

1. a) Explain about hash table restructuring with examples.
    b) Explain about the analysis of closed hashing for successful search and deletion

2. a) What is AVL tree? Construct the AVL tree for the following Data
    70, 35, 62, 16, 49, 29, 11, 89, 56, 73
    b) Write a routine for inserting an element into an AVL tree

3. a) What are the applications of binary heap.
    b) Write a routine for creating a binary heap and also explain with example.

4. a) Write a routine for DFS for non recursive case.
    b) Explain about the BFS with example.

5. a) Write a routine for shortest path algorithm with example.
    b) Write a routine for warshall's algorithm.

6. a) Sort the following elements using heap sort
    9, 17, 5, 28, 3,11, 7, 78, 1, 33, 8, 45, 2, 4, 12, 6, 34.
    b) Explain about the lower bound on worst case complexity.

7. a) Explain bout the Knuth-Morris-Pratt algorithm.
    b) Explain about multi-way trie with examples.

8. a) Explain about file processing operations with examples
    b) Discuss about Field and record organization.
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