

Code No: R31053

R10

Set No: 1

III B.Tech. I Semester Regular Examinations, November/December - 2012

ADVANCED DATA STRUCTURES

(Common to Computer Science and Engineering & Information Technology)

Time: 3 Hours

Max Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

1. Explain about different hashing methods.
2. What is meant by height balanced tree? Write a program to do the insertion of an element into the AVL tree?
3. (a) Explain about binomial amortized analysis.
(b) Explain about the procedure for delete min from Binary Heap.
4. Explain about different graph traversal techniques with examples.
5. (a) Explain the procedure for finding minimum cost of the graph using Prim's algorithm
(b) Write an algorithm Dijkstra's algorithm
6. (a) Write a program to sort n numbers using radix sort.
(b) Sort the following numbers using mergesort
5, 23, 7, 18, 2, 1, 9, 15, 6, 4, 8, 3, 13
7. (a) Explain about multi-way trie?
(b) Write a program for pattern matching using Boyer Moore algorithm
8. Explain about the following functions
(a) Write
(b) getline
(c) Flag option's in open function



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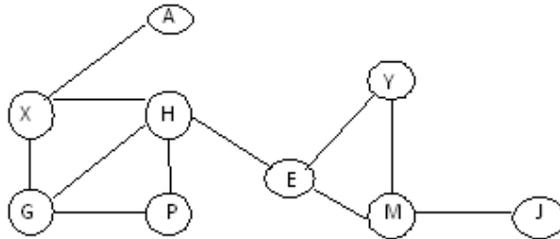
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Answer any FIVE Questions
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1. How open hashing and closed hashing is done? Explain with examples.
2. Construct the AVL tree for the following numbers
1, 2, 3, 4, 5, 6, 7, 8, 9, 8.5, 14.
3. (a) Explain about Binomial queue operations.
(b) What are the properties of Binary Heap?
(c) Explain the procedure for inserting an element into the Binomial Queue.
4. (a) Explain about the procedure for DFS?
(b) Construct the minimum cost spanning tree for the following graph using Depth first Search



5. (a) Explain the procedure for finding minimum cost of the graph using Kruskal's algorithm.
(b) Write an algorithm Floyd's algorithm.
6. (a) Explain about the procedure for heap sort.
(b) Sort the following numbers using heapsort
5, 23, 7, 18, 2, 1, 9, 15, 6, 4, 8, 3, 13
7. (a) Explain about Knuth-Morris-Pratt algorithm with one example.
(b) What is mean by Binary tree
(c) Explain about the concept of digital search tree.
8. What are different file operations? Explain with syntax's and examples.



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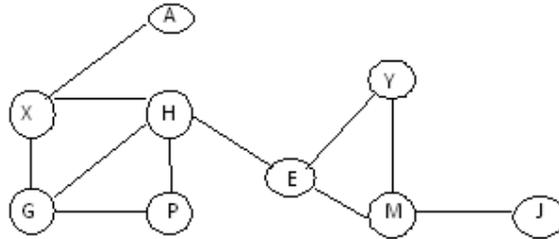
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1. Explain about the how analysis is done for closed hashing.
2. (a) What are the rules for constructing 2-3 tree?
(b) How insertion is done in 2-3 tree?
3. (a) explain the procedure for deleting the min from binary heap
(b) Explain about lazy binomial Queues.
4. (a) Explain about the procedure for DFS?
(b) Construct the minimum cost spanning tree for the following graph using Depth first Search



5. (a) Explain the procedure for warshall's algorithm
(b) write an algorithm for finding minimum cost of the graph using Prim's algorithm
6. (a) How to select pivot element in Quick sort?
(b) How partition is done in quick sort? explain with one example.
(c) Write an algorithm to sort n numbers using quick sort?
7. Explain about different pattern matching algorithms.
8. Explain about the following terms
 - (a) Fixed field buffers
 - (b) Open
 - (c) Special character's in files

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Time: 3 Hours

Max Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

1. (a) What is meant by skip list? Explain with one example.
(b) How analysis is done for skip lists?
2. (a) Write an algorithm for deletion an element from the AVL tree.
(b) How deletion is done in 2-3 tree?
3. Construct the Binary Heap for the following data with neat diagrams
4, 67, 23, 89, 12, 8, 7, 44, 78, 64, 70,17
4. Explain about different graph storage representations with examples
5. (a) Explain the procedure for all pair's shortest problem
(b) Write an algorithm for finding minimum cost of the graph using Kruskal's algorithm
6. (a) Explain about the procedure for merge sort.
(b) Write a program to sort n numbers using merge sort?
7. (a) explain about Boyer Moore algorithm with an example
(b) What is meant by trie?
(c) Explain about patricia.
8. Explain about the following terms
(a) read
(b) Fixed Length Buffer
(c) Field and record organization

