

Roll No. ....

**97674**

**B.C.A. 4th Semester  
Examination-May, 2015**

**Data Structure-II**

**Paper-BCA-207**

**Time : 3 hours**

**Max. Marks : 80**

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Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

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**Note :** Attempt **five** questions in all. Q. 1 is **compulsory**. Select **one** question from each unit. All questions carry equal marks.

1. (a) What is m-way search tree ?
- (b) What is the difference between graph and tree ?
- (c) What is topological sorting ?

- (d) What is B+tree ?
- (e) What is the difference between internal and external sorting ?
- (f) What is the complexity of Heap sort ?
- (g) What is file organization ?
- (h) What are the various operations of file ?

### **Unit-I**

- 2. What is B tree? Write an algorithm to insert a key into a B-tree and delete a key from B-Tree.
- 3. What do you mean by AVL tree? How to insert a node into AVL tree? Explain.

### **Unit-II**

- 4. What do you mean by shortest path? Explain Warshall's algorithm for shortest path.

5. What do you mean by graph traversal?  
Explain depth first and breadth first traversal of graph.

### **Unit-III**

6. Explain :

(i) Quick sort algorithm

(ii) Merge sort algorithm

7. What is the difference between linear search and binary? Write an algorithm to search an element using binary search.

### **Unit-IV**

8. Differentiate between the following:

(a) Primary and secondary key

(c) Inverted list and multi list file organization

9. What do you understand by hashing?  
Explain various hashing functions using suitable examples.
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