

Roll No.

97674

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

Data Structure-II

Paper-BCA-207

Time : 3 hours

Max. Marks : 80

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.

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

(b) Fixed length and variable length records

(c) Inverted list and multi list file organization

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