

97674

B.C.A. 4th Semester (Full & Re-appear)
Examination, May-2023
DATA STRUCTURE-II
Paper- BCA-207

Time allowed : 3 hours]

[Maximum marks : 80

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

Note: Attempt five questions. Question no. 1 is compulsory. Select one question from each unit. All questions shall carry equal marks.

- I. (a) What is AVL search tree?
- (b) How is BST different from binary tree?
- (c) What is topological sorting?
- (d) What is the difference between graph and tree?
- (e) What is internal sorting?
- (f) What is the complexity of Quickort?
- (g) What is the difference between fixed and variable length record?
- (h) What is Hashing?

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Unit-I

2. Compare B tree and B+ tree? Write an algorithm to insert a key into a B-tree and delete a key from B-Tree.
3. Explain:
 - (i) m-way search tree
 - (ii) Huffinan's algorithm

Unit-II

4. (a) What do you mean by graph traversal. Explain Breadth First search traversal of graph.
- (b) What is Graph? Describe various type and operation on graph.
5. What do you mean by shortest path? Explain Dijkstra algorithm for shortest path.

Unit-III

6. (a) Write an algorithm to search an element using binary search.
- (b) Explain Tournament sort algorithm.
7. Write and explain:
 - (i) Merge sort algorithm
 - (ii) Heap Sort algorithm

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Unit-IV

- 8 (a) What is the condition for collision? How collision can be resolved? Explain.
- (b) Compare Inverted list and multi list file organization.
9. What is file organization? Describe various type of file organization briefly.

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