

C – 4502

B.C.A. (Three Year) DEGREE EXAMINATION, MARCH/APRIL 2018.

End Semester Examination

Fourth Semester

Part – III

(Regular/Supplementary)

DATA STRUCTURES USING JAVA

Time : 3 Hours

Max. Marks : 70

PART — A

Answer any FIVE of the following questions. **(5 × 4 = 20 Marks)**

1. Explain about File structure.
2. What are the major advantages of linked lists over arrays?
3. How a node is deleted from Binary Tree? Explain with example.
4. What is the role of Extended binary tree?
5. How can you find the shortest path between nodes? Explain with example.
6. How can you create a graph?
7. What are the applications of Head Tree?
8. What is sequential search? Explain with example.

PART — B

Answer ALL of the following questions. **(5 × 10 = 50 Marks)**

UNIT I

9. (a) What are the various types of linked list?

Or

- (b) What are the primitive and non-primitive data structures?

Turn Over

UNIT II

10. (a) Write an algorithm to perform following operations on stack.
- (i) Create
 - (ii) PUSH
 - (iii) POP.

Or

- (b) What are the applications of priority queues?

UNIT III

11. (a) What are the ordered and unordered Trees? Explain with examples.

Or

- (b) Differentiate between Depth first traversal and Breadth first traversal of Binary Tree.

UNIT IV

12. (a) What are the various applications of graphs?

Or

- (b) What do you know about neighbors, degree, and path of graph?

UNIT V

13. (a) What do you mean by Insertion Sort? How it occur having different passes?

Or

- (b) Write an algorithm for Quick Sort.
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