

S-734

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Roll No. -----

BCA-06

Data Structure through C Language

Bachelor of Computer Science (BCA)

2nd Semester, Examination 2022(Dec.)

Time: 2 Hours

Max. Marks: 70

Note : This paper is of Seventy (70) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

Section – A

(Long Answer – type questions)

Note: Section 'A' contains Five (05) long-answer-type questions of Nineteen (19) marks each. Learners are required to answer any two (02) questions only.

[2 x 19 = 38]

P.T.O.

- Q.1. What is Stack? Write a program to demonstrate PUSH () and POP () operating using class and member function.
- Q.2. What is the best case complexity of quick sort and outline why it is so? How could its worst case behavior arise?
- Q.3. Write an algorithm for binary search. And also explain its limitation and advantages.
- Q.4. Write an algorithm to create a Linked List? Also write a function to delete a node in the linked list.
- Q.5. What is binary search tree? How will you perform Insertion and Deletion in binary search tree (BST).

Section – B

(Short-answer-type questions)

Note: Section 'B' contains Eight (08) short-answer-type questions of Eight (08) marks each. Learners are required to answer any Four (04) questions only.

[4 x 8 = 32]

- Q.1. What are the different type of memory representation?
Explain.
- Q.2. What do you understand by Data type? Explain.
- Q.3. What is Bubble sort? Explain by giving an example.
- Q.4. What is the difference between general tree and binary tree? Explain.
- Q.5. Explain insertion and deletion in a B-Tree?
- Q.6. What are the application of Queue? Explain.
- Q.7. Explain Depth First Search technique in a Graph?
- Q.8. What is big 'O' notation? Explain.
