

C961

Total Pages : 3

Roll No.

MCA-06/PGDCA-06/M.SC(IT)-06

Data Structure through C Language

Master of Computer Applications/ P.G. Diploma in Computer Applications/ Master of Science in Information Technology
(MCA/PGDCA/MSc.IT)

Second Semester Examination, 2022 (June)

Time : 2 Hours]

Max. Marks : 80

Note : This paper is of Eighty (80) 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 Twenty (20) marks each. Learners are required to answer any Two (02) questions only.

(2×20=40)

1. What is Linked List? Write the program/algorithm for insertion and deletion operations in linked list.

2. What is the difference between Linear Search and Binary Search? Write an algorithm for binary search. Explain its limitations and advantages.
3. What is circular queue? Explain the addition and deletion operation performed on a circular queue with necessary algorithm.
4. What are the application of stack? Write an algorithm for push and pop operation on stack using array.
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 Ten (10) marks each. Learners are required to answer any Four (04) questions only. (4×10=40)

1. How searching for a number in sorted list affects the execution time? Write a function for linear search.
2. How insertion sort is different from selection sort? Also explain their implementations.
3. Define data structure. Explain the types of data structure.

4. Explain merge sort and give a suitable example of merge sort.
 5. What is the difference between tree and graph?
 6. Explain Depth First search in graph with the help of an example.
 7. What do you understand by Asymptotic Notation? Explain.
 8. What do you understand by performance and complexity using big 'O' notation?
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