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Total No. of Questions : 07] [Total No. of Pages : 02

Paper ID [B0208]

(Please fill this Paper ID in OMR Sheet)

BCA (Sem. - 2nd)

DATA STRUCTURES (BC - 204)

Time : 03 Hours **Maximum Marks : 60**

Instruction to Candidates:

1) Section - A is **Compulsory**.
2) Attempt any **Four** questions from Section - B.

Section - A

Q1) *(10 × 2 = 20)*

a) Name the application areas of trees.

b) Define doubly linked list.

c) What is dynamic storage management?

d) Write short note on recursion.

e) Define time-space trade off.

f) What is priorty queue?

g) What are the advantages of linked list over arrays?

h) Give advantage of binary search algorithm.

i) List the various types of queues.

j) What are the various non-linear data structures?

Section - B

(4 × 10 = 40)

Q2) Write an algorithm for preorder, inorder and postorder traversal in a tree.

Q3) Write short notes on:

(a) Garbage collection (b) Quick sort algorithm

Q4) Write an algorithm to sort integers using selection sort.

Q5) What do you mean by recursion? Write an algorithm to find factorial of a number using recursion.

Q6) List the various operations possible on a singly linked list? Explain with diagrams.

Q7) In what way, doubly linked list is better than single linked list. Give examples.

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