DCCA – 201

II Semester B.C.A. Degree Examination, August/September 2023
(NEP – Freshers and Repeaters)
COMPUTER APPLICATION
CAC 04 : Data Structures Using C

Time : 2½ Hours Max. Marks : 60

***Instruction** : Answer **all** the Sections.*

SECTION – A

I. Answer **any 6** questions. **Each** question carries **2** marks. **(6×2=12)**

1) What is Non-Linear Data Structure ?
2) Write any two memory allocation functions.
3) What are two dimensional arrays ?
4) What is traversing ?
5) What is circular linked list ?
6) What is Garbage Collection ?
7) Write any two applications of Queues.
8) Evaluate the following postfix expression using stack : 5 7 3 * +
9) What do you mean by Complete Binary Tree ?

SECTION – B

II. Answer **any 4** questions. **Each** question carries **6** marks. **(4×6=24)**

10) Write a note on Performance Measurements.
11) Write a C program to find the GCD of given two integers using Recursion.
12) Write an algorithm and explain the Selection Sort.
13) Explain transforming infix expression to postfix expression with example.
14) Write a note on :
    a) Priority Queue.
    b) Circular Queue. **3**
15) Explain Preorder Tree Traversal with examples. **3**

P.T.O.

SECTION – C

III. Answer **any 3** questions. **Each** question carries **8** marks. **(3×8=24)**

16) Write an algorithm and explain the Bubble Sort.

17) Explain Tower of Hanoi with example.

18) Explain the following :

a) Singly Linked List.

b) Doubly Linked List. **4**

19) Write an algorithm for Insertion and Deletion operations on Queue using array representation. **4**

20) Explain Inorder and Postorder traversals with example.
