# NETTUR TECHNICAL TRAINING FOUNDATION

## DIPLOMA IN COMPUTER ENGINEERING & IT INFRASTRUCTURE –CP08

## III SEMESTER SUPPLEMENTARY EXAMINATION-JUNE 2023

**Subject: Data structures with C** **Total Time: 2 Hr.**

**Subject Code: CP08306T** **Total Marks: 50 marks**

**PART B**

**1.0 ANSWER ANY EIGHT OF THE FOLLOWING** **2*8=16**

1.1 What is call by value?

1.2 Explain stack overflow and underflow

1.3 Convert the expression ( A + B ) / ( C – D ) * E into prefix.

1.4 Define Siblings

1.5 Explain Linked List

1.6 Define Ancestor

1.7 What is bubble sort?

1.8 What is Linear Search?

1.9 What is the use of header in linked list?

1.10 What is Enqueue and Dequeue?

**2.0 ANSWER ANY SIX OF THE FOLLOWING** **3*6=18**

2.1 What is call by reference? Explain with an example.

2.2 Explain Double Pointer, NULL Pointer and void Pointer.

2.3 Write the difference between variable, array and structure in C

2.4 Draw the neat diagram of different types of data structure

2.5 Explain In order, preorder, Post order

2.6 What are the types of linked list and explain anyone

2.7 Explain Binary search and Interpolation search

2.8 Define the terminologies Node, leaf and height in a tree

**3.0 ANSWER ANY FOUR OF THE FOLLOWING** **4*4=16**

3.1 Explain Dynamic Memory allocation with its syntax

3.2 Convert the following infix into both postfix and prefix

( ( 1 * 4 / 2 ) - ( 1 + 2 ) ) / ( ( 4 * 3 ) - 3 )

3.3 Define i) Left Subtree ii) Parent iii) Descendants iv) Root node

3.4 Write the algorithm for converting an infix to postfix

3.5 Explain realloc() with its syntax and example

3.6 List the different types of Queues? Explain its operations with neat diagrams