

Enrollment No: _____ Exam Seat No: _____

C.U.SHAH UNIVERSITY

Winter Examination-2022

Subject Name : Advanced C and Data Structure

Subject Code : 4CS02IDS2

Branch: B.Sc.I.T.

Semester: 2

Date: 21/09/2022

Time: 11:00 To 02:00

Marks: 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

-
- Q-1** **Attempt the following questions:** **(14)**
- a) What is string?
 - b) Define the term: Array
 - c) What is pointer?
 - d) What is the use of free() in dynamic memory allocation?
 - e) What is UDF?
 - f) What is algorithm?
 - g) List out linear data structure
 - h) What is searching?
 - i) Define the term: Stack
 - j) List out various queue operation
 - k) What is Linked list?
 - l) Define the term: Tree
 - m) List out binary tree traversal
 - n) What is circular queue?

Attempt any four questions from following.

- Q.-2** **Attempt following.** **14**
- a) Explain array as a parameter with example 5
 - b) Explain character string in C with suitable example 5
 - c) Discuss various application of array. 4
- Q.-3** **Attempt following.** **14**
- a) Explain pointer with suitable example 5
 - b) Write a C program to sum of array elements with pointer 5



c) Differentiate Call by value and Call by reference.	4
Q.-4 Attempt following.	14
a) Explain dynamic memory allocation	5
b) Describe types of data structure	5
c) Differentiate stack and queue with suitable example	4
Q.-5 Attempt following.	14
a) Explain linear search	5
b) Discuss traversal of Linked list with example	5
c) Explain push and pop operation	4
Q.-6 Attempt following.	14
a) Explain binary search	5
b) Explain bubble sort	5
c) Discuss doubly linked list.	4
Q.-7 Attempt following.	14
a) Explain binary tree with algorithm	7
b) Discuss binary tree traversal with suitable example	7
Q.-8 Attempt following.	14
a) Write a C program to find maximum number in array of size 10.	7
b) Write a C program to create singly linked list with five nodes.	7

