University of Information Technology & Sciences (UITS)
Faculty of Science and Engineering
Department of CSE
Program: BSc in CSE
Term Final Examination (Supplementary), Autumn 2022
Course Title: Structured Programming Language
Course Code: CSE 111

Marks: 50

Time: 3 Hours

(Answer all questions)

Marks

Q. No.

1. a) You have to build a system that will keep track of the records of all Students of Batch 53 in the department of CSE. For each student you have to store name, Phone number, CGPA and address. **Create** a structure for this purpose. [05]

    b) Write the output of the following module: [05]

```
{
int n,i;
char city [20] =" Madras";
char town [20] =" Mangalore";
n=Strcmp (city, town);
i=strlen(town);
printf ("%d, %d",n,i);
}
```

2. a) **Construct** a recursion function to calculate the fibonacci series of a given number n. [04]

    b) Consider the following portion of a program. **Determine** and explain how many times the body of the loop will be executed. [02]

```
x=5;
do
{
  x=x+5;
}
while(x<20);
```

    c) Write a program in C to add two numbers using pointers. [4]

3. a) Differentiate between formal argument and actual argument. [03]

    b) **Write** a C program to print the following series $1^2+2^2+3^2+\ldots\ldots\ldots+N^2$ [04]

    c) Explain the 'goto' statement with an example. [03]

4. a) **Analyze** the following program for all possible inputs [05]

```
#include <stdio.h>
int main() {
    int num;
    printf("Enter a number from (1-4): ");
    scanf("%d",&num);
```

```c
switch(num)
{
    case 1:
        printf("Bangla");
        break;
    case 2:
        printf("English");
    case 3:
        printf("Math");
        break;
    case 4:
        printf("Social Science");
    default:
        printf("Unmatched!");
}
return 0;
}
```

b) **Write** a C program that finds the largest element among 3 numbers. [05]

5. a) **Develop** a user defined function that takes a string as parameter and returns the reverse of that string. [05]

    c) **Design** the following pattern that takes n=5 as input. [05]

```
11
12 13
14 15 16
17 18 19 20
21 22 23 24 25
```