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

Marks: 50

Time: 3 Hours

(Answer all questions)

1. a) Write the structure of for loop with an example. [03]
    b) Build a program to count the number of characters/symbols in a string without using the library function **strlen()**. [04]
    c) Briefly explain three string handling functions namely, **strcpy()**, **strrev()**, and **strcat()** with one example for each. [03]

2. a) Take an integer number **n** using the keyboard and evaluate its factorial value **n!** [04]
    b) Consider the following portion of a program. Determine how many times the body of the loop will be executed. [02]

        x=10;
        do
        {
        x=(x+5);
        }
        while(x<25);

    c) Briefly illustrate the function of header files <stdio.h> and <math.h>. [04]

3. a) Develop a C program to find the smallest among three numbers using a user defined function. [04]
    b) Evaluate following series with C language. [04]
        $3^2 + 6^2 + 9^2 \dots + n^2$
    c) Mention the usage of the keywords **goto** and **return**. [02]

4. a) A financial organization needs a software that converts dollar to taka and vice versa. Now develop a simple software using C for the organization. Suppose, 1 dollar = 100 taka. [04]
    b) Match the words of right side to appropriate left side of Table 1. [04]

Table 1

i. Variable	else, mathematics ( ), strrev ( ), xx,
ii. User defined function	1A, do, sum ( ), puts ( ), while.
iii. Library function	
iv. Keyword	

    c) Differentiate between *scanf()* and *getchar()* function. [02]

5. **a)** Write a C program using a user defined function which name is **multiplication**, to multiply two integer number **a** and **b**. [04]

    b) Define pointer variable. Write the declaration procedure of pointer variable. [02]

    c) Design following arts on the computer monitor that based on the input integer **n**. For example, the following arts would be shown when **n=3**. [04]

```
#
###
#####
```