International Islamic University Chittagong
Department of Electrical and Electronic Engineering

Semester Final Assignment Autumn-2019 | **Program: B.Sc. Engg. (EEE)**
Course Code: CSE-1106 | **Course Title: Computer Programming I**
Time: 12 Hour | **Full Marks: 40**

1(a). Write a program that takes the given string **S** and a character **C** as input. From the string **S**, count all the occurrences of the character **C** in the input. For example, **S** is "**IIUC EEE**" and **C** is '**I**', then the occurrence of '**I**' is **2**. Do not use **string.h** header file in the task. . **4**

1(b). a) **4**

What is the output of this program?

```
#include <iostream>
using namespace std;
int main()
{
        static int i;
        for (i++; ++i; i++) {
                printf("%d ", i);
                if (i == 6)
                        break;
        }
        return 0;
}
```

b)

What is the output of this C code?

```
#include <stdio.h>
void main()
{
   double k = 0;
   for (k = 0.0; k < 3.0; k++);
      printf("%lf", k);
}
```

2(a). Write a program to create a M*N size 2D array named as A[M][N] and find out how many zero in each row. **4**

For Example:

input M=3 N=4

1 2 0 0

3 0 5 6

4 2 57

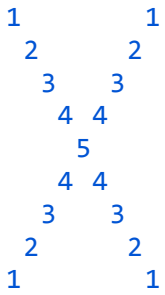
Output of the following input

2

1

0

2(b). Write a program to print the following structure **4**



3(a). Suppose we have a list of student names, ID numbers and grades. For example, the beginning of the list might look like **4**

Imon	E93032	A
Fajjad	E93037	C
Lhaled	E93025	B

Suppose there are five possible grades **A, B, C, D** and **F**.
Write down a C program that will perform the following tasks:
Take the above data as input and put it into an array of structure. The number of students **N** will also be in input to your program first. Define your own structure. Assume that the names are single word names with max length of **20**. The program should print out an *ordered list* of students and grades, i.e. students with **A** grades should be listed first, students with **B** grade next and so forth. Among all students having the same the grade, the students should be listed *alphabetically* by name.

3(b). Suppose you want to declare a pointer and allocate some space for it. You write the following code: **4**

```
char *p;
*p = malloc(10);
```

What's wrong with this code? Explain & correct the code.

4(a). Address a function that takes a two-dimensional array as its argument also returns the sum of this array. Describe the function into main. **4**

4(b). What is the output of this program? **4**

```
#include <stdio.h>
#include <stdlib.h>

int main()
{
  int num;
  FILE *fptr;

  if ((fptr = fopen("C:\\program.txt","r")) == NULL){
```

```
        printf("Error! opening file");

        // Program exits if the file pointer returns NULL.
        exit(1);
    }

    fscanf(fptr,"%d", &num);

    printf("Value of n=%d", num);
    fclose(fptr);

    return 0;
}
```

5(a). What's wrong with this call- **1**

FILE *fp = fopen("c:\oldfr\sample.dat", 'r');

5(b). What is the output of this program? **4**

[Program to add two distances (feet-inch)]

```
#include <stdio.h>
struct Distance
{
   int feet;
   float inch;
} dist1, dist2, sum;

int main()
{
   printf("1st distance\n");
   printf("Enter feet: ");
   scanf("%d", &dist1.feet);

   printf("Enter inch: ");
   scanf("%f", &dist1.inch);
   printf("2nd distance\n");

   printf("Enter feet: ");
   scanf("%d", &dist2.feet);

   printf("Enter inch: ");
   scanf("%f", &dist2.inch);


   sum.feet = dist1.feet + dist2.feet;
   sum.inch = dist1.inch + dist2.inch;


   while (sum.inch >= 12)
   {
      ++sum.feet;
      sum.inch = sum.inch - 12;
```

```
    }

    printf("Sum of distances = %d\'-%.1f\"", sum.feet, sum.inch);
    return 0;
}
```

5(c). Write a C program that will read the content of a file named Update**.txt** and write this content in reverse order in another file named **copy.txt.** **3**