United International University (UIU)

Dept. of Computer Science & Engineering (CSE)

Mid Term Exam:: Trimester: Fall 2019

Course Code: CSI 121 / CSE 1111, Course Title: Structured Programming Language

Total Marks: **30** Duration: 1:45 hour

There are FIVE questions. Answer all the questions. Marks are indicated in the right margin

1 a) Identify the errors from the following C program: [2]

```
#include<Stdio.h>
Int main(){
        Int a, b;
        Int div;
        Scanf("%f%f", &a, b);
        Div=a/b;
        Printf("%d", Div);
        Return  0;
}
```

b) Check whether the following variables are valid or invalid. If it is invalid, mention the reason. [2]

Sum val, Sum_val, $Sumval, Sum9val, 9Sumval, sum val

c) Find the values of the following variables: [2]

```
int a=39/2;
int b=39.0/2;
float c=39.0/2;
float d=39/2;
int e=39%4;
float f=  (float) (4%39);
```

2 a) Find output when input values of b are 4, 5 , 10 and 12, respectively [3]

```
scanf("%d", &b);
printf("Start\n");
if (b<=5)
     printf("Hello\n");
else if(b>5)
     printf("World\n");
else if ((b>=2)&&(b<10))
     printf("UIU\n");
else if ((b>2)||(b<=10))
     printf("CSE\n");
else
     printf("Error\n");
printf("Stop");
```

True

b) Write the following C program using the Switch Case statement in Programming Language C. [3]

```
#include<stdio.h>
int main(){
    int choice;
    if((choice==1)||(choice==2))
        printf("CSE\n");
    else if ( choice==3)
        printf("UIU\n");
    else if (choice>3)
        printf("Bye");
    return 0;
}
```

3 a) Draw a flowchart to find the sum of the following series. Also show the sum value on monitor [3]

2+4+6+ ..... +100

OR,

Write a C program that will give the sum of first N^{th} terms for the following series.
1, -3, 5, -7, 9, -11, 13, -15 .....

Sample input	*Sample output*
2	Result -2
3	Result 3
4	Result -4

b) Write a program to calculate the online average of 4 positive floating point numbers taken from keyboard as inputs. Follow the sample input and output given below for understanding the logic [3]

Sample Input	Processing	Output on Monitor
num = 10.0	10.0/1=10.0	Average=10.0
num = -5.0	-	-
num = 20.0	(10.0+20.0)/2=15.0	Average=15.0
num = -18.6	-	-
num = 15.6	(10.0+20.0+15.6)/3=15.2	Average=15.2
num = 15.2	(10.0+20.0+15.6+15.2)/4=15.2	Average=15.2

4 a) Show manual tracing for the following code segment: [3]

```
for(i=3; i>=1; i--){
      for (j=1; j<=i; j++){
            printf("%d ", 2*j+1);
      }
     printf("\n");
}
```

b) Write a program to perform the following operations [3]

i) Declare an integer array of size 500
ii) Read n integer numbers from keyboard and store them in the array, where n is input integer from keyboard
iii) Find the sum of the numbers that are stored in odd number indices in the array
iv) Also show all the integer numbers of the array on monitor

5 a) Show manual tracing for the following code segment: [3]

```
char str1[7]={'\0'};
char str2[7]={'\0'};
strcpy(str1, "CSE");
strcpy(str2, "UIU");
strcat(str2, str1);
strrev(str2);
puts(str2);
printf("\n");
puts(str1);
int i=strlen(str2);
printf("\nThe length of %s is=%d", str2, i);
```

b) Write a program to determine the maximum among the numbers that are stored in i-th row of the two dimensional array A[n][n], where i<n. Assume that n, i, A are taken as integer inputs from keyboard. [3]