



# 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**

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- 1 a) Identify the errors from the following 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");
```
- b) Write the following 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]
- $2+4+6+\dots+100$
- 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]
- Declare an integer array of size 500
  - Read n integer numbers from keyboard and store them in the array, where n is input integer from keyboard
  - Find the sum of the numbers that are stored in odd number indices in the array
  - 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]