



United International University (UIU)
Dept. of Computer Science & Engineering (CSE)

Mid Exam Year: 2018

Trimester: Fall

Course: CSI 121 Structured Programming Language, Marks: 30, Time: 1 hour 45 min

There are FIVE questions. Answer ALL of them. Figures in the right-hand margin indicate full marks.

- 1 a) Identify the errors from the following program [3]

```
#include<Stdio.h>
Int main(){
    Int a, b;
    Float Sum;
    Scanf("%f%d", &a, &b);
    Sum=a+B;
    Printf("%d", SUM);
    Return;
}
```

- b) Check whether the name of the following variables is valid or invalid. If it is invalid, mention the reason. [3]

```
int sum;
float 9uiu;
char $pi;
int sum of bill;
float total_value;
double sum-value;
```

- 2 a) Write a program to determine the total electricity bill for given consumption unit. Follow the following steps. [3]

Step1: Read consumption unit and unit price from keyboard
Step2: If consumption unit is greater than 200, unit price is 5 taka more
If consumption unit is greater than 400 and less than 600, unit price is 10 taka more
Otherwise, unit price is 15 taka more
Step3: Calculate the total bill using the formula, electricity bill=consumption unit* unit price
Step4: Print total bill on monitor

- b) Find output for the following code segment. [3]

```
i=10;
i=i+1;
printf("%d\n", i);
i=i%5;
printf("%d\n", i);
printf("%d\n", i++);
printf("%d\n", i+1);
printf("%d\n", ++i);
printf("%d\n", i);
```

- 3 a) Implement the following code segment using if..else statement. [3]

```
int i, j;
int sum=0;
scanf("%d%d", &i, &j);
switch(i+j){
    case 1: sum=i+j;
            printf("%d", sum);
            break;
    case 2:
            sum=i+j-1;
default:
            printf("%d", sum);
}
```

- b) Show the manual tracing for the following code segment when [3]

- i) a=0 and b=2
- ii) a=5 and b=5
- iii) a=2 and b=3

```
scanf("%d%d", &a, &b)
printf("SIMPLE PROGRAM\n");
if ((a!=0) && (a<=b))
    printf("HELLO\n");
else if ((a==b) || (a>b))
    printf("WORLD\n");
else
    printf("ERROR\n");
printf("CSE UIU");
```

- 4 a) Draw a flow chart to calculate the sum of the following series and to show the sum value on monitor. [3]

$$2+4+6+\dots+100$$

- b) Show the manual tracing for the following code segment [3]

```
int i, sum;
sum=50;
for(i=1; i<=6; i++){
    if(i%2==0)
        sum=sum-i;
    else
        sum=sum+i;

    printf("%d\n", i);
}
printf("%d %d", i, sum);
```

- 5 Write a program to calculate the online average of n integer numbers, where n is an input integer from keyboard. [6]

Sample input/output is given below:

Sample Input: n=3

First Iteration

First Sample input number: 10

Average= 10/1=10.0

Sample Output: 10.0

Second Iteration

Second Sample input number: 18

Average= $(10+18)/2=14.0$

Sample Output: 14.0

Third Iteration

Third Sample input number: 11

Average= $(10+18+11)/3=13.0$

Sample Output: 13.0