



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

Sample Midterm Question

Course Code: 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) Generate a correct version for the following erroneous program. [2]
- ```
#include<Stdio.H>
Int main(){
 Int a, b;
 Float div;
 Scanf("%f%f", &a, &b);
 Div=a/b;
 Printf("%f", Div);
 Return 0;
}
```
- b) Mention the data type of each of the data given below [2]
- 1, 1.0, '1', "1", 1
- c) Find the values of the following variables [2]
- ```
int a= 17%5;
int b=17.0/5;
float c=17/5;
float d=17.0/5;
int e=3*4+12/4-3;
```
- 2 a) Find output when input values of b are 4, 5, 10 and 12, respectively [3]
- ```
scanf("%d", &b);
printf("Begin\n");
if (b>=5)
 printf("UIU\n");
else if(b<=5)
 printf("CSE\n");
else if ((b>=2)||(b<10))
 printf("COMPUTER\n");
else if ((b>2)&&(b<=10))
 printf("NICE\n");
else
 printf("Bye\n");
printf("End");
```
- b) Write the following program using the if...else statement instead of switch...case [3]
- ```
#include<stdio.h>
int main(){
    int choice;
    scanf("%d", &choice);
    switch(choice){
        case 1:
            printf("CSE\n");
        case 2:
            printf("UIU\n");
            break;
        case 3:
            printf("BYE");
            break;
        default:
            printf("EXIT");
    }
    return 0;
}
```

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

sum=0;
sign=1;
for(i=2; i<=6; i=i+2){
 sum=sum+sign*i;
 printf("%d %d\n", i, sum);
 sign=-sign;
}
printf("%d", sum);

```

- b) Write a program to calculate the sum of n positive floating point numbers (skip negative numbers) taken from keyboard. [3]

For example, n=3 (taken from keyboard)

| Input | Sum      | Count                                      |
|-------|----------|--------------------------------------------|
| 10    | 10       | 1                                          |
| -20   | 10       | 1                                          |
| 30    | 10+30=40 | 2                                          |
| -5    | 40       | 2                                          |
| 15    | 40+15=55 | 3 (Since Count = n, stop the number input) |

Output: 55

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

```

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

```

- b) Write a program to perform the following operations [4]
- Declare an integer array of size 100
  - Read n integer numbers from keyboard and store them in the array, where n is input integer from keyboard
  - Find the minimum value among all the numbers stored in the array.
  - Display the index number(s) containing the minimum.

Sample input and outputs are given below:

| Input | Array A       | Output Minimum | Output Index Number(s) in Array A |
|-------|---------------|----------------|-----------------------------------|
| n=3   | 10 5 20       | 5              | 1                                 |
| n=4   | 10 4 20 4     | 4              | 1 3                               |
| n=5   | 10 -1 4 -3 -2 | -3             | 3                                 |

- 5 a) Show the manual tracing for the following code segment [2]
- ```

int F[6]={0};
int i;
F[0]=1;
F[1]=1;
for(i=2; i<=5; i++){
    F[i]=F[i-1]+F[i-2];
    printf("%d %d %d\n", F[i-2], F[i-1], F[i]);
}
printf("%d %d %d", F[i-2], F[i-1], F[i-1]+F[i-2]);

```
- b) Write a program to display the even numbers stored in the integer array A[n][n], where n is taken from keyboard. Here, all the integer numbers for array A are read from keyboard. Finally print the summation of all the numbers on monitor. [3]