Guru Gobind Singh Indraprastha University, East Delhi Campus

Mid Term Examination (2023)

Paper Code: ICT-101 (I Sem) **Subject: Programming for problem solving**

Time: 1:30 hrs **Max Marks: 30**

Note: All questions are compulsory.

Q1. Answer the following questions. ($2 \times 5 = 10$ Marks)

a) What are preprocessor directives?

b) What are the advantages of high level languages over machine language?

c) Write a program using while loop to find sum of digits of a number entered by the user.

d) What is output of printf("%d"); ?

e) What is the difference between the priority and associativity in the operators?

Q2.

a) WAP to multiply two matrices and draw its flowchart. (6 Marks)

b) WAP to print the following pattern. User should be able to enter the number of rows to generate given pattern (4 Marks)

```
******
*    *
*  *
* *
**
*
```

Q3.

a) Predict output of following code ($2.5 \times 2 = 5$ Marks)

i.

```
#include <stdio.h>
int main()
{
int x=20, y=35;
x= y++ + x++;
y=++y + ++x;
printf("%d %d \n", x, y);
return 0;
}
```

ii.

```
#include <stdio.h>
int main()
{
int x=2, y=5;
y=2*y+x;
y=2*x+y;
printf("%d \n", x);
return 0;
}
```

b) Find the error in following code and correct the error $(2.5 \times 2 = 5$ Marks)

i.

```
#include <stdio.h>;
int main()
{
int integer1, integer2, sum;          /*declaration*/
printf("enter first integer\n")        /*prompt for first input*/
scanf("%d", integer1);                /read integer value into integer1*/
printf("Enter second integer\n");      /*prompt for second input*/
scanf("%d", &integer2);               /*read integer value into integer2*/
sum = int1 + int2;                    /*add inputs and assign to sum*/
printf("Sum is %d\n", sum);            /*print sum*/
return 0;                             /*normal termination of program
}
```

ii.

```
main( )
{
  int size ;
  scanf ( "%d", &size );
  int arr[size] ;
  for ( i = 1 ; i <= size ; i++ )
  {
  scanf ( "%d", arr[i] ) ;
  printf ( "%d", arr[i] ) ;
  }
}
```