22F024.

MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY, BHOPAL

Mid Sem Examination — May 2023

Course – B.TECH. **Sem – II** **Section - F/G/H/I/J**
Subject Name- Computer Programming and Problem solving **Subject Code CS-104**
Time- 90 Minutes **Max.Marks-20**
Note- Answer all questions

S. No	Question	Marks
1	Rate charts of different food items are displayed. A customer can place an order (assume quantity is 0 provided by the customer when not wishing to order that item) any item. Following rate chart (for one piece) is displayed item-wise. Burger price : 70 Pizza price : 160 Pasta price : 185 Sandwich price : 110 **Write an algorithm** to find and display the total bill amount for an order placed by a customer. **Also, draw flowchart** to find and display the total bill amount for an order placed by a customer.	2+2

2	`#include<stdio.h>`
	`int main()`
	`{`
	`int num1=3,num2=2;`
	`switch(num1/num2)`
	`{`
	`printf("Hello \n");`
	`case 1:`
	`printf("case 1 executed \n");`
	`case 2:`
	`printf("case 2 executed \n");`
	`break;`
	`default:`
	`printf("default block executed\n");`
	`}`
	`return 0;`
	`}`
	Find the output of the above c program. Then, rewrite the above code using if-else.
		1 + 2

3	Write a C program to find max and min value among 3 numbers entered by the user **without using** if-else, switch, ternary operator (? :), arithmetic operator (+, *) or loops. **You can use all other operators except the above mentioned operators.** **Sample Output:** Enter any three numbers 123 13 569 Max number = 569 Min number = 13	3
4	Write a program to ask the user to enter any two numbers, then find and display the number of digits in each number entered by the user **using a single while loop**. Your program must produce output as below format. **Sample Output for two runs:** Enter any two numbers 123 13 123 is 3 digit number, 13 is 2 digit number Enter any two numbers 6723 -153 6723 is 4 digit number, -153 is 3 digit number	3

5	Write a program in C to take no of rows from the user and display the following pattern using nested loops. **Sample Output for two runs:** Enter no of rows 5 1 2 3 4 5 2 3 4 5 3 4 5 4 5 5 Enter no of rows 3 1 2 3 2 3 3	
6	Find the output (or any error if any) of given c programs when you execute them using any online c compiler (as used in the lab). You may mention **"Compile Error"** if the program doesn't compile successfully. You may mention **"Runtime Error"** if the program compiles successfully, but doesn't execute and throws an error.	1 + 2 +1+1

(i)

```
#include<stdio.h>
int main()
{
        int i = 1;
        while(i++<=5) ;
        printf("i=%d ", i++);
        return 0;
}
```

(ii)

```
#include<stdio.h>
int main()
{
        int i=-3, j=2, k=0, m;
        m = ++i && ++j && ++k ;
        printf(" i=%d, j=%d, k=%d, m=%d\n",i,j,k,m);
return 0;

}
```

(iii)

```
#include<stdio.h>
int main()
{
        float x = 'a';
        printf("x=%f ",x);
        return 0;
}
```

[Note: Consider, ascii value of 'a' is 97 is given.]

(iv)

```
#include<stdio.h>
int main()
{
        float X = 3.0;
        X = X % 2;
        printf("X = %f ",X);
        return 0;
}
```