CLASS: BTECH / IMSC   SEMESTER : I

BRANCH: BT/CIVIL/CHEMICAL/MECH/PIE/FT/PHYSICS   SESSION : MO2023

SUBJECT: CS101 PROGRAMMING FOR PROBLEM SOLVING

TIME: 02 Hours   FULL MARKS: 25

INSTRUCTIONS:

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates

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			CO	BL

Q.1(a)	Explain any two examples of each of the following operators.
	    a) Arithmetic operators
	    b) Logical operators
		[2]	2	BL1

Q.1(b)   Explain briefly about each line of code in the following program.   [3]   1   BL2

```c
#include<stdio.h>
void main()
{
    int a=10;
    float b= 23.56;
    char  c='A';
    printf("%d %f %c\n",a,b,c);
}
```

Q.2(a)   Make a flow chart to find out whether a number is an odd number or even number, if   [2]   1   BL2
any integer number is input through keyboard.

Q.2(b)   Write all steps to solve expression involving integer values only which is based on   [3]   2   BL2
precedence and associativity concept.
     5*(10/5+ (7*6-3)% (6+5-2))

Q.3(a)   Write any four common flowchart symbols along with their meaning.   [2]   1   BL1

Q.3(b)   Write a program to calculate the sum of the digits of a 3-digit input number.   [3]   2   BL3

Q.4(a)   Find the output of the following program   [2]   2   BL3

```c
#include <stdio.h>
void main()
{
    int i=0, x=0;
    for (i=1;i<5;++i)
    {
        if (i%2==1)
            x+=i;
        else
            x--;
        printf("%d ", x);

    }
}
```

Q.4(b)   Write a program to determine whether an entered character is a vowel or not using   [3]   2   BL2
switch case statement.

Q.5(a)   Write the equivalent code using while loop in place of for loop   [2]   2   BL2

```c
int i, sum=0;;
for(i=1; i<=5; i++)
{
    sum=sum+i;
}
```

Q5(b)   Write an interactive program that will read in a positive integer value and   [3]   2   BL2
determine whether the integer is a prime number or not.
Example: 2, 3, 5, 7, 11 are prime numbers.

:::::16/10/2023:::::