JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2024

B.Tech-I Semester (CSE/IT/ECE/CE)

COURSE CODE(CREDITS): **Problem Solving and Programming (3)** MAX. MARKS: **15**

COURSE NAME: **24B11CI111**

COURSE INSTRUCTORS: RBT, KLK, GVS, JTI, NSA, and FSL MAX. TIME: **1 Hour**

Note: (a)*All questions are compulsory.*

(b)Marks are indicated against each question in square brackets.

(c) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems **(For all numeric assumptions take the context of C Programming)**

Q1. Draw the table below in your answer book and fill in the missing values. Show the calculations after the table. **[CO-3][4 Marks]**

Binary	Octal	Decimal	Hexadecimal
1101101.11			
	7270		
		3004	
			AF16

Q2. Draw the table below in your answer book and fill in the missing values. Assume that A and B are two integer variables in C Programming Language. **[CO-3][2 Marks]**

A	B	A && B	A || B	!A + B
0	**73**			
89	**0**			
-11	**99**			
39	**-7**			

Q3. Write a program that prints x after squaring it if input x is even otherwise, it prints x cubed. The data type of x is integer and use of modulus (%) operator is not allowed. **[CO-2][2 Marks]**

Q4. Write a program to swap (exchange) the value of two integer variables without using assignment (=) operator. **[CO-1][3 Marks]**

Q5. Draw the table below in your answer book and fill evaluations of expressions. Assume that x and y variables are stored in **16-bits**. **[CO-3][2 Marks]**

x	y	x & y	x | y	x ^ y
5	7			
-5	9			
0	15			
10	0			

Q6. Predict the output of code snippets below. **[CO-4][2 Marks]**

```
#include<stdio.h>
int main()
{
  int x=10, y=20;
  int a, b;
  a=++x; b=y++;
  printf("%d %d\n", x,y);
  printf("%d %d", a, b);
  return 0;
}
```

Code Snippet A

```
#include<stdio.h>
int main()
{
   printf("He"), printf("ll"), printf("o");
   return 0;
}
```

Code Snippet B

```
#include<stdio.h>
int main()
{
   int x=010, y=0xF, z=10;
   printf("%d %d %d\n", x, y, z);
   printf("%o %o %o\n", x, y, z);
   printf("%x %X %x\n", x, y, z);
   return 0;
}
```

Code Snippet C

```
#include<stdio.h>
int main()
{
  int x=10, y=20;
  x=10==2;
  y==20==10;
  printf("%d %d", x,y);
  return 0;
}
```

Code Snippet D