

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST - 1 EXAMINATION, SEPTEMBER 2023

B.Tech I Semester (ALL)

Course Code: 19B11CI111

MAX. MARKS: 15

Course Name: Programming for Problem Solving II

Course Credits: 2

MAX. TIME: 1 Hr

Course Coordinator: Ravindara Bhatt

Note: All questions are compulsory.

1. Draw a block diagram to illustrate the basic organization of a computer system, and explain the functions of the various units.

[3 Marks] [CO1]

2. Write a C program that asks the user to enter the initial velocity (u), acceleration (a) of an object, and the time (t) that has elapsed. Now, compute and display the final velocity (v) and the distance traversed (s) using the following equations.

i. $v = u + a \times t$

ii. $s = u \times t + 0.5 \times a \times t^2$

[3 Marks] [CO2]

3. Design a flowchart to test whether a number is odd or even. Also, write its pseudo-code.

[3 Marks] [CO1]

4. Complete the following table.

Binary	Decimal	Octal	Hexadecimal
111101111			
	172		
		776	
			1BF

[4 Marks] [CO3]

5. Given two variables x and y , find out the logical AND ($\&\&$) and logical OR ($\|\|$) for the following:

x	y	$\&\&$	$\ \ $
1	2		
6	-7		
0	0		
-1	-1		

[2 Marks] [CO3]