Roll No.

SHAMBHUNATH INSTITUTE OF ENGINEERING AND TECHNOLOGY

Subject Code: BCS101   **Subject: Programming for Problem Solving**
Course: B.Tech.   **SEMESTER: I**

FIRST SESSIONAL EXAMINATION, ODD SEMESTER,   (2024-2025)

Branch: Common to all Branches

Time –1hr 30 min   Maximum Marks – 30

1. Attempt any _FIVE_ questions.

Q N	QUESTION	Marks	CO	BL
a.	What is an operating system? Write functions of operating system.	2	CO1	L1
b.	What is computer Memory? Draw hierarchical diagram of memory.	2	CO1	L2
c.	Differentiate between primary and secondary memory.	2	CO1	L4
d.	What is variable? Write the rules to define a valid variable.	2	CO1	L2
e.	Differentiate between RAM and ROM.	2	CO1	L2

f.	What is the output of following code snippet:
	void main()
	{
	    int a=1, b=2, c=3, x;
	    clrscr();
	    x = !(a>b &&b>c);
	    printf("%d", x);
	    getch();
	}
		2	CO1	L5

2. Attempt any _ONE_ question.

Q N	QUESTION	Marks	CO	BL
a.	Draw the block diagram of a digital computer and explain about its various components.	5	CO1	L2
b.	What is data type in C? Explain primary data types with format specifier, bytes in memory and range.	5	CO1	L4
c.	Write the program to find the largest among given three numbers. Also, draw a flow chart for the same.	5	CO1	L3

3. Attempt any _FIVE_ questions.

a.	What are bitwise operators? Explain various bitwise operators in C-programming.	2	CO2	L1
b.	Differentiate between: (i) / and % operator (ii) pre-increment and post-increment.	2	CO2	L4
c.	Differentiate between compiler and interpreter.	2	CO2	L2
d.	Discuss the role of operator precedence in C with example.	2	CO2	L4
e.	Write an algorithm to find area of triangle.	2	CO2	L3
f.	Write a program to find whether the person is eligible to vote or not.	2	CO2	L3

4. Attempt any _ONE_ question.

Q N	QUESTION	Marks	CO	BL
a.	Write a program to input any two number and swap them using third variable.	5	CO2	L4
b.	Differentiate between Implicit and Explicit type conversion with example.	5	CO2	L3
c.	Write a C program using switch-case to check whether the input character is a vowel or consonant. (Letters a, e, i, o and u are called vowels)	5	CO2	L3

Bloom's Taxonomy Level (BL):-
Remember (L1), Understanding(L2), Apply (L3), Analyze (L4), Evaluating(L5), Creating(L6)