

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)

CLASS: BTECH / IMSC
BRANCH: BT/CE/CHEMICAL/ME/PIE/FT/PHYSICS

SEMESTER : I
SESSION : MO/2025

SUBJECT: CS24101 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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		Marks	CO	BL
Q.1(a)	Explain various types of errors that may occur in the C language with suitable examples.	[2]	1	2
Q.1(b)	Draw a flowchart to find the greatest among three numbers without using any logical operators.	[3]	2	2
Q.2(a)	Explain different types of decision-making statements used in the C language with suitable examples.	[2]	3	1
Q.2(b)	Write an algorithm to check whether an entered three-digit number, when reversed, is equal or not.	[3]	3	2
Q.3(a)	Explain the different types of storage classes used in C programming.	[2]	2	2
Q.3(b)	An electricity board charges the following rates for the use of electricity: for the first 200 units, 80 paise per unit; for the next 100 units, 90 paise per unit; and beyond 300 units, Rs 1 per unit. All users are charged a minimum of Rs. 100 as a meter charge. If the total amount exceeds Rs 400, an additional surcharge of 15% of the total amount is charged. Write a program to read the name of the user, the number of units consumed, and print out the charges.	[3]	2	4
Q.4(a)	Evaluate the following expressions stepwise: i) $22 + 3 < 6 \ \&\& \ !5 \ \ 22 = =7 \ \&\& \ 22 - 2 > +5$ ii) $a + 2 > b \ \ !c \ \&\& \ a = = d *a - 2 < = e,$ Where $a=11, b=6, c=0, d = 7$ and $e=5$.	[2]	2	3
Q.4(b)	WAP to check whether a given year is a Leap year or not.	[3]	2	4
Q.5(a)	Explain various types of operators used in the C programming language.	[2]	3	1
Q.5(b)	Write a C program to print the total number of days in a month, where the month is given by the user.	[3]	3	2

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