

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

CLASS: BTECH/IMSC
BRANCH: BT/CHEMICAL/CIVIL/MECH/PIE/FT

SEMESTER: I
SESSION: MO/2022

SUBJECT: CS101 PROGRAMMING FOR PROBLEM SOLVING

TIME: 2 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
Q1 (a)	What is the difference between a keyword and an identifier?	[2]	1 1
Q1 (b)	Explain the features of different types of storage classes of a variable.	[3]	1 2
Q2 (a)	What is the role of an Operating System?	[2]	1 1
Q2 (b)	Given x=4, y=20 and z=5, evaluate the value of the following expressions: i. $x * y / z + (x * z + y)$ ii. $x + y * z - 4 ^ y / x$	[3]	2 5
Q3 (a)	What is an ASCII code?	[2]	1 1
Q3 (b)	What will be the output of the following program? <pre>#include <stdio.h> int main() { int a=20, b=5; ++ a; b= b-- + a; printf(“%d, %d”, a++, --b); return 0; }</pre>	[3]	1 1
Q4 (a)	Given a= 10, b=5 and c=6, evaluate the following logical expression: $d = ((a < b) \& \& (b > c)) \mid \mid (a > c)$	[2]	2 5
Q4 (b)	Write a C program to input a number from the user in a loop till the user enters -1 and count how many numbers inputted are positive, negative and zero valued.	[3]	2 1
Q5 (a)	What are the different types of errors in C programming?	[2]	1 1
Q5 (b)	Write a C program to generate the following pattern as an output: 1 2 2 3 3 3 4 4 4 4	[3]	2 4