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

CLASS: BTECH/IMSC **SEMESTER: I/BL**
BRANCH: CIVIL/CHEM. ENGG./CHEM. & POLY./BIOTECH/MECH/PROD/FOOD TECH. **SESSION : MO/2019**

SUBJECT : CS101 PROGRAMMING FOR PROBLEM SOLVING

TIME: 2.00 HOURS **FULL MARKS: 25**

INSTRUCTIONS:
1. The total marks of the questions are 25.
2. Candidates may attempt for all 25 marks.
3. Before attempting the question paper, be sure that you have got the correct question paper.
4. The missing data, if any, may be assumed suitably.

Q1 (a) Give a detail discussion on different components of a computer system. [2]
Q1 (b) Develop a flowchart to multiply two given positive integers by the method of successive addition. [3]

Q2 (a) Describe what do you mean by an Algorithm. [2]
Q2 (b) Write a short note on basic data types that the C language supports. [3]

Q3 (a) Write a program to input three numbers and then find largest of them using && operator. [2]
Q3 (b) Write a program using do-while loop to display the square and cube of first n natural numbers. [3]

Q4 (a) Write a program to print the following pattern. [2]

```
1
2  4
3  6   9
4  8  12 16
```

Q4 (b) Write a program using for loop to calculate factorial of a number. [3]

Q5 (a) Write a program to find the mean of n numbers using arrays. [2]
Q5 (b) Write a program to find whether the array of integers contain a duplicate number. [3]

:::::: 17/10/2019 M ::::::