

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

CLASS: BTECH/IMSC  
BRANCH: CEP&P/BT/CHEM.ENGG./MECH/PROD/CIVL/FOOD TECH.

SEMESTER : I  
SESSION : MO/18

SUBJECT: CS101 PROGRAMMING FOR PROBLEM SOLVING

TIME: 3.00 HOURS

FULL MARKS: 50

**INSTRUCTIONS:**

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
  2. Attempt all questions.
  3. The missing data, if any, may be assumed suitably.
  4. Before attempting the question paper, be sure that you have got the correct question paper.
  5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) Give a detail discussion on different components of a computer system. [5]  
Q.1(b) Develop a flowchart to multiply two given positive integers by the method of successive addition. [5]
- Q.2(a) What are decision control statements? Explain with examples. [5]  
Q.2(b) Write a C program to test a given number is a power of 2. [5]
- Q.3(a) Why are arrays needed? How is an array represented in memory? Explain with diagram. [5]  
Q.3(b) Write a C program to sort an array of integers. [5]
- Q.4(a) What is call by value and call by reference? Explain with an example. [5]  
Q.4(b) Write a C program to read an integer number. Print the reverse of this number using function. [5]
- Q.5(a) Differentiate between Structure and Array. Explain with suitable examples. [5]  
Q.5(b) Write a C program using pointer to search a value from an array. [5]

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