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**BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)**  
**Computer Science & Engineering-AI&ML**  
**B. Tech. Sem - I :SUMMER : 2023**  
**SUBJECT : PROGRAMMING & PROBLEM SOLVING**

Day : Tuesday

Time : 10:00 AM-01:00 PM

Date : 16-05-2023

S-23927-2023

Max. Marks : 60

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**N.B.:**

- 1) All questions are **COMPULSORY**.
  - 2) Draw neat and labelled diagram **WHEREVER** necessary.
  - 3) Assume suitable data if **NECESSARY**.
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- Q.1 a) What is Top Down Approach? Describe using suitable example. (05)  
b) What is Flowchart? Explain using suitable example. (05)

OR

- Q.1 Design flow chart and algorithm for the following scenario: Receive an Integer number from the user and calculate the sum and check sum is even or odd. (10)

- Q.2 Write algorithm and program to find whether a number is prime or not. (10)

OR

- Q.2 Design Menu driven program for implementing the arithmetic operators. (10)

- Q.3 a) What is array? Describe using suitable example. (05)  
b) What is string? What are the inbuilt functions of strings? (05)

OR

- Q.3 Write a program to receive the 10 integer numbers and display the sum of these numbers. (10)

- Q.4 a) What is Function? Describe the Benefits of a Function. (05)  
b) Demonstrate call by value and call by reference through example. (05)

OR

- Q.4 Write a program for finding the factorial of a number using recursive function. (10)

- Q.5 What is the need of pointer? Explain with suitable example. (10)

OR

- Q.5 Write a program to demonstrate Two Dimensional array using pointer. (10)

- Q.6 Write a program to create a file called Employee. Txt and store information about a employee in terms of his name age and salary. (10)

OR

- Q.6 Design flowchart and implement C program to create file insert student record and display it using File handling. (10)

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