

BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - I COMPUTER SCIENCE & ENGINEERING AI&ML : WINTER : 2023
SUBJECT : PROGRAMMING & PROBLEM SOLVING

Day : Tuesday

Time : 10:00 AM-01:00 PM

Date : 12/12/2023

W-23927-2023

Max. Marks : 60

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Draw neat and labeled diagrams **WHEREVER** necessary.
- 3) Assume suitable data, if necessary.

Q.1 A) What is Software development life cycle? Describe using suitable example. (06)

B) What is Algorithm? Explain using suitable Example. (04)

OR

Design flow chart and algorithm for the following scenario: Receive an Integer number from the user and check whether it is even or odd. (10)

Q.2 Write a program to solve the following problem: Receive the marks of three subjects & find the average, according to average display the class, such as if average is greater than equal to 80 then put into Class A, else average is in the 59 to 79 put into class B and remaining are fail. (10)

OR

Design Menu drive program for the calculations of Area of different object like if user press 'T' then will calculate the area of triangle, if user press 'R' then calculate the area of rectangle and if press 'C' button then will calculate the area of Circle, and for other will show the invalid choice. (10)

Q.3 A) What is array? Describe using suitable example. (04)

B) What is string? Describe its function in detail. (06)

OR

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

Q.4 A) What is a Function? Describe the Benefits of a Function. (05)

B) Demonstrate Call by value and call by reference through example. (05)

OR

A) What is recursive function? Explain using suitable example. (05)

B) Write a C Program to Calculate Total and Percentage marks of a student using structure. (05)

Q.5 A) What is Pointer? Describe Using Suitable Example. (05)

B) Implement array using pointer using suitable Example. (05)

OR

Implement Two Dimensional array using pointer. (10)

Q.6 Write a program to create a file called emp.rec and store information about a person, in terms of his name, age and salary. (10)

OR

Design flowchart and implement C program to copy the contents of one file to another. (10)

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