I B. Tech II Semester Supplementary Examinations, Jan/Feb - 2024
PROGRAMMING FOR PROBLEM SOLVING USING C
(Civil Engineering, Agricultural Engineering)

Time: 3 hours   Max. Marks: 70

Answer any five Questions one Question from Each Unit
All Questions Carry Equal Marks
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UNIT-I

1. a) Explain about type conversions. Why there is a need to have them? Explain with suitable example. [7M]

    b) Write a C program to count number of vowels in an input text taken through command line arguments. [7M]

(OR)

2. a) What is an identifier (variable)? What are the rules to construct identifier (variable)? Classify the following as valid/invalid Identifiers. [7M]
    i) key2   ii) #ele3   iii) +add
    iv) bc_4   v) 99_space   vi) _arrow   vii) $412

    b) What are register storage class and static storage class? Explain with examples. [7M]

UNIT-II

3. a) Explain Jumping Statements discuss each in detail? [7M]

    b) Write a C program to find average of maximum of n positive numbers entered by user. But, if the input is negative, display the average (excluding the average of negative input) and end the program. [7M]

(OR)

4. a) Write a program to calculate the series: $1 + 1/2 + 1/3 + 1/4 + 1/5 + \ldots + 1/n$. [7M]

    b) Explain the different control statements in C with syntax and example. [7M]

UNIT-III

5. a) Write and explain a C language program to transpose a matrix. [6M]

    b) What is Structure? How it is declared and accessed? Discuss how a structure is different from union. [8M]
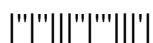
(OR)

6. a) Write a C program to concatenate two strings without using strcat() function. [7M]

    b) Write a C program for displaying the prime numbers in a 'm×n' matrix. [7M]

UNIT-IV

7. a) What are Pointers? How Array will be passed to a function using Pointers. [7M]

    b) What is dynamic memory allocation and explain the differences between malloc() and calloc() with example? [7M]

(OR)

|"|"|||"|"|||"|

8. a) How are increment and decrement operations implemented with pointers?   [7M]

   b) Write a program to read an array from the keyboard, access elements of an array   [7M]
   and copy array into another array using pointers.

UNIT-V

9. a) Write a C program to count the number of vowels, consonants, digits and special   [7M]
   characters in a text file.

   b) Write a program to find the given number is strong number or not using functions.   [7M]

(OR)

10. a) What is Call by value? How it is different from call by reference? Explain with   [7M]
   suitable example.

   b) Write the procedure of Opening, Closing & Processing a data File.   [7M]

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