

I B. Tech II Semester Regular/Supplementary Examinations, July/August- 2023
PROGRAMMING FOR PROBLEM SOLVING USING C

(Common to CE, Agri E)

Time: 3 hours

Max. Marks: 70

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

UNIT-I

1. a) How is data type promotion done in an expression? Write a program. [7M]
 b) What is the difference between the post increment and pre increment operators? [7M]
 What is the output of the following if $x=6, i=++x, j=x++, x++, ++x;$

(OR)

2. a) How to store real numbers in computer system? Demonstrate and explain the role of normalization, sign, exponent and mantissa in storing and retrieving of real numbers. [7M]
 b) Describe procedure for creating and running C programs using algorithmic approach. [7M]

UNIT-II

3. a) Explain the two way selection in C language with syntax. [7M]
 b) Discuss the use of break and continue statement in loops with example. [7M]

(OR)

4. a) Design and develop a C program to reverse of an integer number NUM and check whether it is PALINDROME or NOT. [7M]
 b) Explain about different bit-wise operators with examples. [7M]

UNIT-III

5. a) Write a C program that: [8M]
 i. Implements string copy operation STRCOPY (str1, str2) that copies a string str1 to another string str2 without using library function.
 ii. Reads a sentence and prints frequency of each of the vowels and total count of consonants.
 b) Explain the utility of 'typedef' keyword. Write a program to illustrate it. [6M]

(OR)

6. a) Explain array of structures and structure within a structure with examples. [7M]
 b) Write a 'C' program to remove duplicate elements from a given array. [7M]

UNIT-IV

7. a) What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C. [7M]
 b) Explain different arithmetic operations that can be performed on pointers with examples. [7M]

(OR)

8. a) Write a C program to swap two numbers using call by pointers method. [7M]
 b) Discuss applications of pointers in detail. [7M]

UNIT-V

9. a) Illustrate the character input/output functions with suitable examples. [7M]
 b) Give a recursive function for computing the n^{th} Fibonacci function. [7M]

(OR)

- 10 a) Discuss the various modes in which file can be opened with examples. [7M]
 b) How to declare a function and differentiate calling and called function? Explain with an example program. [7M]
