



B.Tech I Semester Regular/Supplementary Examinations, April 2022

C PROGRAMMING FOR PROBLEM SOLVING
(Common to ME,ECE,CSE,CSE(AI&ML),CSE(DS) and IT)

Maximum Marks: 70

Date: 07.05.2022 Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks

(10x2M=20 Marks)

- 1 State the Memory Hierarchy and Data Representation.
- 2 Write an algorithm to print the series: 1, 6, 4, 9, 7, 12, 10, 15, 13 n
- 3 Declare a float array of size 5 and assign 5 values to it.
- 4 Compare the various ways of initialization of string array.
- 5 How to use an address operator, dot operator and indirection operator?
- 6 Write a C program to check the given name is PALINDROME or not.
- 7 Write down the differences between structure and union with example.
- 8 What is the use of #define pre-processor directive?
- 9 Why do we require different modes of opening a file in C Program?
- 10 List out the positioning functions to handle various types of files.

Part-B

Answer All the following questions.

(5X10M=50Marks)

- 11 (a) Explain about different computer languages.
(b) What is Looping? How to use Looping for finding the biggest of n numbers. (5+5)

OR

- 12 (a) Perform the following:

(1) $(BED)_{16} = (?)_8$

(3) $(7557)_8 = (?)_{16}$

(2) $(1011.101)_2 = (?)_{10}$

(4) $(48)_{10} = (?)_8$

- (b) Write an algorithm to find the given number is Prime or not. (4+6)

- 13 Write a C program to perform matrix multiplication of nxn matrix. (10)

OR

- 14 Write a program to Run the following series,

$$S=1+x^1/1!+ x^2/2!+ x^3/3!+..... x^n/n!$$

(10)

Note : use function to find the factorial (! -factorial)

- 15 (a) Write a C program for sorting an array of integers, also print the smallest and largest element in the sorted array.
- (b) Write a C Program to copy and concatenate a string to another string variable without using string.h. (5+5)

OR

- 16 Write a program to search a number in a given set of unsorted array containing 'n' numbers using linear search method. (10)
- 17 What is a function in C? Write a C program to get a number and pass it to all the following functions and print the results.
- a) A function to find the number of Digits in the number and its sum. (5)
- b) A function to find power of a number. (Ex: $\text{power}(n,3) = n^3$) (5)

OR

- 18 Define a structure called cricket with player name, team name and batting average. Declare an array of players with 5 elements. Write a program to read the information about all the 5 players and print a team-wise list containing names of players with their batting average sorted based on their Batting Average. (10)

- 19 Write a C program to copy the contents of two files into the third file. (10)

OR

- 20 Write a C program to write a series of characters in to a file (where the file name is given by the user) and it will stop writing when the user press '#' key. (10)