



## B.Tech I Year I Semester Examinations, December 2019

### COMPUTER PROGRAMMING USING C

(Common to ECE & CSE)

**Maximum Marks: 70**

Date: 27.12.2019 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 Describe Memory Hierarchy and Data Representation.
- 2 Write an algorithm to print the Fibonacci series.
- 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 Design a C program to check the given name is PALINDROME or not.
- 7 Elaborate 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.

(10M X 5=50Marks)

- 11 (i) Explain in detail with neat diagram about the digital computer organization and each of its unit. (5M)  
(ii) What is Looping? How to use Looping for finding the biggest of n numbers. (5M)  
OR
- 12 (i) Perform the following: (6M)  
(1)  $(BED)_{16} = (?)_8$   
(2)  $(1011101)_2 = (?)_{10}$   
(3)  $(7557)_8 = (?)_{16}$   
(4)  $(48.72)_{10} = (?)_8$   
(ii) Write an algorithm to find the given number is Prime or not. (4M)
- 13 Write a C program to find whether the given 9x9 matrix satisfies the conditions of SUDOKU. (10M)

OR



- 14 Write a program to Run the following series, (10M)  
 $S=1+x^1/1!+x^2/2!+x^3/3!+.....x^n/n!$   
 Note : use function to find the factorial (! –factorial)
- 15 (i) Write a C program for sorting an array of characters in a string. Also print the Smallest and Largest element in the sorted array. (5M)  
 (ii) Write a c Program to copy and concatenate a string to another string variable without using string.h. (5M)
- OR
- 16 Write a program to search a number in a given set of unsorted array containing 'n' numbers. (10M)
- 17 (a) 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.  
 i. A function to find the number of Digits in the number and its sum. (4M)  
 ii. A function to find power of a number. (Ex: power(n,3) =  $n^3$ ) (4M)  
 iii. A function to find the denomination of that number in terms of Indian currency. (2M)
- OR
- 18 a) Consider the function to find average, findavg(), which takes an array as an argument and based on the passed arguments and it returns the average of the numbers passed through the array, write a C code for the above. (8M)  
 b) Discuss about the command line arguments.(2M)
- 19 a) 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. (5M)  
 b) Write a C Program to implement stack using arrays. (5M)
- OR
- 20 a) 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. (5M)  
 (b) Write a C program for menu driven simulation of ATM Transactions with 3 Users. Create Individual functions for Operations such as Verify Card, Verify PIN, Check Balance, Withdraw Money. (5M)