

**I B. Tech I Semester Supplementary Examinations, July/August- 2021**  
**COMPUTER PROGRAMMING**

(Com. to CE,ME,CSE,PCE,IT, Chem. E, Aero E, AME, Min E, PE, Metal E, Textile Engg)

Time: 3 hours

Max. Marks: 70

- Note: 1. Question paper consists of two parts (**Part-A** and **Part-B**)  
 2. Answering **ALL** the questions in **Part-A** is Compulsory  
 3. Answer any **THREE** Questions from **Part-B**

**PART -A**

1. a) How the precedence and associative rules of operators help in executing a 'C' expression? (4M)
- b) Where 'do-while' loop is more appropriate than 'while' loop? Explain with an code snippet. (4M)
- c) How Pass by reference parameter passing technique is implemented in C programming. (4M)
- d) Explain the difference between char \*S and char S[]. (4M)
- e) Write a C code snippet to illustrate an array of Pointers to Structures. (3M)
- f) Write about different file opening modes in C. (3M)

**PART -B**

2. a) Write an algorithm to check whether the given number is an Armstrong number or not. (8M)
- b) What are Relational Operators? What is the result of a relational operator? Explain with a sample 'C' program. Give their procedure also. (8M)
3. a) Write a C program to input month number and display number of days in a month (8M)
- b) Write a C program to generate Pascal's triangle. (8M)  
 Hint: The pattern for Pascal's triangle of 4<sup>th</sup> rows can be observed as given below.  

```

1
1 1
1 2 1
1 3 3 1

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4. a) Write a C program to generate Fibonacci series using recursive functions. (8M)
- b) What does a storage class mean in C language? Explain in detail about various types of storage classes available in C. (8M)
5. a) Write a C program to sort a set of strings in alphabetical order using pointers. (8M)
- b) What is meant by Dynamic memory allocation in C language? Discuss the advantages and disadvantages of dynamic memory allocation. List the functions/operators available for it. (8M)
6. a) How to pass structure variable to a function? Illustrate with an example. (8M)

- b) Explain the differences between Structures and Unions in C language. And demonstrate the memory allocation strategy for Unions and Structures in C programming. (8M)
7. a) Explain the following file handling functions in C programming. (8M)  
(i) fopen() (ii) fseek() (iii) fwrite()
- b) Write a program to read numbers from a file and write even, odd and prime numbers to separate file. (8M)