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Roll No. :

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B. E. (Third Semester) Examination, April-May 2021

(New Scheme)

(IT Engg. Branch)

PROBLEM SOLVING & LOGIC BUILDING using C

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) of each question is compulsory carrying 2 marks. Attempt any two parts from (b), (c) & (d) of each question, carrying 7 marks.

Unit-I

1. (a) Write any two difference between compilers and interpreters. 2
- (b) What is a data type? Explain different data types in detail with examples. 7

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- (c) Explain the use of printf and scanf functions. Write a program in C to find the area and perimeter of a circle. 7
- (d) What is ternary operator? Write C program to find maximum of two numbers using ternary operator. 7

Unit-II

2. (a) Differentiate between break and continue with example. 2
- (b) What are different types of loops? Design and develop a C program to read a year as an input and find whether it is leap or not. 7
- (c) Explain the switch statement with syntax and example. 7
- (d) What is an array? Write a 'C' program to multiply 2 Matrices. 7

Unit-III

3. (a) Differentiate calloc() and malloc(). 2
- (b) What is the difference between Call by Value and

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- Call by Reference? Write a C program to illustrate call-by-value parameter passing technique. 7
- (c) What is a preprocessor directive? Explain any three preprocessor directives used in C. 7
- (d) Define Recursion. What are its advantages? Write a C program to calculate factorial using recursion. 7

Unit-IV

4. (a) What is the difference between structure and union. 2
- (b) Explain any five string manipulation library functions with examples. 7
- (c) Write a C program to read and display student details using structure. 7
- (d) Explain the following : 7
- (i) Nested structures
 - (ii) Array of structures

Unit-V

5. (a) What is the use of fgets and fputs. 2

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- (b) Write the syntax for opening a file with various modes and closing a file. 7
- (c) Explain the following file handling functions : 7
- (i) fseek()
 - (ii) ftell()
 - (iii) rewind()
 - (iv) feof()
- (d) Write a program in C that reads the name of a file and displays the contents of the file on the user screen. 7