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B. E. (Third Semester) Examination, April–May 2020

(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 and carries 2 marks. Attempt any **two** parts from (b), (c) and (d) of each question and each part carries 7 marks.*

Unit-I

1. (a) What symbols is used to add comment in a C program?   2

   (b) Briefly describe the evolution of "C" as a Programming language.   7

   (c) Discuss the all types of constant in C with suitable example.   7

(d) Write a program to check whether entered year is leap year or not using conditional operator. 7

Unit-II

2. (a) Find out the output of following code. 2

```
void main ( )
{   int i = 1;
for ( ;i++<10; );
printf("output: %d",i);   }
```

(b) Write the program to print the following patterns : 7

```
            1
        2       2
    3       3       3
  4     4     4     4
5     5     5     5     5
  4     4     4     4
    3       3       3
        2       2
            1
```

(c) A library charge a fine for every book returned late. For 5 days the fine is 50 paise, for 6-10 days fine one rupees and above 10 days fine is five rupees. If you return the book after 30 days your membership

will be cancelled, write a program to accept the number of days the member is late to return the book and display the fine or the appropriate message. 7

(d) Write a program to find greatest common factor of two entered no. also draw a flow chart of a program. 7

Unit-III

3. (a) Which header file is needed to perform string operation? 2

(b) What is a String? How are they declared? Write a program to copy one string to another without using the standard library functions. 7

(c) Write a program to generate series of even numbers for desired range using recursion function and also find the sum of all even numbers. 7

(d) Write a program to find the percentage of marks obtained by a student in 6 subjects. Marks are to be stored in an array and the calculation of percentage is to be done through a function. 7

Unit-IV

4. (a) What is Wild pointer? 2

(b) Describe the way to declare pointer and its types. Also write the advantages of using pointers in a C program. 7

(c) Write a program to swap or interchange two integer numbers by using third variable through Pointer. 7

(d) Write a program to concatenate two strings using Pointer. 7

Unit-V

5. (a) What is the significance of fclose() function? 2

(b) Write the differences between structures and arrays. 7

(c) Write a program to create a text file, fill the text file with characters input from the keyboard and show the contents of the text file. The old contents of the file should not get deleted. 7

(d) Write a program to define a structure address that will contain House no, Colony and city as address. Now define another structure person that will contain name, age and a variable type's address as members. Take the details of a person as input from the user and print it. 7