

I B. Tech I Semester Supplementary Examinations, August/Sep– 2022
PROGRAMMING FOR PROBLEM SOLVING USING C

(Common to EEE, ME, ECE, CSE, CSE-CS&T, EIE, IT, ECT, Auto Eng, Min Eng, Pet Eng, CSE-AI&ML, CSE-AI, CSE-DS, CSE-AI&DS, CSE-CS, CSE-IOT & CS Incl BCT, CSE-CS & BS, CSE-IOT, Food Eng, AI&DS)

Time: 3 hours

Max. Marks: 70

Answer any five Questions one Question from Each Unit
All Questions Carry Equal Marks

UNIT-I

(7M)

1. a) How are negative values stored in the memory in C programming? Explain. (7M)
- b) What is a constant? How is it different from a variable? Justify with suitable Example. (7M)

Or

2. a) What do you mean by Formatted Input? Explain in detail the prototype of 'scanf' function in C programming, including its argument list and return type. (7M)
- b) How the precedence and Associativity rules of operators help in executing a 'C' expression? Explain with an example. (7M)

UNIT-II

3. a) Write a C program to find sum of following series where the value of N is taken as input (7M)
 $1 + 1/2 + 1/3 + 1/4 + 1/5 + \dots 1/N$
- b) Is 'break' needed in every case of switch statement? Give explanation. (7M)

Or

4. a) What are Control statements? Explain about the various Control statements in C programming. (7M)
- b) What is the output of the following C code? Give Explanation. (7M)

```
#include <stdio.h>
int main ()
{
int a = 1, b = 2, c = 3;
if (c > b > a)
printf("TRUE");
else
printf("FALSE");
return 0;
}
```

UNIT-III

5. a) Explain the differences between Structures and Unions in C language. And demonstrate the memory allocation strategy for Unions and Structures in C programming. (7M)
- b) Write a C program to print Largest and Smallest Word from a given sentence. If there are two or more words of same length, then the first one is considered. A single letter in the sentence is also consider as a word. (7M)

Or

1 of 2



6. a) Explain the memory representation of one- and two-dimensional arrays in C programming with neat diagrams. (7M)
- b) Write the syntax to define Union? List out the advantages and disadvantages of using Unions. (7M)

UNIT-IV

7. a) What is the main use of function pointer in C? How do you declare a function pointer? Explain. (7M)
- b) Write a C program to access the values of an array of characters using pointer. (7M)

Or

8. a) Explain in detail about the types of C preprocessor directives. (7M)
- b) Assume size of an integer and a pointer is 2 byte. Find the output of the following C code and also give Explanation. (7M)

```
#include <stdio.h>
#define A 5
#define B 7
int main ()
{
int (*x)[A][B];
printf("%d", sizeof(*x));
return 0;
}
```

UNIT-V

9. a) How to pass an array to a function in C programming? Explain. (7M)
- b) Write a C program to generate Fibonacci series using recursive functions. (7M)

Or

- 10 a) Illustrate the functions for character input and output in C programming. (7M)
- b) Explain the following file handling functions in C programming (7M)

i) fopen() ii) fseek() iii) fwrite()