VR20 Reg. No: | | | | | | | | | | |

VELAGAPUDI RAMAKRISHNA

SIDDHARTHA ENGINEERING COLLEGE

(AUTONOMOUS)

I/IV B.Tech. DEGREE EXAMINATION, FEBRUARY, 2023

First Semester

20ES1103 PROGRAMMING FOR PROBLEM SOLVING

(All Branches)

Time: 3 hours ***Max. Marks: 70***

Part-A is compulsory

Answer One Question from each Unit of Part - B

Answer to any single question or its part shall be written at one place only

PART-A

10 x 1 = 10M

1. a. Name the important constructs upon which structured programming is built. **(CO1 K1)**

   b. What are the different types of language processors. **(CO1 K1)**

   c. Mention the major benefits of step wise refinement as a design technique. **(CO1 K2)**

   d. Define a constant. **(CO2 K1)**

   e. Summarize the advantages of Arrays. **(CO2 K2)**

   f. Differentiate while and do-while statements. **(CO2 K2)**

   g. What is Lvalue and Rvalue? **(CO3 K1)**

   h. Define a pointer. **(CO3 K1)**

   i. How to declare an enumerated type? **(CO4 K2)**

   j. List out the different modes of opening a file. **(CO4 K1)**

PART-B

4 x 15 = 60M

UNIT-I

2. a. Demonstrate the usage of various problem solving strategies. **(CO1 K2) 8M**

   b. Interpret the algorithm for finding the largest number in an array. **(CO1 K3) 7M**

(or)

3. a. Analyze the languages and programs related to programming environment in detail. **(CO1 K4) 8M**

   b. Define flowchart. Draw a flowchart to calculate the sum of n natural numbers, where n is a value supplied by the user. **(CO1 K1) 7M**

UNIT-II

4. a. Classify and describe the various data types available in C language. **(CO2 K2) 7M**

   b. Illustrate the selection statements with syntax and examples. **(CO2 K2) 8M**

(or)

5. a. With syntax and suitable examples, discuss the concept of storage classes in C. **(CO2 K2) 8M**

   b. Develop a C program to perform multiplication of two matrices after checking the basic conditions related to matrix multiplication. **(CO2 K3) 7M**

UNIT-III

6. a. i) Write a program in C to find the length of a string without using library function.
   ii)Write a program in C to compare two strings without using string library function. **(CO3 K3) 8M**

   b. Explain the procedure for passing an array to a function and pointer arithmetic. **(CO3 K2) 7M**

(or)

7. a. Assess the parameter passing mechanism in C with example. **(CO3 K4) 7M**

   b. List out the string handling functions and discuss any five string handling functions with suitable examples. **(CO3 K2) 8M**

UNIT-IV

8. a. Show the difference between a structure and union with a suitable example. **(CO4 K3) 8M**

   b. Examine the usage of command line arguments with a suitable example. **(CO4 K2) 7M**

(or)

9. a. Why are files required in C language? Assess the file input and output functions in C? **(CO4 K4) 8M**

   b. Outline the declaration, initialization and accessing of the structures. **(CO4 K1) 7M**

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