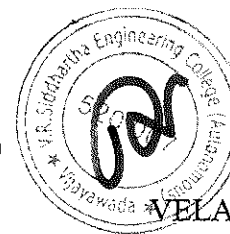


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VELAGAPUDI RAMAKRISHNA  
**SIDDHARTHA ENGINEERING COLLEGE**  
(AUTONOMOUS)

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*

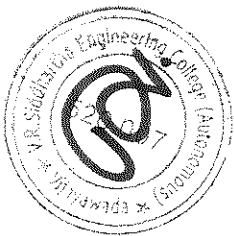
*Answer One Question from each Unit of Part - B*

*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)



**20ES1103**

**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)

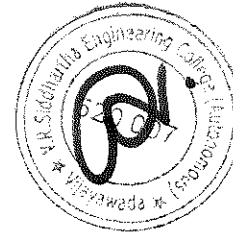
3. a. Analyze the languages and programs related to programming environment in detail. (CO1 K4) 8M  
b. Define flowchart. Draw a flowchart to calculate the sum of n natural numbers, where n is a value supplied by the user. (CO1 K1) 7M

**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



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**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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