D 13114   (Pages : 2)   Name..

                                                   Reg. No................................

FIRST SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, NOVEMBER 2021

(CBCSS)

Computer Science

CSS 1C 04—THE ART OF PROGRAMMING METHODOLOGY

(2019 Admission onwards)

Time : Three Hours   Maximum : 30 Weightage

General Instructions

1. *In cases where choices are provided, students can attend* **all** *questions in each section.*

2. *The minimum number of questions to be attended from the Section / Part shall remain the same.*

3. *The instruction if any, to attend a minimum number of questions from each sub section / sub part / sub division may be ignored.*

4. *There will be an overall ceiling for each Section / Part that is equivalent to the maximum weightage of the Section / Part.*

Part A

I. Short Answer Type Questions. Answer any *four* questions :

    1   Distinguish between *strcpy()* and *strncpy ()* functions with example.

    2   Write a function to remove the occurrences of the word "the" from a given text.

    3   Differentiate between "call by value" and "call by reference".

    4   Write a function to find the length of given string excluding the vowels.

    5   Distinguish between continue and goto statements.

    6   Illustrate with an example how array elements are accessed with pointers.

    7   What is a preprocessor directive ? Give one example.

                                                   (4 × 2 = 8 weightage)

                                                   Turn over

II.   Short Essay *or* Problem Solving Type. Answer any *four* questions :

    8   Discuss scope and lifetime of variables citing suitable examples.

    9   Write a program to enter text through keyboard. Capitalize each word (change first letter of each word to capital) and display the text.

   10   Illustrate with suitable examples : 'Syntax error', 'Run-time Error' and 'Logical error'

   11   Explain Union with suitable example.

   12   Write a program to count the occurrence of digits 0 to 9 in a list of integers from 1 to n (n is given as input). Example if $n = 25$, the output should be : Count of 0 = 2, Count of 1 = 12 and so on.

   13   Compare switch and if statements.

   14   Write a note on Macros.

(4 × 3 = 12 weightage)

III.   Long Essay Type Questions. Answer any *two* questions :

   15   Write a program to convert a decimal number into an equivalent Hexadecimal number.

   16   Write a program to accept a few lines of text, convert it to uppercase and store it in a file called *uppertxt.dat*.

   17   Given a 4 × 4 matrix of 0s and 1s. Assume that the first two columns represent the two inputs to a logic function and the third, the output (Truth Table). Write a function to read the matrix and identify whether the function is AND, OR, XOR or XNOR.

   18   Describe operators in C and their precedence. Illustrate precedence and associativity with examples. Comment on explicit and implicit type conversions in expressions.

(2 × 5 = 10 weightage)