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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)