MCA (Sem. - 1ˢᵗ)

PROGRAMMING IN C

SUBJECT CODE : MCA - 102(N2)

Paper ID : [B0102]

[Note : Please fill subject code and paper ID on OMR]

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Time : 03 Hours

Maximum Marks : 60

Instruction to Candidates:

1) Attempt any one question from each Sections - **A, B, C & D.**

2) Section-E is **Compulsory.**

3) Use of Non-Programmable **Scientific Calculator** is allowed.

Section - A   [1 x 10 = 10]

Q1) What do you mean by the terms algorithm and flowchart? Illustrate their use with the help of suitable examples?

Q2) List and explain different types of data types in C? Also differentiate between signed and unsigned data types with reference to range of memory they occupy?

Section - B   [1 x 10 = 10]

Q3) What are functions? Differentiate between call by value and call by reference with the help of suitable examples?

Q4) Write a C program to multiply two matrices and also multiply the resultant matrix with third matrix?

Section - C   [1 x 10 = 10]

Q5) Write a program that reverses the elements of a given array using pointer parameters?

Q6) Differentiate and compare the working of an array, structure and a union with the help of suitable examples?

Q7) Write a program that compares two files and returns 0 if they are equal and 1 if they are not.

Q8) What do you mean by dynamic memory allocation? Explain the working of following functions with the help of suitable examples :
- Malloc ( )
- Calloc ( )
- Free ( )
- Realloc ( )

Section - E   **[10 x 2 = 20]**

Q9)

- a) What are enumerated data types?
- b) What is sorting?
- c) What is the role of header files?
- d) What do you mean by operator and operand?
- e) List various standard I/O functions used in C language?
- f) What do you mean by conditional statements?
- g) What do you mean by prototype?
- h) List the various string operations.
- i) What is the role of return statement?
- j) What do you mean by recursion?

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