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MCA 1st Semester Examination

Programming Methodology C & C++ (N.S.)

MCA-101

Time : 3 Hours **Max. Marks : 60**

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Select one question from Section A, B, C and D. Section E is compulsory

SECTION - A

1. Explain the various Library functions in C & C++. Write a Program in C to check a year is Leap year or Not. Discuss various types of Data types used in both C & C++. **(12)**

2. What are Top Down and Bottom Up approaches? Explain with the Basic flow diagram and give examples of each. Discuss the differences between Assembler, Compiler and Interpreter. **(12)**

SECTION - B

3. What are Control Structures? Discuss the Break and Continue statements with any programming example. **(12)**

4. Explain the putch(), getch() and return() statements. Write a program of Palindrome. **(12)**

SECTION - C

5. Discuss the Arrays and Pointers . Write a program in C++ “Multiples of Two Matrices using pointer Notation”. **(12)**

6. Explain the differences between Linked lists and pointers. Write any program to declare the Marks of 10 Students of three various subjects through. Also, mark the grades such as 'A', 'B', 'C' and 'Fail' for some defined conditions and assume the conditions. **(12)**

SECTION - D

7. Write a program to calculate the Student's Library Book record such as Issue books, maximum Issue books, Return Books (Returned or Not), Balance Record of individual students, etc, by using structures. **(12)**

8. What is a File? Discuss file handling features and its advantages. Also, Write a program which creates a file and write strings to it and read its contents back from this file. **(12)**

SECTION - E

9. Define the following:

   (a) Data Types

   (b) 'long int' and 'Short int'

   (c) Malloc()

   (d) Recursion.

   (e) Relational operators.

   (f) Local and Global Variables.

   (g) Define Data Files

   (h) Linear Array

   (i) Compiler

   (j) High level language

   (k) Float and Double

   (l) Break statement **(12)**