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Total No. of Questions : 09] [Total No. of Pages : 02

MCA (Sem. - 1st)

PROGRAMMING IN C

SUBJECT CODE : MCA - 102(N2)

Paper ID : [B0102]

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

Time : 03 Hours **Maximum Marks : 60**

Instruction to Candidates:

1) Attempt any one question from each Sections **A, B, C,** and **D.**
2) Section - E is **Compulsory.**
3) Use of Non-programmable **Scientific Calculator** is allowed.

Section - A

(1 × 10 = 10)

Q1) Discuss the generalized methodology involved in the problem solving.

Q2) What is the range of various data types? Discuss the primary data types in detail.

Section - B

(1 × 10 = 10)

Q3) (a) Write a program in C to sort integer elements of one dimensional array in ascending order.

(b) List few conditional compilation directives and their functionality.

Q4) (a) Write a function that interchange and prints the value of two integers A and B without using any extra variable.

(b) Define recursion.

Section - C

(1 × 10 = 10)

Q5) (a) What are the two common ways of selecting array elements for processing.

(b) Differentiate between dynamic and non dynamic data structures.

Q6) (a) Explain with example the relationship of one dimensional array with pointers.

(b) Define enumeration.

Section - D

(1 × 10 = 10)

Q7) What is meant by random file access? How C implements the concept of random file access.

Q8) (a) Write the algorithmic steps for searching a binary search tree.

(b) Differentiate between exchange selection sorting and selection sorting.

Section - E

(10 × 2 = 20)

Q9)

a) Compiler.

b) Recursive algorithm.

c) Bitwise operators.

d) Difference between a string and a character.

e) Function prototype.

f) The functions related to the header file time.h.

g) Pointer arithmetic.

h) Example of function returning pointer.

i) Need of structure initialization.

j) Difference between fseek() and ftell().