MCA (Sem. - 1st)
PROGRAMMING IN C
SUBJECT CODE : MCA - 102
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 & D**.

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

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

Section - A

(1 × 10 = 10)

Q1) Can we store integer values and floating point values in the same array? If yes, how? If not, why not?

Q2) Write a program to generate the Fibonacci series.

0 1 1 2 3 5 8.......upto n terms.

Section - B

(1 × 10 = 10)

Q3) What are the different ways to pass a structure to a function? How do functions help to reduce the program size?

Q4) Differentiate between user defined functions and library defined functions? Write a program to multiply two matrices of the order 3x3.

Section - C

(1 × 10 = 10)

Q5) Write a program to copy the contents of one file to another. Making use of command line arguments, get the name of both the files from the user.

Q6) Write a program to swap two variables without using third variable.

Section - D

(1 × 10 = 10)

Q7) Differentiate between :

(a) Iteration and Recursion,

(b) Call by value and Call by reference.

Q8) Write a program that sorts an array using bubble sort method.

Section - E

(10 × 2 = 20)

Q9)

a) What is the time complexity of bubble sort?

b) What is difference between assignment operator(=) and equality operator(==)?

c) How many steps will it take to sort following sequence using selection sort : 8, 17,5, 10, 12, 11, 87, 56 ,29, 91

d) How many steps will it take to sort following sequence using linear sort: 8, 17, 5, 10, 12, 11, 87, 56, 29, 91

e) What is the size consumed by following pointer variables: int *t ; float *p;

f) What are the major features of structured languages?

g) What is the use of command line arguments?

h) What is the difference between an algorithm and a flowchart?

i) What is the difference between high level and a low level language?

j) Consider a pointer declaration int i=5, *p; p=&x;

Is p − −; a valid statement, justify.

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