COMPUTER APPLICATION

Paper : MCA 102
(Computer Programming and Problem Solving)

Full Marks: 60
Pass Marks: 27
Time : 3 Hours

The figures in the margins indicate full marks for the questions.

1 Answer the following: 2 x 5 = 10

(a) What does data type of a variable signify?

(b) What is flowcahrt? Why is it used?

(c) What is type conversion?

(d) What is the difference between break and continue statements?

(e) What is null pointer?

2 Answer the following: 4 x 5 = 20

(a) List qualities and capabilities of good algorithms.

(b) Explain with example how an array of strings in stored in memory.

(c) Given a number m, devise an algorithm to compute its reverse.

(d) Write an algorithm and a C program to calculate *pow(x,n)*, i.e., to calculate x^n.

(e) Design an algorithm to find the sum of the digits of an integer.

3   Answer the following: 5 x 6 = 30

(a) Let a = 1, b = 1 and c = 0. What is the value of a, b, c after executing the following code:

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if (c > a || b >= c && c ==1)
if (c && b) b = 1; else a = 1;
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(b) With the help of syntax and example, explain the strpcy() and strcmp() functions.

(c) Write a C program to enter a decimal number and then calculate its binary equivalent.

(d) Write th differences between call by value and call by reference.

(e) Write a C program to print the diagonal elements of a given matrix

(f) Write a C program to find the sum of the following series:

$$s=1/2 + 2/3 + ...+ n/(n+1)$$

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