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Roll No. 14DCS0050.....

Code No. : DCO-205

**Diploma in Computer Engg. (Day), Semester-II (Theory), Examination, 2015**

**Programming in C**

**Paper No. : DCO-205**

**Time : 3 Hours**

**Maximum Marks : 60**

*(Write your Roll No. on the top immediately on receipt of this question paper.)*

**Note :** Attempt any two parts from each question.

1. (a) Write and explain the basic concepts of a C program. (6×2=12)  
(b) Draw a flowchart and develop a C program to read a year as an input and find whether it is leap year or not.  
(c) What is an algorithm ? Write an algorithm for comparing 3 numbers and display the largest number.
2. (a) What is an operator ? Explain the arithmetic, relational, logical and assignment operators in C Language. (6×2=12)  
(b) What is a datatype ? Explain different datatypes in C.  
(c) Explain the switch statement with syntax and example.
3. (a) Explain the syntax of functions. Explain user defined and library functions of 'C'. (6×2=12)  
(b) Explain any three string manipulation library functions with examples.  
(c) Write a Program in C to read a string and count number of vowels in it.

**(P. T. O.)**

4. (a) What is an array ? Explain the declaration and initialization of one and two dimensional arrays with example.
- (b) Write a program in C to read a  $5 \times 4$  matrix and calculate the sum of all the elements of the matrix.
- (c) Write a program in C to print any one of the following pattern :

(i)      5      4      3      2      1

3      2      1

1

2 3

7      8      9      10

5. (a) What is a pointer? Explain how the pointer variable is declared and initialized.

- (b) What is a structure ? Explain the syntax of structure declaration with example.