Reg. No.

Question Paper Code : **11166**

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2016

First Semester

Civil Engineering

CS1101 – FUNDAMENTALS OF COMPUTING AND PROGRAMMING

(Regulation 2008)

Time : Three Hours   Maximum : 100 Marks

Answer ALL questions.

PART – A (10 × 2 = 20 Marks)

1. List the components of a computer system.

2. Explain the various types of software.

3. Convert the following into Decimal.

   (a) $773_{(8)}$ (b) $6BA_{(16)}$

4. Define 1's complement and 2's complement.

5. What is the difference between volatile and non-volatile memory ?

6. What is application software ? Give example.

7. Describe the common types of networks.

8. How is the modem work ?

9. Correct the error, if any, otherwise give the output of the following 'C' program :

Main ( )

{

        int a, b = 5, c = 2;

        a = b ++ c;

        print f("a is %d", a);

}

10. What is the use of including 'conio.h' in a 'C' program ?

PART – B (5 × 16 = 80 Marks)

11. (a) Define computer ? Discuss in detail about block diagram of a computer with neat diagram. **(16)**

OR

    (b) What is binary digit ? Explain in detail about basic logic operations. **(16)**

12. (a) Convert the following numbers from the given base to the base indicated :

      (i) Decimal 225.225 to binary and octal. **(4)**

      (ii) Octal 623.77 to binary, decimal and hexadecimal. **(6)**

      (iii) Hexadecimal 2AC5.D to decimal, octal and binary. **(6)**

OR

    (b) (i) Simplify the following Boolean function :

        $F(A, B, C, D) = \Sigma (0, 1, 2, 5, 8, 9, 10)$ in (1) sum of products and (2) product of sums. **(4)**

      (ii) Perform the arithmetic operations :

        $(+42) + (-13)$ and

        $(-42) - (-13)$ in binary using

        (1) sign 1's complement representation

        (2) sign 2's complement representation **(6)**

(iii) What is the range of numbers that can be accommodated in a 16 bit register when the binary numbers are represented in sign magnitude ?

Give the answer in equivalent decimal representation. (6)

13. (a) What are input devices and output devices ? Briefly explain some popular input device and various types of output devices. (16)

OR

(b) (i) Describe the architecture of UNIX operating system. (6)

(ii) Specify the significant features of windows vista operating system. (6)

(iii) Write the applications of MS Word system. (4)

14. (a) (i) Explain in detail about Broadband Connection. (8)

(ii) Describe different types of network structures. (8)

OR

(b) (i) Describe about the Cable Modern Connections with Diagram. (8)

(ii) Write briefly about network hardware. (8)

15. (a) (i) Write a 'C' program for multiplying two matrices. (8)

(ii) Explain the concept, 'call by reference' with a programming example. (8)

OR

(b) (i) Write a 'C' program for customer purchase billing using the 'structure' concept. (8)

(ii) Explain recursion with suitable example. (8)