ASSIGMENT 1: NUMBER SYSTEM

1. Convert the following Numbers as directed:

   (1) $(52)_{10} = (\ )_2$ (2) $(101001011)_2 = (\ )_{10}$

   (3) $(11101110)_2 = (\ )$ (4) $(68)_{10} = (\ )_{16}$

2. Define: Digital System.

   Convert following Hexadecimal Number to Decimal : B28, FFF, F28

   Convert following Octal Number to Hexadecimal and Binary: 414, 574, 725.25

3. Explain with figures how NAND gate and NOR gate can be used as Universal gate.

4. Draw the logic symbol and construct the truth table for each of the following gates.

   [1] NAND gate [2] NOR gate [3] AND gate [4] OR gate

   [5] EX-NOR gate [6] NOT gate

5. Add $(28)_{10}$ and $(15)_{10}$ by converting them into binary.

   Perform $(28)_{10}$ and $(15)_{10}$ using 6 bit 1's complement