Test 1 (set C)

Subject : Digital Logic[CSC 1111]

Full Marks : 20

Pass Marks : 10

Attempt all questions :

1. Subtract the following using 2's complement.

   $(1000)_2 - (1001)_2$

2. Convert the given binary number into Gray code and Excess-3 code.
   $(1110001)_2$
3. Convert the given decimal number in binary.
   -15/16
4. if A + B = 1 and A . B = 0 prove the given Boolean algebra.
   (A + C).(A' + B).(B+C) = B.C
5. What is Duality theorem? Prove the following using Duality theorem and Boolean law.
   AB + A'C + BC = (A+B)(A'+C)
6. What is Don't care condition? Prove the following Boolean Algebra.
   (A + B).(A'+ C) = AC + A'B
7. Express the given function in Sum of Minterms and obtain the simplified Boolean expression for the given function using K-map.
   F(A,B,C,D) = A'B'C' + B'CD' + A'BCD' + AB'C'

Note : Preference will be given to those who use their own understanding with good logic.

Best of luck guys.