**CLASS TEST**

**DIGITAL ELECTRONICS**

**SEM-3RD SEM, BRANCH-COMPUTER SCIENCE**

1. **SHORT QUESTIONS**

**FULL MARK-20**

1. Find 2’s complement of binary number 11001011?
2. Convert the following binary Numbers into Gray codes

i. 1101011 ii. 100010110

1. State Demorgan’s theorem?
2. Write down the truth table of EXNOR Gate?
3. Convert (101011110.1011)2 into octal & hexadecimal numbers?
4. **LONG QUESTIONS (ANSWER ONLY TWO)**
5. Which Gates are referred to as universal gate and why? How other Gates can be implemented by using universal Gate?
6. Simplify the following function using K-MAP & implement the obtained circuit using NAND GATE? F(A,B,C,D)=Σ m(0,1,2,4,5,6,8,9,12,13,14)
7. Simplify the following function using K-MAP & implement the obtained circuit using NAND GATE? F(A,B,C,D)=Σ m(1,3,7,11,15) + d(0,2,5)