

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- September 2018

B.Tech III Semester (CSE, IT)

COURSE CODE: 10B11EC401

MAX. MARKS: 15

COURSE NAME: DIGITAL ELECTRONICS

COURSE CREDITS: 04

MAX. TIME: 1Hr

*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

1. a) Convert decimal 856 in BCD and Excess Three.  
b) Encode data bits 1010 into 7-bit ODD PARITY Hamming code.  
c) The message 1110110 coded in the 7-bit Hamming code is received through a noisy channel. Decode the message using EVEN PARITY and correct the error.  
[CO2] [2+1.5+1.5=5]
2. a) For given function  $f(A, B, C, D) = \overline{A}B + \overline{A}CD + \overline{B}CD + B\overline{C}\overline{D}$ , find the Max-terms.  
b) Reduce the expressions using Boolean Theorems specifically  
$$A + B[AC + (B + \overline{C})D]$$
  
[CO1] [2.5+2.5=5]
3. Subtract  $73_8$  from  $25_8$  using  
a) 7's complement method  
b) 2's complement method  
c) Verify by direct subtraction  
[CO1, CO2] [5]