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BIEE-017

01531

B.TECH.-ELECTRICAL ENGINEERING

Term-End Examination

December, 2013

BIEE-017 : DIGITAL ELECTRONICS

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt **any seven** questions as the following. Assume the missing data if **any**.*

1. Derive the Boolean expression for a two input Ex-NOR gate to realize with two input NOR gates, without using complemented variables and draw the circuit. **10**

2. Expand the Boolean expression $A(\overline{A} + B)(\overline{A} + B + \overline{C})$ to mini terms. **10**

3. Reduce the expression $f = TTM(0, 1, 2, 3, 4, 7)$ using K - map and implement it in NOR logic. **10**

4. What is full subtractor ? Design a full subtractor and discuss with an example. **10**

5. Implement the logic function : $F = A \oplus B \oplus C$, using a 8×1 MUX **10**

6. What are flip-flops ? Explain the working of S-R flip flop in detail. **10**

7. What is race around condition in flip-flop ? Discuss the method to overcome the race around condition. **10**

8. Why 8085 microprocessor is called 8 bit microprocessor ? Explain the working of 8085 with a neat diagram. **10**

9. What are different addressing modes used in 8086 microprocessor ? Explain with examples. **10**

10. Write the short notes on **any two** of the following : **5x2=10**
    (a) BCD Adder
    (b) Counterx
    (c) Segment override prefix