S.B. Roll No……………………………………………

DIGITAL SYSTEM DESIGN
5th/EMP/0640/Nov'15

Duration 3 Hrs   **M.Marks=75**

SECTION A

Q1. Do as directed   **10x1.5=15**

    I. S/N ratio stands for _____
    II. SSI stands for _____
    III. Expand BCD?
    IV. Flip-flop is a _____
    V. Who defined the Boolean algebra?
    VI. Why D flip flop is called so?
    VII. Define clock.
    VIII. Write the names of any two sequential circuits.
    IX. Draw NOT gate using NAND gate.
    X. Write the truth table of T flip flop?

SECTION B

Q2. Attempt any FIVE Questions   **5x6=30**

    I. Design Full adder.
    II. Explain the different types of transmission media for interfacing with digital systems.
    III. How we can remove race round conditions?
    IV. What is the difference between synchronous and asynchronous sequential circuits?
    V. Discuss the spectrum analysis of analog signals.
    VI. Explain JK flip flop with truth table.
    VII. Discuss the hazards in details.

SECTION C

Q3. Attempt any THREE questions: **3x10=30**

    I. What are the various High Frequency problems in digital systems?
    II. Explain the Mealy and Moore Machines.
    III. Draw & explain the Universal Shift Register.
    IV. Write a note on: PAL, PLA & ROM.
    V. Design AND, OR & NOT gate using Universal gates.