VLSI DESIGN

Assignment -2

Short Question

1. Define controllability and observability with respect to testing
2. Distinguish between SRAM and DRAM.
3. Write down an expression for the maximum voltage gain available from a MOSFET.
4. What is cross talk, how to avoid it?
5. Write about the clocked CMOS logic and its usage.
6. Explain about the Wiring capacitance and its need.
7. Explain about the principle of Built in Self Test.
8. Draw the small signal model of the MOSFET

Long Question

1. Explain the schematic diagram of 6 T SRAM cell? Explain its write and read operation?
2. With the help of diagram explain the working of Manchester adder?
3. Why the chip testing is needed? At what levels testing a chip can occur?
4. Explain the working of clock based SR latch using CMOS logic?
5. Draw the small signal model for common gate amplifier and explain its characteristics?
6. Draw and explain the cascade current mirror circuit?
7. Explain the working principle of D flip flop using Transmission Gates.
8. Write short notes on scaling of MOS devices.