LDCO – ORAL Question Bank

Synchronous Counter

Q.1) What do you mean by Synchronous Counter?
Q.2) Differentiate Synchronous and Asynchronous counter.
Q.3) Design and implement 2 bit Synchronous UP Counter using f/f.
Q.4) Design and implement 2 bit Synchronous DOWN Counter using f/f.
Q.5) Give Applications of counters.
Q.6) Explain level triggered and edge triggered flip-flop.
Q.7) State advantages of Synchronous Counter.
Q.8) What is lock-out condition?
Q.9) Compare Counters and Registers.
Q.10) What is Decade counter?

Asynchronous Counter

Q.1) What do you mean by Counter?
Q.2) Which Flip-Flop's are normally used design a Counter & why?
Q.3) What do you mean by Asynchronous Counter?
Q.4) Explain MOD-N & MOD-NN Counter (IC 7490)
Q.5) Explain internal diagram of 7490.
Q.6) Why is input B connected to output QA.
Q.7) Draw circuit diagram of 3 bit up & Down Asynchronous Counter using Flipflop.
Q.8) What is glitch Problem?
Q.9) Design MOD-6 using T Flip-Flop &7490
Q.10) Draw Connection diagram of 7493

Multiplexer

Q.1) What is meant by Multiplexer?
Q.2) What is meant by Tree?
Q.3) Implement using 4:1 MUX F (A, B) = Summation (0, 2)
Q.4) Implement using 4:1 MUX & 8:1 MUX F (A, B,C) = Summation (0, 1,5,6)
Q.5) State Advantages of Multiplexer.
Q.6) Give applications of Multiplexer.
Q.7) Formula for finding No. of select lines in MUX is----------
Q.8) --------- data lines are required for selecting 8 inputs.
Q.9) --------- is also called as Selector.
Q.10) MUX improves reliability of digital system because it --------no. of external wired connections.

DeMUX

Q.1) Define Demux/Decoder.
Q.2) What do you mean by Demultiplexer Tree?

Q.3) Draw & Explain Logic diagram of Demultiplexer.
Q.4) Implement 8 bit Comparator using Decoder.
Q.5) Implement 3 bit odd & even parity generator using Decoder.
Q.6) Differentiate MUX & DEMUX.
Q.7) Demux has -------data input &--------output &----------select lines.
Q.8) 1:4 Demux has ----------input &----------output
Q.9) ----------circuit takes 1 input from source & distributes it to one of several output lines.
Q.10) ---------- is also called a Distributor.

BCD Adder

Q.1) What is BCD code?
Q.2) Compare BCD & Binary code?
Q.3) Show BCD addition of a) 3+5 b) 8+6 c) 8+9
Q.4) Explain how EX-OR gate is used to design 1's complement circuit.
Q.5) Give applications of BCD & Binary code.
Q.6) For converting invalid BCD to valid BCD---------is added to it
Q.7) Convert following to BCD,Binary,Excess-3 & Gray code.
a) 37 b) 18
Q.8) Draw the circuit for 9's Complementor.
Q.9) Draw circuit of BCD Subtractor.
Q.10) Which IC's are needed to design BCD Subtractor.