DELD Important Questions Exam Point of View
Unit III

1. Distinguish between combinational and sequential switching circuits also write examples of both.
2. Convert Following Flip flops:
   1. SR to T
   2. JK to D
   3. SR to JK
   4. JK to D
3. What is MOD counter? Design MOD - 24 counter using 7490
4. What do you mean by excitation table of flip flop? Write the excitation table of
   1. S-R flip flop
   2. J-K flip flop
5. With neat diagrams explain the working of the following types of shift registers
   1. Serial-in, serial-out
   2. Parallel-in, serial-out
6. Design sequence detector using MS JK flipflop for sequence 1101

Unit IV

1. Draw the state diagram, state table, and ASM chart for a 2-bit binary counter having one enable line E such that E = l counting enabled,and E = 0 counting disabled.
2. Implement following Boolean function using PAL **(Prepare PAL and PLA examples)**
   $Fl = \Sigma m\ (0,2,4,6,8,12)$
   $F2 = \Sigma m\ (2,3,8,9,12,13)$
   $F3 = \Sigma m\ (l,3,4,6,9,11,12,14,15)$
3. Draw a block diagram of the PLA device and explain.
4. With the help of a neat diagram, explain the working of two-input TTL NAND gate.
5. What is an ASM Chart? Name the elements of an ASM chart and define each of them.
6. Implement BCD to Excess-3 code converter using PAL.
7. **Implement 3 bit binary to gray code converter using PLA.**
8. What is the difference between PAL and PLA
9. Draw ASM chart for 2-bit UP counter using multiplexer controller method
10. What is an ASM Chart? Design the ASM chart for a 2-bit binary counter having one enable line E such that when: E = 1 (count enabled) and E = 0 (counting is disabled).
11. Implement 3 bit binary to gray code converter using PLA
12. A combinational Circuit is defined by the following function:
    1. $Fl = \Sigma m\ (0,1,3,7)$
    2. $F2 = \Sigma m\ (1,2,5,6)$
       Implement this circuit using PLA
13. What is ASM chart. Explain in detail ASM technique of designing the sequential circuit. What is the difference between ASM chart and conventional flow chart.

Unit V

1. With the help of a neat diagram, explain the working of two-input TTL NAND gate.
2. Draw and explain the circuit diagram of CMOS inverter.
3. Characteristics TTL logic Family
4. What is the advantage of open collector output? Justify your answer with suitable circuit.
5. Compare TTL and CMOS logic family

6. What is logic family? Give the classification of logic family and also write important characteristics of CMOS.
7. Draw CMOS-NOR Gate
8. Explain TTL open collector

Unit VI
1. Draw and explain the basic building of an ideal microprocessor based system with the help of neat diagram / Which are various functional units of microprocessors? Explain ALU in brief
2. What is system bus? Draw microprocessor bus structure and explain in brief.
3. Write a short note on ALU IC 74181 / How Basic Arithmetic operations are performed using ALU IC 74181
4. With the help of a block diagram explain the fundamental units of a microprocessor.
5. What is microprocessor? List different applications of microprocessor.
6. Explain Memory Organization of the Microprocessor
7. Explain the 4-bit Multiplier circuit using ALU and shift registers in brief
8. What is Microprocessor? Explain various operations of the microprocessor.