**Answer the following questions:-**

1.Differentiate between decoder and Demultiplexer?

2.How one can implement Inverter using EX-OR gate?

3.Suggest application of Half adder, Full adder, Decoder, Multiplexer & Comparator

4.How implement all gates using 2:1 MUX?

1. How Implement Half Adder using 2:1 MUX
2. MUX is called as universal logic circuit .Justify.
3. How MUX is worked as a parallel to serial converter
4. Can Demux be used as a logic element? If yes, what are its advantages over realization using gates?
5. What is decoder
6. Give applications of decoder
7. Design 64:1 multiplexer using 8:1 Mux.
8. Implement full adder circuit using multiplexer
9. Design 1:32 Demux using 1:4 Demux.
10. What do you mean by comparator
11. Explain the function table of 4-bit magnitude comparator IC 7485
12. Differentiate between concurrent and sequential statement
13. What are advantages of concurrent sequential statement?
14. Implement 4 bit comparator & simulate it
15. What is meant by counter?
16. Differentiate between Synchronous counter and asynchronous counter
17. A Synchronous counter is faster than an asynchronous counter. Justify this statement?
18. What is meant by the lockout in counters
19. What do you mean by MOD-N counter?
20. What do you mean by divide by -N counter
21. Explain Synchronous counter
22. What is mean Asynchronous counter or Ripple counter

27.Write Advantages of Synchronous counter

28.What is the application of counter

29.In which two categories sequential circuit divided

30.What is mean by sequence generator

31.What is the type of counter

32 Design and implement 4 bit universal shift register using 4:1 MUX & Differentiator

33 Design a shift register using CMOS IC

34 What is mean by pulse mode, fundamental mode

35 Define Up-counter, down counter

36Differentiate between Synchronous counter and asynchronous counter?

37A Synchronous counter is faster than an asynchronous counter. Justify this statement?

38 What is meant by the lockout in counters?

39What do you mean by MOD-N counter?

### 40 What do you mean by divide by -N counter?

### 41 Explain Synchronous counter

### 42 What is mean Asynchronous counter or Ripple counter?

### 43 Write Advantages of Synchronous counter?

### 44What is the application of counter?

### 45In which two categories sequential circuit divided?

### 46What is mean by sequence generator?

### 47What is the type of counter?

1. Differentiate between combinational and sequential circuits.

49Explain level and edge triggered flip flop?

50What is toggling?

51What is the function of preset and clear?

52Whether dataflow style of modeling comes under structural or behavioral style of modeling?

53Difference between functional, gate level and timing simulation.

54Explain difference between synchronous and asynchronous reset input of a flip-flop.

55Write a architectural body for negative edge triggered D f/f.

56Write a architectural body for negative edge triggered T f/f.

57Write a architectural body for negative edge triggered J-K f/f

1. What is mean by pulse mode, fundamental mode?

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

### Define term internal state?

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

### Define Up-counter, down counter?

…………………………………………………………………………………………………………

. What do you mean by comparator?

………………………………………………………………………………………………………………

………………………………………………………………………………………………………………

1. Explain the function table of 4-bit magnitude comparator IC 7485.

………………………………………………………………………………………………………………

………………………………………………………………………………………………………………

1. What is entity declaration?

………………………………………………………………………………………………………………

………………………………………………………………………………………………………………

1. Differentiate between concurrent and sequential statement.

………………………………………………………………………………………………………………

………………………………………………………………………………………………………………

1. What are advantages of concurrent sequential statement?

………………………………………………………………………………………………………………

………………………………………………………………………………………………………………

1. What is component instantiation? Give its requirements?

………………………………………………………………………………………………………………

………………………………………………………………………………………………………………

1. What is HDL ?

………………………………………………………………………………………………………………

………………………………………………………………………………………………………………

1. Give advantages of VHDL.

………………………………………………………………………………………………………………

………………………………………………………………………………………………………………

1. Define Entity with the help of example.

………………………………………………………………………………………………………………

………………………………………………………………………………………………………………

1. Explain architecture with the help of example.

………………………………………………………………………………………………………………

………………………………………………………………………………………………………………

1. What is SISO mode?
2. What is SIPO mode?
3. What is PISO mode?
4. What is PIPO mode?
5. What is a shift register?
6. Mention some application of shift register?
7. What is mean by the term register in a digital system?
8. What is the role of Mode control in universal shift register?

9.what is the difference between IC -7495 and IC 74194?

10.what is the use of pin DS in IC -7495?