

GGGS College of Modern Technology, Kharar
ECE-EE Department
DE Question Bank

Part – A (Short Question)

1. What are the classifications of sequential circuits?
2. Define Flip flop.
3. What are the different types of flip-flop?
4. What is the operation of D flip-flop?
5. What is the operation of JK flip-flop?
6. What is the operation of T flip-flop?
7. Define race around condition.
8. What is edge-triggered flip-flop?
9. What is a master-slave flip-flop?
10. Define registers.
11. Define sequential circuit?
12. Give the comparison between combinational circuits and sequential circuits
13. List the various types of A/D Converters.
14. What do you mean by present state?
15. What do you mean by next state?
16. State the types of sequential circuits?
17. Define synchronous sequential circuit
18. Give the comparison between synchronous & Asynchronous counters.
19. Mention the types of Analog to Digital converter.
20. Mention the types of Digital to Analog converter.

Part B

21. Write short notes on:
 - a. RS-flip flop
 - b. D-flip flop
 - c. JK -flip flop
 - d. T-flip flop

e. JK-master slave flip flop

22. Briefly explain the working of JK flip flop.
23. Explain the operation of various types of shift register.
24. Explain in details about Analog Digital and Digital to Analog conversion.
25. Explain the operation of RS flip-flop with logic diagram and truth table.
26. With necessary diagrams explain the functioning of the following:
27. i). Decade counter ii). D/A converter
28. What is a counter? Discuss briefly about Mod-5 counter.
29. With necessary diagrams explain the functioning of any one type of A/D converter.
30. Draw a neat diagram of a decade counter and explain the working of the decade counter with suitable waveforms and truth table .

PART-C

31. Draw and explain logic diagram of arithmetic logic unit (ALU).
32. Describe the operation of a 4-bit binary, ripple counter.
33. Explain in detail any one type of D/A converter
34. Explain BCD Ripple counter and draw its logic diagram and timing diagram.
35. Explain Arithmetic addition and Arithmetic subtraction with some suitable example.
36. Explain Binary Synchronous Counter.
37. What is the function of shift register? With the help of simple diagram explain its working.
38. Explain the procedure followed to analyze a clocked sequential circuit With suitable example.
39. Draw and explain logic diagram of arithmetic logic unit (ALU).
40. Design a counter with the following binary sequence:0, 4,2,1,6 and repeat. Use JK flip-flops.