

25 Lecture - CS302

Important Mcqs

1. **What are asynchronous preset and clear inputs?**

- a. Inputs that are synchronized with the clock signal
- b. Inputs that are not synchronized with the clock signal
- c. Inputs that set the output to a random state
- d. Inputs that change the clock frequency

Solution: b. Inputs that are not synchronized with the clock signal

What is the purpose of asynchronous preset and clear inputs?

- a. To introduce timing issues in the circuit
- b. To set or reset the output of a flip-flop or latch regardless of the clock signal
- c. To change the clock frequency
- d. To generate random input signals

Solution: b. To set or reset the output of a flip-flop or latch regardless of the clock signal

Which input is used to set the output of a flip-flop or latch to 1?

- a. Clear
- b. Preset
- c. Clock
- d. Data

Solution: b. Preset

Which input is used to reset the output of a flip-flop or latch to 0?

- a. Clear
- b. Preset
- c. Clock
- d. Data

Solution: a. Clear

What happens when both the preset and clear inputs of a flip-flop are activated at the same time?

- a. The output becomes set
- b. The output becomes reset
- c. The output remains unchanged
- d. The flip-flop enters an unpredictable state

Solution: d. The flip-flop enters an unpredictable state

Which type of flip-flop has asynchronous preset and clear inputs?

- a. D flip-flop
- b. JK flip-flop
- c. T flip-flop
- d. SR flip-flop

Solution: d. SR flip-flop

How can hazards be avoided when using asynchronous inputs?

- a. By slowing down the clock signal

- b. By synchronizing the asynchronous inputs with the clock signal
- c. By increasing the voltage of the asynchronous inputs
- d. By removing the asynchronous inputs from the circuit

Solution: b. By synchronizing the asynchronous inputs with the clock signal

What is the function of a latch?

- a. To store data
- b. To generate clock signals
- c. To count pulses
- d. To generate random numbers

Solution: a. To store data

Which input of a latch is used to set the output to 1?

- a. Clear
- b. Preset
- c. Clock
- d. Enable

Solution: b. Preset

Which input of a latch is used to reset the output to 0?

- a. Clear
- b. Preset
- c. Clock
- d. Enable

Solution: a. Clear