29 Lecture - CS302

Important Mcqs

1. Which of the following statements is true for an up/down counter?

- a. It can only count in the upward direction
- b. It can only count in the downward direction
- c. It can count in both upward and downward directions
- d. It can count in a circular fashion

Answer: c

In an up/down counter, which input determines the direction of counting?

- a. Clock input
- b. Enable input
- c. Reset input
- d. Control input

Answer: d

An up/down counter with a value of 0111 in binary will count down to which value if the control input is changed to "down"?

- a. 1110
- b. 1101
- c. 0100
- d. 0011

Answer: b

Which of the following is an advantage of using an up/down counter in a system?

- a. Faster count speed
- b. Lower power consumption
- c. Ability to count in both directions
- d. Simpler circuit design

Answer: c

Which type of flip-flop is commonly used in an up/down counter?

- a. D flip-flop
- b. T flip-flop
- c. J-K flip-flop
- d. SR flip-flop

Answer: c

An up/down counter with a value of 0011 in binary will count up to which value if the control input is changed to "up"?

- a. 0100
- b. 1000
- c. 1100
- d. 1111

Answer: c

What is the function of the control input in an up/down counter?

a. To reset the counter

- b. To enable the counter
- c. To set the count direction
- d. To trigger the count

Answer: c

Which of the following statements is true for a synchronous up/down counter?

- a. All flip-flops receive the same clock signal
- b. Flip-flops have different clock signals
- c. The count direction is controlled by the enable input
- d. The count direction is determined by the reset input

Answer: a

Which type of counter is used to divide the frequency of a clock signal by a factor of N?

- a. Up counter
- b. Down counter
- c. Both up and down counter
- d. None of the above

Answer: c

What is the maximum count of a 4-bit up/down counter?

- a. 8
- b. 10
- c. 16
- d. 32

Answer: b