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