

36 Lecture - CS302

Important Mcqs

1. **What is a 3-bit up/down counter?**

- a) A digital clock that counts up to 3
- b) An electronic circuit that counts up or down in binary from 0 to 7
- c) An analog circuit that counts up or down in decimal from 0 to 3
- d) A device that counts the number of bits in a data stream

Answer: b) An electronic circuit that counts up or down in binary from 0 to 7

How many flip-flops are there in a 3-bit up/down counter?

- a) 1
- b) 2
- c) 3
- d) 4

Answer: c) 3

What controls the counting direction in a 3-bit up/down counter?

- a) The clock signal
- b) The reset signal
- c) The input signal
- d) The control input

Answer: d) The control input

What is the maximum count value of a 3-bit up/down counter?

- a) 3
- b) 7
- c) 8
- d) 10

Answer: b) 7

What happens when the 3-bit up/down counter reaches its maximum value?

- a) It stops counting
- b) It resets to zero and continues counting up
- c) It resets to zero and continues counting down
- d) It switches to counting down

Answer: c) It resets to zero and continues counting down

What is the minimum count value of a 3-bit up/down counter?

- a) 0
- b) 1
- c) 6
- d) 7

Answer: a) 0

What type of electronics commonly uses a 3-bit up/down counter?

- a) Analog circuits

- b) Digital circuits
- c) Audio circuits
- d) Power circuits

Answer: b) Digital circuits

What is the function of the logic gates in a 3-bit up/down counter?

- a) To store binary values
- b) To control the counting direction
- c) To generate the clock signal
- d) To amplify the signal

Answer: b) To control the counting direction

What is the purpose of the control input in a 3-bit up/down counter?

- a) To reset the counter
- b) To control the clock frequency
- c) To select the counting direction
- d) To set the count value

Answer: c) To select the counting direction

What is the binary representation of the number 5 in a 3-bit up/down counter?

- a) 001
- b) 010
- c) 101
- d) 111

Answer: c) 101