

# 13 Lecture - CS302

## Important Mcqs

1. Which Boolean logic gate is typically used to detect odd numbers?  
A) AND  
B) OR  
C) NOT  
D) XOR

Answer: D (XOR)

2. Which of the following is a prime number?  
A) 4  
B) 5  
C) 6  
D) 8

Answer: B (5)

3. What is the output of an odd-prime number detector if the input is 2?  
A) High  
B) Low  
C) Undefined  
D) Depends on the circuit design

Answer: B (Low)

4. What is the output of an odd-prime number detector if the input is 3?  
A) High  
B) Low  
C) Undefined  
D) Depends on the circuit design

Answer: A (High)

5. Which of the following is a composite number?  
A) 2  
B) 3  
C) 5  
D) 8

Answer: D (8)

6. Which of the following is a valid Boolean expression for detecting odd prime numbers?  
A) A AND B  
B) A OR B  
C) NOT A OR B  
D) A XOR B

Answer: D (A XOR B)

7. Which of the following is a valid Boolean expression for detecting odd numbers?  
A) A AND B

- B) A OR B
- C) NOT A OR B
- D) A XOR B

Answer: D (A XOR B)

8. Which of the following is a valid Boolean expression for detecting prime numbers?

- A) A AND B
- B) A OR B
- C) NOT A OR B
- D) A XOR B

Answer: C (NOT A OR B)

9. How many inputs are required for an odd-prime number detector?

- A) 1
- B) 2
- C) 3
- D) 4

Answer: 1 (one input)

10. How can the number of gates in an odd-prime number detector be reduced?

- A) By increasing the number of inputs
- B) By using more complex gates
- C) By using simpler gates
- D) By increasing the number of outputs

Answer: C (By using simpler gates)