## 13 Lecture - CS302

## Important Mcqs

1. Which Boolean logic gate is typically used to detect odd numbers?
A) AND
B) $O R$
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 $\mathbf{2 ?}$
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 $\mathbf{3}$ ?
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) $A O R B$
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) $A O R B$
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)

