

# 10 Lecture - CS302

## Important Mcqs

1. **What is a Karnaugh map?**

- a) A tool used for digital circuit design
- b) A graphical tool used to simplify Boolean expressions
- c) A method used for logic simplification
- d) A tool used for computer programming

Answer: b) A graphical tool used to simplify Boolean expressions.

2. **What is the purpose of using a Karnaugh map in Boolean expression simplification?**

- a) To identify redundant terms
- b) To group adjacent cells with the same output value
- c) To reduce the complexity of Boolean expressions
- d) All of the above

Answer: d) All of the above.

3. **How do you represent the complement of a variable in a Karnaugh map?**

- a) By writing a bar over the variable
- b) By writing a prime symbol over the variable
- c) By writing a minus sign over the variable
- d) By writing a tilde over the variable

Answer: a) By writing a bar over the variable.

4. **What is a minterm in Boolean algebra?**

- a) A product term that represents the output of a logical expression
- b) A sum term that represents the output of a logical expression
- c) A term that represents a logical operation
- d) A term that represents a binary variable

Answer: a) A product term that represents the output of a logical expression.

5. **What is a maxterm in Boolean algebra?**

- a) A product term that represents the output of a logical expression
- b) A sum term that represents the output of a logical expression
- c) A term that represents a logical operation
- d) A term that represents a binary variable

Answer: b) A sum term that represents the output of a logical expression.

6. **What is a don't-care condition in a Karnaugh map?**

- a) A condition where the output value of a cell does not matter
- b) A condition where the input value of a variable does not matter

- c) A condition where a variable is always true
- d) A condition where a variable is always false

Answer: a) A condition where the output value of a cell does not matter.

7. **What is the purpose of a Karnaugh map in digital circuit design?**
- a) To simplify Boolean expressions
  - b) To identify redundant terms
  - c) To optimize circuit design
  - d) All of the above

Answer: d) All of the above.

8. **What is the output of an AND gate when both inputs are 1?**
- a) 0
  - b) 1
  - c) Undefined
  - d) Depends on the implementation

Answer: b) 1.

9. **What is the output of a NOT gate when the input is 0?**
- a) 0
  - b) 1
  - c) Undefined
  - d) Depends on the implementation

Answer: b) 1.

10. **What is the difference between a sum term and a product term in Boolean algebra?**
- a) A sum term represents the sum of binary variables, while a product term represents their product
  - b) A sum term represents their product, while a product term represents their sum
  - c) A sum term and a product term are the same thing
  - d) None of the above

Answer: a) A sum term represents the sum of binary variables, while a product term represents their product.