

31 Lecture - CS302

Important Mcqs

1. **What is a Next-State Table?**

- a) A table that shows the present state of a circuit
- b) A table that shows the possible next states of a circuit for each combination of present state and input
- c) A table that shows the input sequence of a circuit
- d) A table that shows the output of a circuit

Answer: b) A table that shows the possible next states of a circuit for each combination of present state and input

Which of the following circuits can be represented using a Next-State Table?

- a) Combinational circuits
- b) Sequential circuits
- c) Both a and b
- d) None of the above

Answer: b) Sequential circuits

What information does a Next-State Table provide?

- a) Present state of the circuit
- b) Next state of the circuit for each input
- c) Output of the circuit
- d) Both a and b

Answer: b) Next state of the circuit for each input

What is the purpose of a Next-State Table?

- a) To design and analyze combinational circuits
- b) To design and analyze sequential circuits
- c) To optimize circuit performance
- d) To reduce power consumption

Answer: b) To design and analyze sequential circuits

How many columns are typically in a Next-State Table?

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

Answer: b) 2

What is the input to a Next-State Table?

- a) Present state of the circuit
- b) Next state of the circuit
- c) Both a and b
- d) None of the above

Answer: a) Present state of the circuit

What is the output of a Next-State Table?

- a) Present state of the circuit

- b) Next state of the circuit
- c) Both a and b
- d) None of the above

Answer: b) Next state of the circuit

How many rows are typically in a Next-State Table?

- a) Equal to the number of inputs
- b) Equal to the number of outputs
- c) Equal to the number of states
- d) Equal to the number of gates

Answer: c) Equal to the number of states

What is the purpose of state encoding in a Next-State Table?

- a) To reduce the number of states
- b) To simplify the circuit design
- c) To reduce power consumption
- d) To optimize circuit performance

Answer: a) To reduce the number of states

What happens if there is a conflict in a Next-State Table?

- a) The circuit does not work properly
- b) The circuit generates an error message
- c) The circuit selects one of the possible next states based on a priority scheme
- d) The circuit selects one of the possible next states randomly

Answer: c) The circuit selects one of the possible next states based on a priority scheme