

Unit 8 - Week 6

Course outline

[How to access the portal](#)

[Week 0 Assignment 0](#)

[Week 1](#)

[Week 2 : Unit 2](#)

[Week 3 : Unit 3](#)

[Week 4 : Unit 4](#)

[Week 5 : Unit 5](#)

Week 6

[Lecture 27 : Binary Decision Diagrams \(Part I\)](#)

[Lecture 28 : Binary Decision Diagrams \(Part II\)](#)

[Lecture 29 : Logic Design using AND-EXOR Network](#)

[Lecture 30 : Threshold Logic and Threshold Gates](#)

[Lecture Materials](#)

[Feedback for Week 6](#)

[Quiz : Week 6 Assignment 6](#)

[Week 7](#)

[Week 8](#)

[Week 9](#)

[Week 10](#)

[Week 11](#)

[Week 12](#)

[Download Videos](#)

[Text Transcripts](#)

[Detail Solution](#)

[Live Session](#)

Week 6 Assignment 6

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-09-11, 23:59 IST.

- 1) For a 7-variable binary decision diagram, the maximum number of non-terminal nodes can be
- 7
 - 49
 - 127
 - None of these

1 point

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
c.

- 2) For an 6-variable binary decision diagram, the maximum number of terminal nodes can be:

1 point

- 6
- 12
- 36
- None of these

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

- 3) Which of the following is true for a ROBDD?

1 point

- The number of nodes can vary widely depending upon the ordering of the variables.
- The representation is unique for a given variable ordering.
- The order of variables along any path from the root to a leaf node may be different.
- All of these.

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
a.
b.

- 4) Which of the following statements are false about BDD?

1 point

- A non-terminal node of the BDD can be implemented using an EXOR gate.
- A non-terminal node of the BDD can be implemented using a 2-to-1 multiplexer.
- A variable can appear one or more times in any path from the root to a leaf node.
- None of these.

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
a.
c.

- 5) How many non-leaf nodes will be there for the ROBDD representation of the function $Z = A.B + C.D + E.F + G.H$ for the variable ordering A, C, E, G, B, D, F, H?

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 30

1 point

- 6) Which of the following is/are true for Shannon decomposition of an n-variable function F?

1 point

- It decomposes F into two n-variable sub-functions.
- It decomposes F into two (n-1)-variable sub-functions.
- It decomposes F into two (n-2)-variable sub-functions.
- None of these

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b.

- 7) Which of the following identities are wrong?

1 point

- $(x \oplus y) \oplus z = x \oplus (y \oplus z)$
- $(x \oplus y) \oplus (y \oplus z) \oplus (z \oplus x) = 0$
- $x \oplus y = y + x$ if $x, y = 0$
- None of these

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

- 8) To implement a 3-input AND function using a 3-input threshold gate, we can have

1 point

- $w_1 = 1, w_2 = 1, w_3 = 1, T = 3$
- $w_1 = 2, w_2 = 2, w_3 = 2, T = 5$
- $w_1 = 2, w_2 = 2, w_3 = 2, T = 4$
- None of these

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
a.
b.

- 9) Which of the following is true for a threshold function?

1 point

- It can be realized using a single threshold gate.
- It can be realized using one or more threshold gates.
- It can be realized using a single CMOS gate.
- None of these.

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
a.

- 10) What will be the Reed-Muller form for the function $f(A,B,C) = \sum(0, 3, 5, 6)$?

1 point

- $1 \oplus AB \oplus BC \oplus CA$
- $1 \oplus A \oplus B \oplus C$
- $1 \oplus A \oplus BC$
- None of these

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b.