

X

NPTL

reviewer2@nptel.iitm.ac.in ▼

Courses » Basic Electronics

Announcements

Course

Ask a Question

Progress



Unit 11 - Week 10

Course outline

How to access the portal

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

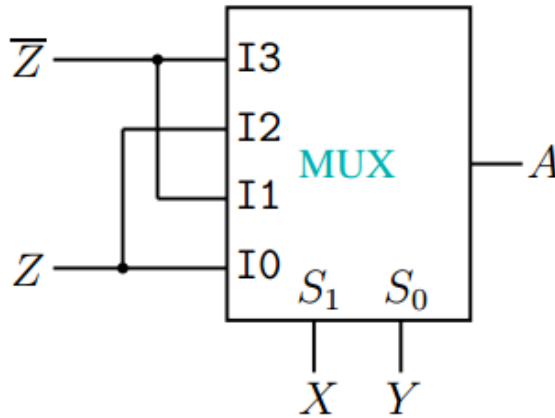
- Lecture 55: Introduction to digital circuits
- Lecture 56: Boolean algebra
- Lecture 57: Karnaugh maps
- Lecture 58: Combinatorial circuits-1
- Lecture 59: Combinatorial circuits-2
- Lecture 60: Combinatorial circuits-3
- Week 10 Slides PDF
- Weekly Feedback Form

Week-10 Assignment

The due date for submitting this assignment has passed. **Due on 2018-04-04, 23:59 IST**
As per our records you have not submitted this assignment.

1) The output A for the circuit in the figure is

1 point



- $XY + Z$
- $\bar{X}Y + \bar{Z}$
- $Y \oplus Z$
- $X + Z$

No, the answer is incorrect.

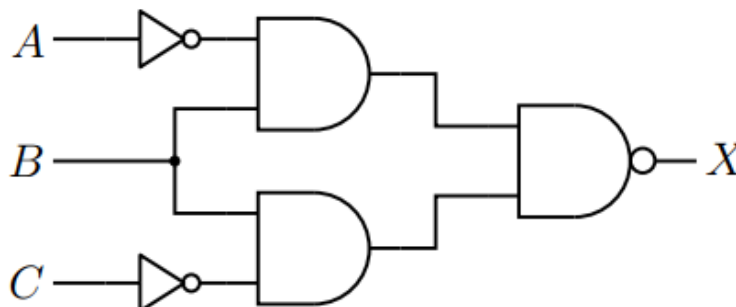
Score: 0

Accepted Answers:

$Y \oplus Z$

2) Which one of the following is the correct expression for X in the figure?

1 point



-

- Download Videos
- Quiz : Week-10 Assignment
- Assignment-10 Solutions

Week 11

Week 12

$A + \bar{B} + C$

$A \bar{B} C$

$\bar{A} + B + \bar{C}$

$\bar{A} B \bar{C}$

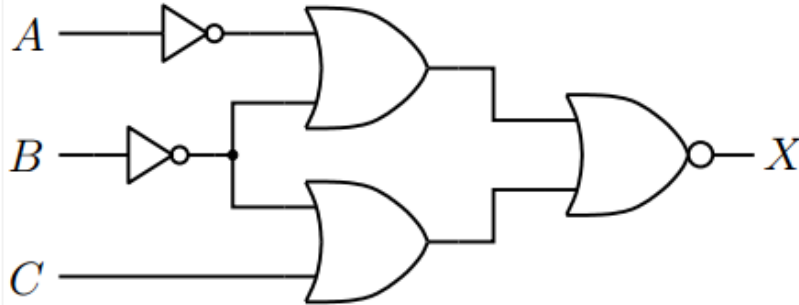
No, the answer is incorrect.

Score: 0

Accepted Answers:

$A + \bar{B} + C$

3) Which one of the following is the correct expression for X in the figure?



$\bar{A} B \bar{C}$

$\bar{A} + \bar{B} + C$

$A B \bar{C}$

$A + B + \bar{C}$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$A B \bar{C}$

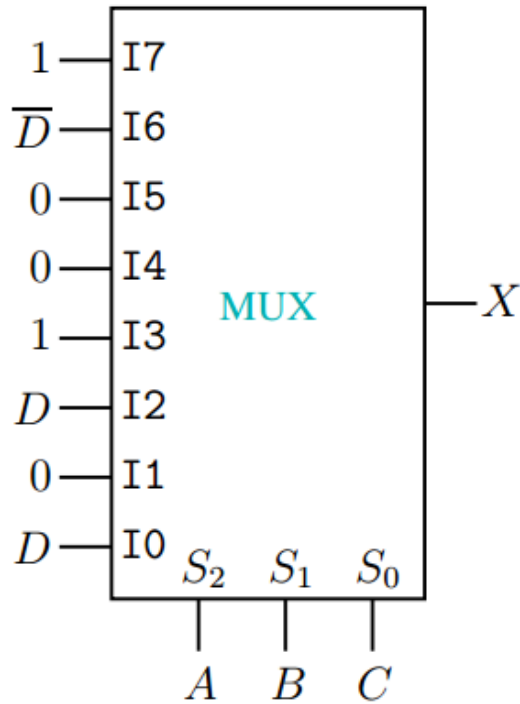
4)



1 point



What is the logical function X implemented in the figure?



- $AC + \bar{A}BD + A\bar{C}\bar{D}$
- $BC + AB\bar{D} + \bar{A}\bar{C}D$
- $AB\bar{D} + \bar{A}CD + \bar{B}C$
- $A\bar{B}D + \bar{A}C\bar{D} + B\bar{C}$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$BC + AB\bar{D} + \bar{A}\bar{C}D$

5) The K-map for a logical function Y is shown in the figure. Which one of the following gives the minimal expression for Y ? 1 point

		AB			
		00	01	11	10
CD	00	X	0	0	1
	01	X	1	0	0
	11	1	1	X	0
	10	0	0	X	0

- $\bar{B}\bar{C}\bar{D} + \bar{A}BD + \bar{A}CD$
- $A\bar{B}\bar{C}D + \bar{A}BD + \bar{A}CD$
- $\bar{B}\bar{C}\bar{D} + \bar{A}BD + BCD$

$$\overline{B} \overline{C} \overline{D} + \overline{A} D$$

No, the answer is incorrect.

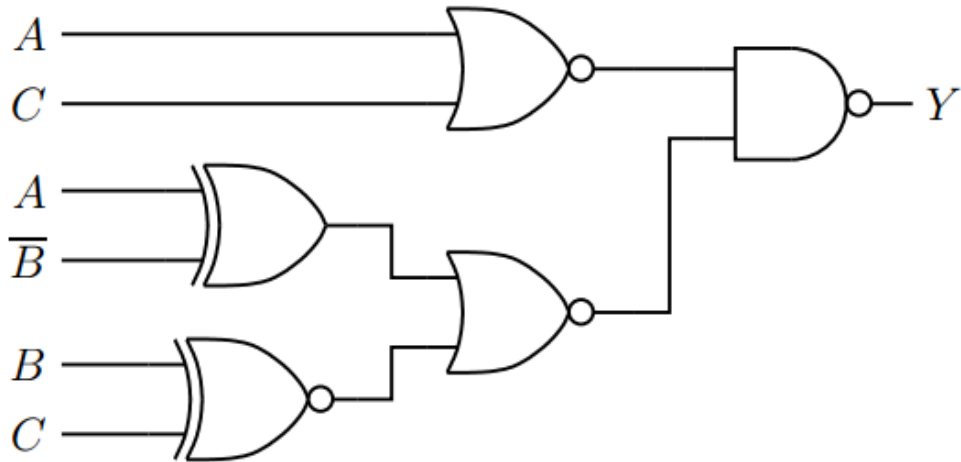
Score: 0

Accepted Answers:

$$\overline{B} \overline{C} \overline{D} + \overline{A} D$$

6) The logical expression for Y in the figure is given by

1 point



$A + B + C$

$\overline{A} + A B C + \overline{C}$

$A + \overline{B} + C$

$\overline{A} + A \overline{B} C + \overline{C}$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$$A + \overline{B} + C$$

7) The truth table for a logical function X is shown in the figure. The function can be written in the standard product-of-sums form as 1 point

A	B	C	X
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	1
1	0	0	0
1	0	1	1
1	1	0	1
1	1	1	1

$(\overline{A} + \overline{B} + C) \cdot (A + \overline{B} + \overline{C})$

$(A + B + \overline{C}) \cdot (\overline{A} + B + C)$

$$(A + B + C) \cdot (\bar{A} + B + \bar{C})$$

$$(\bar{A} + \bar{B} + \bar{C}) \cdot (A + \bar{B} + C)$$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$$(A + B + \bar{C}) \cdot (\bar{A} + B + C)$$

8) Consider the logical function of $Q - 7$. \bar{X} can be written as

$$\bar{B} \cdot (A \oplus C)$$

$$B + A \oplus C$$

$$B \cdot (\bar{A} + C)$$

$$\bar{B} \cdot (A + \bar{C})$$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$$\bar{B} \cdot (A \oplus C)$$

9) We want to implement the function $Y = \bar{A} + B + \bar{C}$ using only two-input NOR gates. **1 point**
Assume that only A , B , C are available as inputs. What is the minimum number of NOR gates required?

3

4

5

6

No, the answer is incorrect.

Score: 0

Accepted Answers:

6

10) We want to implement the function $Y = \bar{A} + B + \bar{C}$ using only two-input NAND gates. **1 point**
Assume that only A , B , C are available as inputs. What is the minimum number of NAND gates required?

3

4

5

6

No, the answer is incorrect.

Score: 0

Accepted Answers:



1 point

4

11) What is the dual form of the identity $X \cdot (\overline{X} + Y) = XY$?

1 point

$\overline{X} + X\overline{Y} = \overline{X}\overline{Y}$

$\overline{X} + X\overline{Y} = \overline{X} + \overline{Y}$

$X + \overline{X}Y = X + Y$

$X + XY = \overline{X} + \overline{Y}$

No, the answer is incorrect.**Score: 0****Accepted Answers:**

$X + \overline{X}Y = X + Y$

12) The logical expression $AB + BC + A\overline{C}$ is equivalent to

1 point

$BC + A\overline{C}$

$B\overline{C} + A\overline{C}$

$B\overline{C} + \overline{A}C$

$BC + \overline{A}\overline{C}$

No, the answer is incorrect.**Score: 0****Accepted Answers:**

$BC + A\overline{C}$

13) What is the minimized form of the logical expression $Y = \overline{A}\overline{B}\overline{C} + \overline{A}BC + A\overline{B}\overline{C} + ABC$?

1 point

$A\overline{B} + \overline{A}C$

$\overline{A}B + A\overline{C}$

$AB + \overline{B}C$

$\overline{B}\overline{C} + BC$

No, the answer is incorrect.**Score: 0****Accepted Answers:**

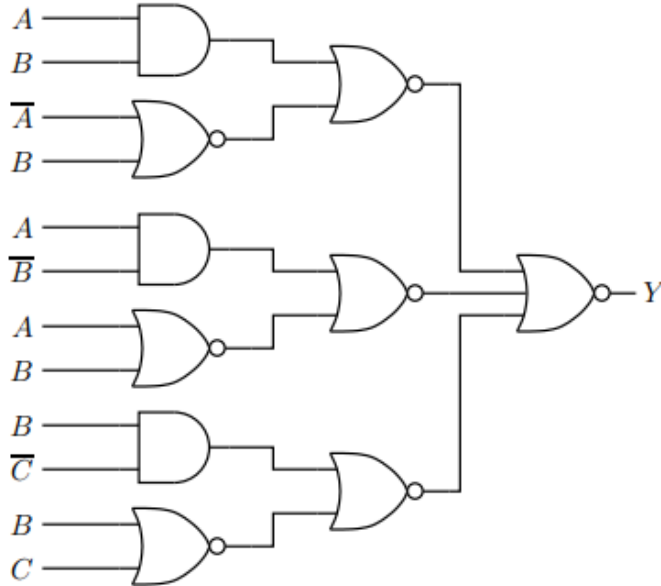
$\overline{B}\overline{C} + BC$

14)

1 point



Which of the following conditions will make $Y = 1$ in the circuit shown in the figure?



- $A = 0, B = 1, C = 0$
- $A = 0, B = 0, C = 1$
- $A = 1, B = 0, C = 0$
- $A = 1, B = 1, C = 0$

No, the answer is incorrect.

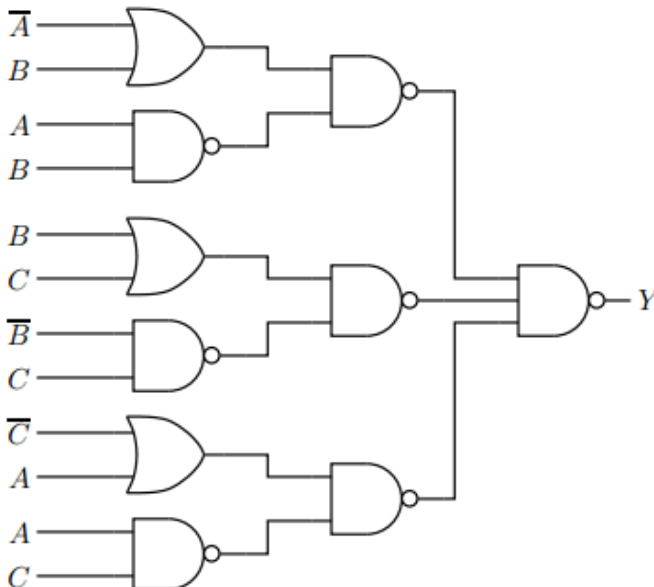
Score: 0

Accepted Answers:

$A = 1, B = 0, C = 0$

15) Which of the following conditions will make $Y = 0$ in the circuit shown in the figure?

1 point



- $A = 0, B = 1, C = 0$
- $A = 1, B = 0, C = 1$
- $A = 0, B = 0, C = 1$
- $A = 1, B = 0, C = 0$



No, the answer is incorrect.

Score: 0

Accepted Answers:

$A = 1, B = 0, C = 1$

Previous Page

End



© 2014 NPTEL - Privacy & Terms - Honor Code - FAQs -

A project of



In association with



Funded by



Powered by

