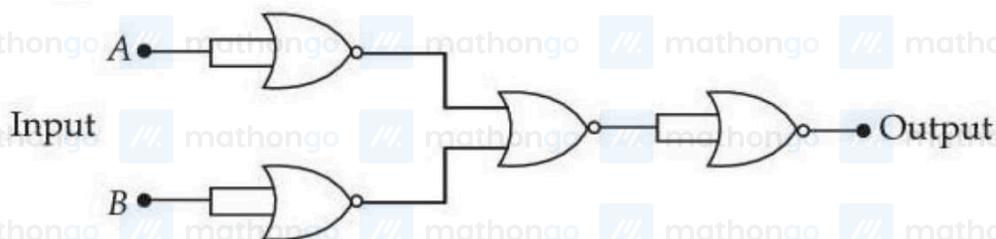


Q1. 21 January Shift 1

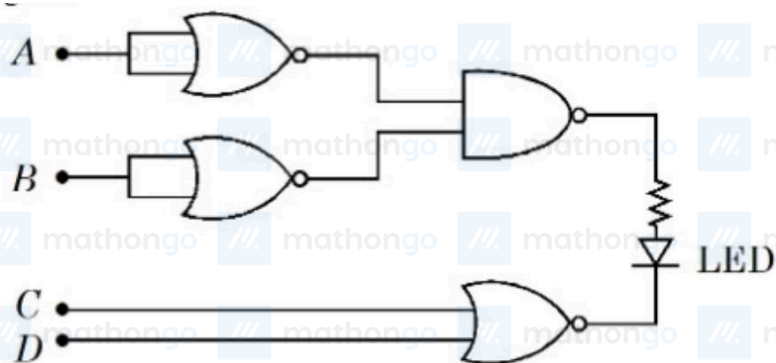


The given circuit works as :

- (1) AND gate (2) NAND gate (3) NOR gate (4) OR gate

Q2. 22 January Shift 1

Find the correct combination of A, B, C and D inputs which can cause the LED to glow.

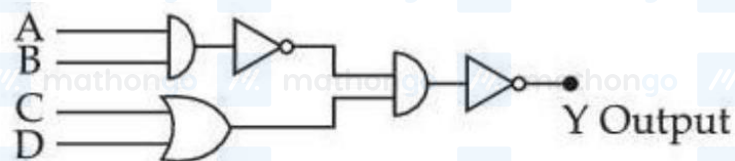


- (1) 1101 (2) 0011 (3) 1000 (4) 0100

Q3. 22 January Shift 2

The correct truth table for the given input data of the following logic gate is :

Inputs



(1)

A	B	C	D	Y
1	1	0	1	0
0	0	1	1	0
1	0	1	0	1
1	1	1	1	1

(3)

A	B	C	D	Y
1	1	0	1	1
0	0	1	1	0
1	0	1	0	0
1	1	1	1	1

(2)

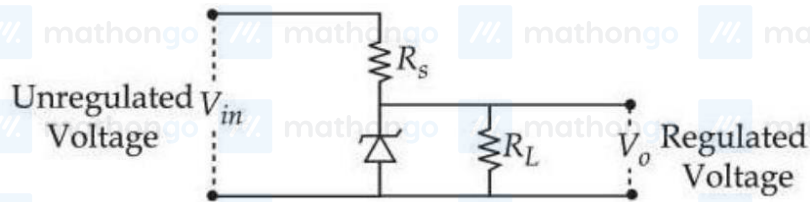
A	B	C	D	Y
1	1	0	1	0
0	0	1	1	1
1	0	1	0	1
1	1	1	1	1

(4)

A	B	C	D	Y
1	1	0	1	1
0	0	1	1	0
1	0	1	0	1
1	1	1	1	0

Q4. 23 January Shift 1

The following diagram shows a Zener diode as a voltage regulator. The Zener diode is rated at $V_z = 5\text{ V}$ and the desired current in load is 5 mA . The unregulated voltage source can supply upto 25 V . Considering the Zener diode can withstand four times of the load current, the value of resistor R_s (shown in circuit) should be ____ Ω .



(1) 100

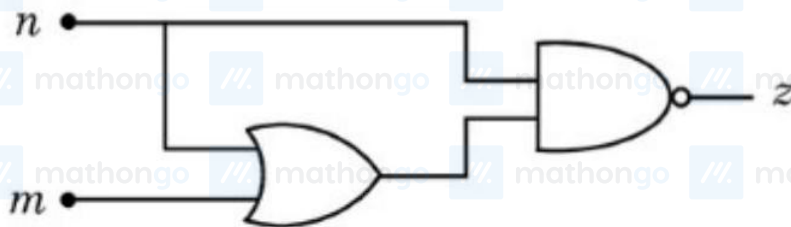
(2) 1000

(3) 10

(4) 4000

Q5. 23 January Shift 2

For the given logic gate circuit, which of the following is the correct truth table?



(1)

n	m	z
0	0	0
0	1	1
1	1	0
1	0	1

(2)

n	m	z
0	0	1
0	1	0
1	1	1
1	0	0

(3)

n	m	z
0	0	1
0	1	0
1	1	0
1	0	0

(4)

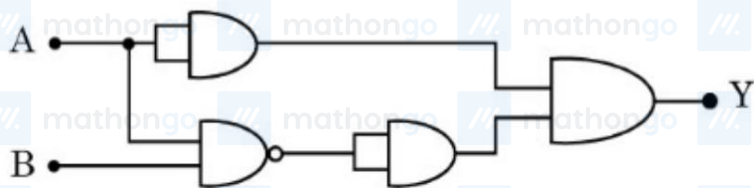
n	m	z
0	0	1
0	1	1
1	1	0
1	0	0

Q6. 24 January Shift 1

A voltage regulating circuit consisting of Zener diode, having break-down voltage of 10 V and maximum power dissipation of 0.4 W , is operated at 15 V . The approximate value of protective resistance in this circuit is ____ Ω .

Q7. 24 January Shift 2

Identify the correct truth table of the given logic circuit.



(1)

A	B	Y
0	0	1
0	1	0
1	0	1
1	1	0

(2)

A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

(3)

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

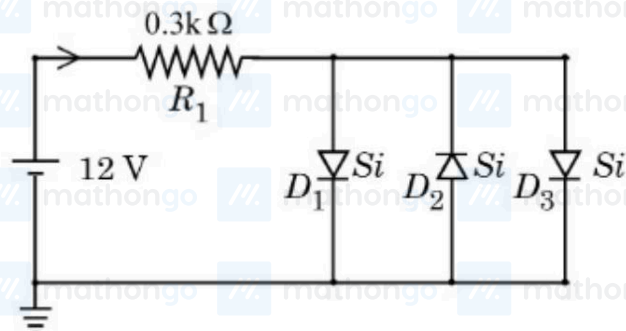
(4)

A	B	Y
0	0	0
0	1	0
1	0	1
1	1	0

Q8. 28 January Shift 1

Assuming in forward bias condition there is a voltage drop of 0.7 V across a silicon diode, the current through diode D_1 in the circuit is ____ mA.

(Assume all diodes in the given circuit are identical)



(1) 17.6

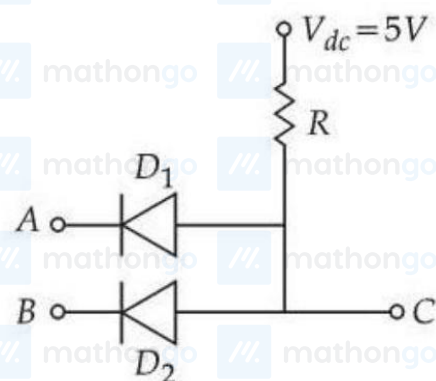
(2) 18.8

(3) 11.7

(4) 20.15

Q9. 28 January Shift 2

Two p-n junction diodes D_1 and D_2 are connected as shown in figure. A and B are input signals and C is the output. The given circuit will function as a ____.



(1) NOR Gate

(2) NAND Gate

(3) OR Gate

(4) AND Gate

ANSWER KEYS							
1. (2)	2. (1)	3. (3)	4. (Dropped)	5. (4)	6. 125	7. (4)	8. (2)
9. (4)	mathongo	mathongo	mathongo	mathongo	mathongo	mathongo	mathongo
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