Gate Question.35

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Contents

1 PROBLEM

(GATE CS-2006) Q.35 Consider the circuit above. Which one of the following options correctly represents f (x, y, z)?
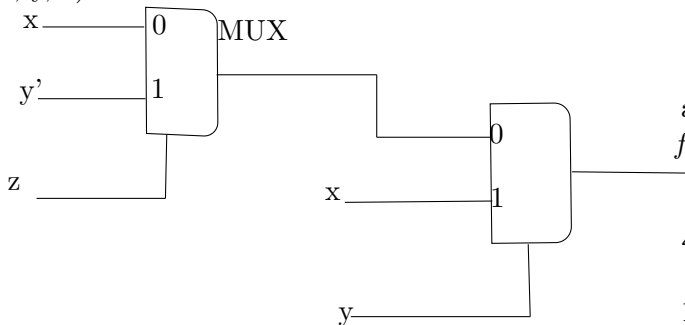
(A) $xz' + xy + y'z$

(B) $xz' + xy + (yz)'$

(C) $xz + xy + (yz)'$

(D) $xz + xy' + y'z$

2 COMPONENTS

Component	Value	Quantity
Arduino	UNO	1
Bread board	-	1
Jumper wires	M-M	20
LED	-	1

3 TRUTH TABLE

The Truth Table for the identities got after the MUX is as follows: F = xz' + xy + y'z

x	y	z	F
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	1

Table 1

Here, Except **(A)** identity all other identies are valid according to the mentioned Equation .

4 ARDUINO CONNECTIONS

1) The connections between ARDUINO and LED are as follows:

ARDUINO	2	*grnd*
LED	anode	cathode

Table 2

2) The connections between Inputs(x,y,z) and Arduino are as fllows:

Inputs	x	y	z
ARDUINO	6	7	8

Table 3

3) The inputs **x,y,z** here are connected to Arduino D6,D7,D8 pins.

4) The values for these inputs are conncted either to GND or 5V according to the truth table.

5 CODE

The arduino code can be downloaded from the below link.

https://github.com/meet-304/meet-304/tree/main/src/Arduino.ino