



**Question 1: Forming Equations from Logic Diagrams** What equation does this circuit diagram represent?

**Question 2: Forming Logic Diagrams from Equations** Draw the circuit diagram that represents the equation below.

$$Y = \overline{(\bar{A})(\bar{B} + \bar{C}) + \bar{D}\bar{E}}$$

**Question 3: Forming Truth Tables from Equations** Fill in the truth table for the following equation:

$$Y = \overline{A}\overline{B} + \overline{A}B$$

A	B	C	Y
0	0	0	_____
0	0	1	_____
0	1	0	_____
0	1	1	_____
1	0	0	_____
1	0	1	_____
1	1	0	_____
1	1	1	_____

**Question 4: Forming Equations from Truth Tables** Write down the boolean equation for the following truth table, where  $Y$  is a function of the three inputs,  $A$ ,  $B$ , and  $C$ :

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