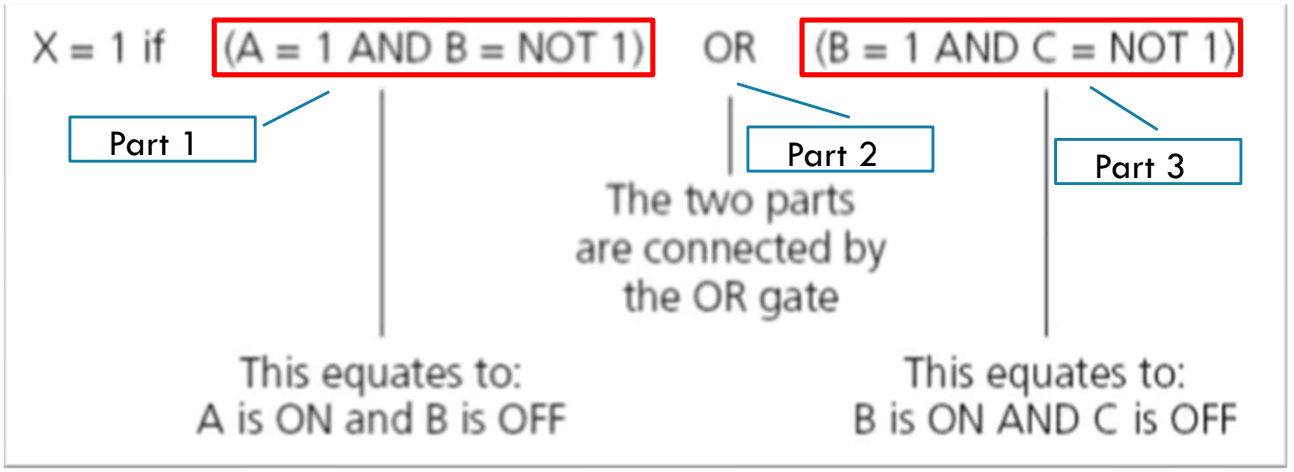
LOGIC CIRCUIT (TYPE II)

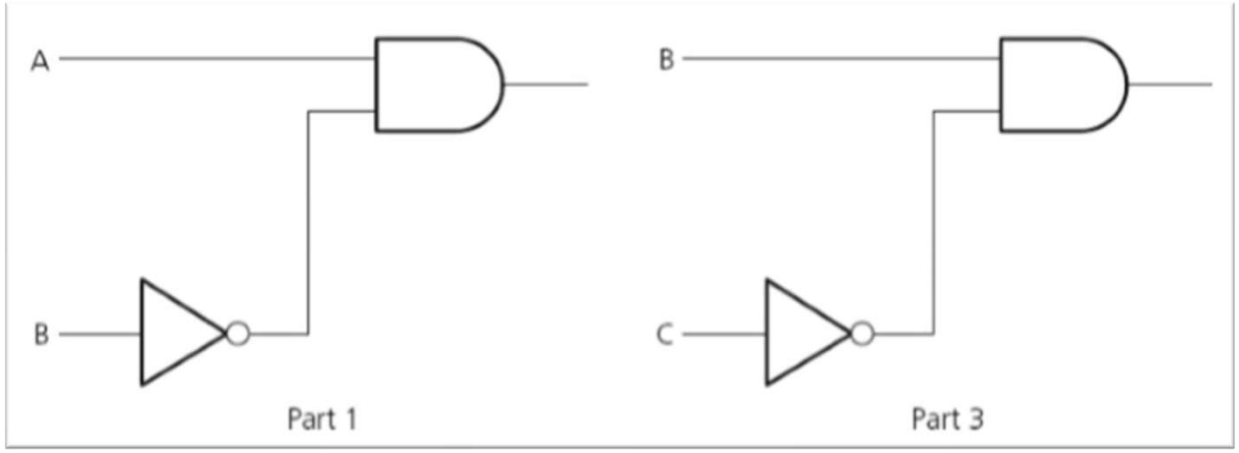
- Produce truth table from;

X = 1 if (A = 1 AND B = NOT 1) OR (B = 1 AND C = NOT 1)



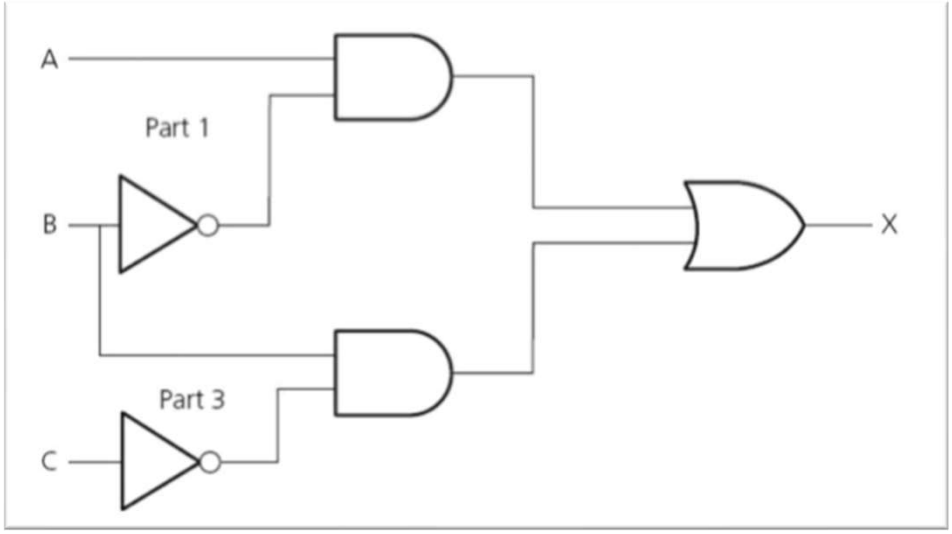
LOGIC CIRCUIT (TYPE II)

- Produce logic gates for part 1 and 3



LOGIC CIRCUIT (TYPE II)

- Then, combine part 1 and 3 with OR gate



Inputs			Intermediate values		Output
A	B	C	(A=1 AND B=NOT 1)	(B=1 AND C=NOT 1)	X
0	0	0	*0*	*0*	0
0	0	1	*0*	*0*	0
0	1	0	*0*	*1*	1
0	1	1	*0*	*0*	0
1	0	0	*1*	*0*	1
1	0	1	*1*	*0*	1
1	1	0	*0*	*1*	1
1	1	1	*0*	*0*	0

LOGIC CIRCUIT (TYPE II) EXERCISE

Draw the logic circuits and complete the truth tables for the following logic statements and Boolean algebra statements:

a X = 1 if (A = 1 OR B = 1) OR (A = 0 AND B = 1)

A	B					
0	0					
0	1					
1	0					
1	1					

LOGIC CIRCUIT (TYPE II) EXERCISE

b Y = 1 if (A = 0 AND B = 0) AND (B = 0 OR C = 1)

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

LOGIC CIRCUIT (TYPE II) EXERCISE

- T = 1 if (switch K is ON or switch L is ON) OR (switch K is ON and switch M is OFF) OR (switch M is ON)

K	L	M					
0	0	0					
0	0	1					
0	1	0					
0	1	1					
1	0	0					
1	0	1					
1	1	0					
1	1	1					

LOGIC CIRCUIT (TYPE II) EXERCISE

d $x = (a \cdot \overline{b}) + (\overline{b} \cdot c)$

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

LOGIC CIRCUIT (TYPE II) EXERCISE

- R = 1 if (switch A is ON and switch B is ON) AND (switch B is ON or switch C is OFF)

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