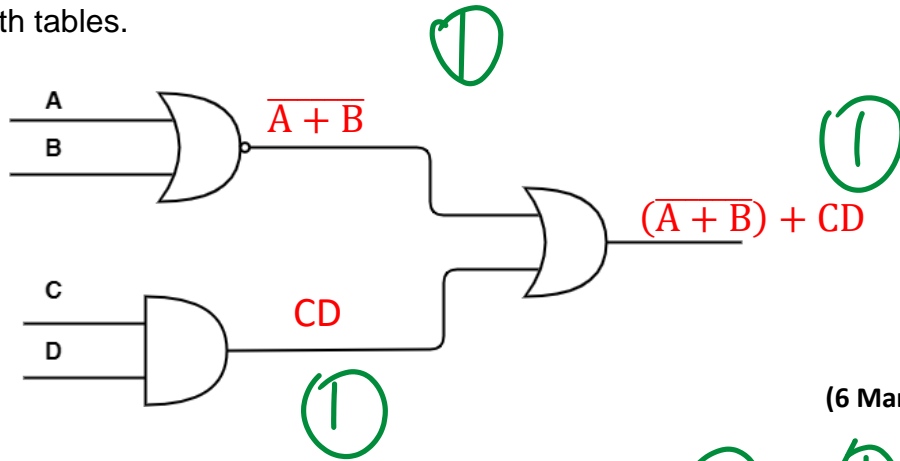


Topic 6 – Digital Logic (Due end of Week 7)

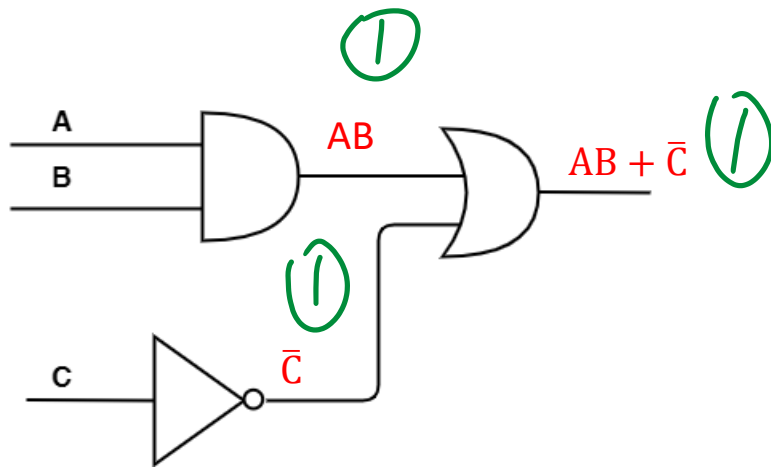
Assignment 2 - Logic Gates (20 Marks)

Show the final equation and truth table

For the following circuits, work out the final equation and draw the corresponding truth tables.



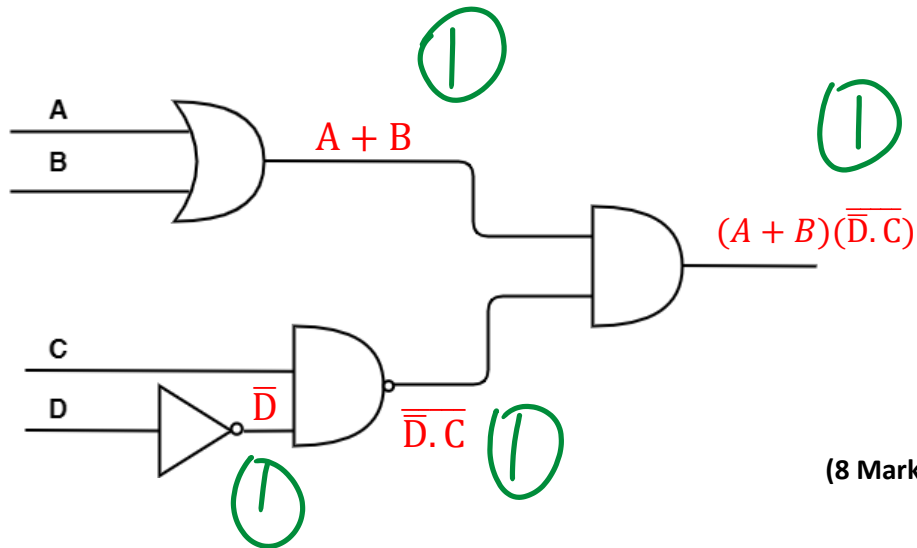
A	B	C	D	A + B	$\overline{A + B}$	CD	$(\overline{A + B}) + CD$
0	0	0	0	0	1	0	1
0	0	0	1	0	1	0	1
0	0	1	0	0	1	0	1
0	0	1	1	0	1	1	1
0	1	0	0	1	0	0	0
0	1	0	1	1	0	0	0
0	1	1	0	1	0	0	0
0	1	1	1	1	0	1	1
1	0	0	0	1	0	0	0
1	0	0	1	1	0	0	0
1	0	1	0	1	0	0	0
1	0	1	1	1	0	1	1
1	1	0	0	1	0	0	0
1	1	0	1	1	0	0	0
1	1	1	0	1	0	0	0
1	1	1	1	1	0	1	1



2.

(6 Marks)

A	B	C	AB	\bar{C}	$(AB) + \bar{C}$
0	0	0	0	1	1
0	0	1	0	0	0
0	1	0	0	1	1
0	1	1	0	0	0
1	0	0	0	1	1
1	0	1	0	0	0
1	1	0	1	1	1
1	1	1	1	0	1



A	B	C	D	$A + B$	\bar{D}	$\bar{D}.C$	$\overline{\bar{D}.C}$	$(A + B)(\overline{\bar{D}.C})$
0	0	0	0	0	1	0	1	0
0	0	0	1	0	0	0	1	0
0	0	1	0	0	1	1	0	0
0	0	1	1	0	0	0	1	0
0	1	0	0	1	1	0	1	1
0	1	0	1	1	0	0	1	1
0	1	1	0	1	1	1	0	0
0	1	1	1	1	0	0	1	1
1	0	0	0	1	1	0	1	1
1	0	0	1	1	0	0	1	1
1	0	1	0	1	1	1	0	0
1	0	1	1	1	0	0	1	1
1	1	0	0	1	1	0	1	1
1	1	0	1	1	0	0	1	1
1	1	1	0	1	1	1	0	0
1	1	1	1	1	0	0	1	1