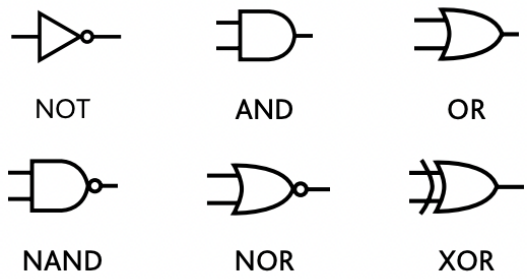
2. Logic gates and logic circuits

3.2 Logic Gates and Logic Circuits

Candidates should be able to:	Notes and guidance
Use the following logic gate symbols:  	
Understand and define the functions of : NOT, AND, OR, NAND, NOR and XOR (EOR) gates	All gates except the NOT gate will have two inputs only.
Construct the truth table for each of the logic gates above	
Construct a logic circuit	From: • a problem statement • a logic expression • a truth table
Construct a truth table	From: • a problem statement • a logic circuit • a logic expression
Construct a logic expression	From: • a problem statement • a logic circuit • a truth table

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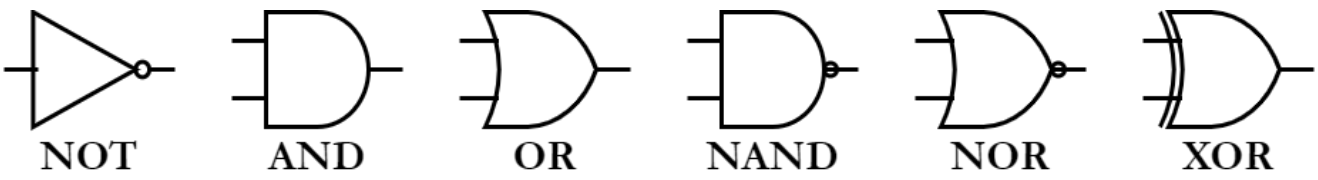

Truth tables

- NOT

A	X
0	1

A	X
1	0

- AND

A	B	X
0	0	0
0	1	0
1	0	0
1	1	1

- OR

A	B	X
0	0	0
0	1	1
1	0	1
1	1	1

- NAND

A	B	X
0	0	1
0	1	1
1	0	1
1	1	0

- NOR

A	B	X
0	0	1
0	1	0
1	0	0
1	1	0

- XOR

A	B	X
0	0	0
0	1	1
1	0	1
1	1	0