

Revision Sheet

IGCSE Computer Science · Unit 10 Boolean logic

6 vocabulary items · 27 marks of exam questions (5 questions)

Part 1 · Vocabulary review answer key. Section A wants the exact English spelling.

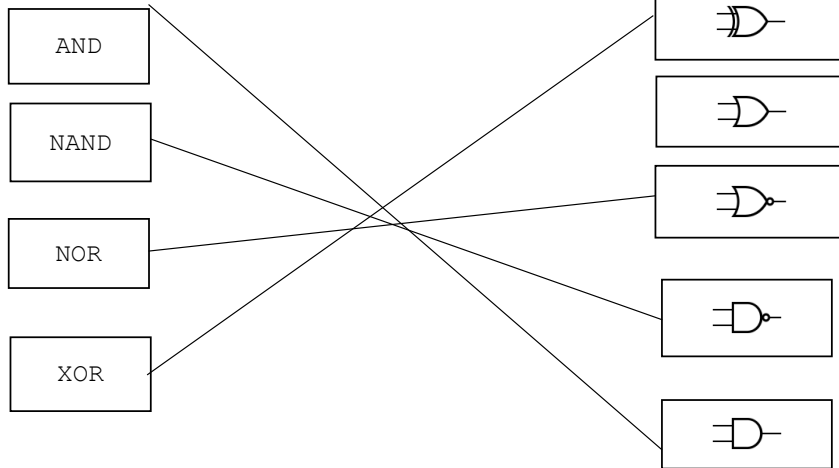
Question	Answer	Marks
1	truth table	1
2	NOT gate	1
3	AND gate	1
4	OR gate	1
5	logic expression	1
6	logic circuit	1

7

One mark for each correct line

Logic gate

Logic gate symbol



8

4 marks for 8 correct outputs
3 marks for 6/7 correct outputs
2 marks for 4/5 correct outputs
1 mark for 2/3 correct outputs

A	T	H	W
0	0	0	0
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

9

4 marks for 8 correct outputs
3 marks for 6/7 correct outputs
2 marks for 4/5 correct outputs
1 mark for 2/3 correct outputs

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

10(a)

X =
(A AND B) // A AND B
AND NOT C

1 mark

1 mark

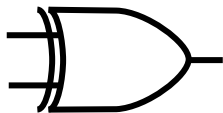
1 mark

X = (A AND B) AND NOT C

10(b)

Four marks for 8 correct outputs
Three marks for 6/7 correct outputs
Two marks for 4/5 correct outputs
One mark for 2/3 correct outputs

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

11(a)	<p>One mark for the logic gate and one mark for the truth table</p> <p>XOR logic gate symbol:</p>  <p>Truth table:</p> <table border="1"><thead><tr><th>A</th><th>B</th><th>X</th></tr></thead><tbody><tr><td>0</td><td>0</td><td>0</td></tr><tr><td>0</td><td>1</td><td>1</td></tr><tr><td>1</td><td>0</td><td>1</td></tr><tr><td>1</td><td>1</td><td>0</td></tr></tbody></table>	A	B	X	0	0	0	0	1	1	1	0	1	1	1	0
A	B	X														
0	0	0														
0	1	1														
1	0	1														
1	1	0														
11(b)(i)	<p>One mark per mark point</p> <p>MP1 A AND MP2 (NOT B OR NOT C) // NOT(B AND C) // (B NAND C)</p> <p>Or</p> <p>One mark per mark point</p> <p>MP3 A AND NOT B MP4 OR A AND NOT C</p> <p>Example answers</p> <p>(X =) A AND (NOT B OR NOT C) // A AND NOT (B AND C) // A AND (B NAND C) (X =) A AND NOT B OR A AND NOT C</p>															

11(b)(ii)

Four marks for eight correct outputs
Three marks for six or seven correct outputs
Two marks for four or five correct outputs
One mark for two or three correct outputs

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