The questions on this worksheet have been taken from the OCR A-Level Computer Science Practice Paper 1.1

"3-a-day" A-Level Exam Practice Unit 1 (022)

Question 1

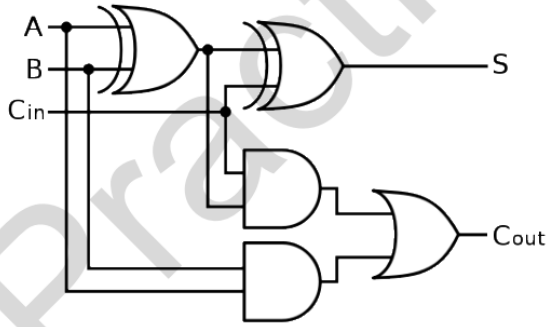
(a) An XOR gate is shown below. Complete the truth table for XOR.

A	B	Q
1	1	
1	0	
0	1	
0	0	

[2]

Question 2

(b) A set of logic gates are connected as below.



(i) Complete the Truth Table below:

A	B	C_{in}	S	C_{out}
1	1	1		
1	1	0		
1	0	1		
1	0	0		
0	1	1		
0	1	0		
0	0	1		
0	0	0		

Question3

Explain what the circuit does. You should refer to A,B, C_{in}, S and C_{out} in your answer.

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..... **[4]**

The questions on this worksheet have been taken from the OCR A-Level Computer Science Practice Paper 1.1

Answer 1

A	B	Q
1	1	**0**
1	0	**1**
0	1	**1**
0	0	**0**

AO1.2

2

1 mark for the first two rows

1 mark for the last two rows

Answer 2

A	B	C_{in}	S	C_{out}
1	1	1	**1**	**1**
1	1	0	**0**	**1**
1	0	1	**0**	**1**
1	0	0	**1**	**0**
0	1	1	**0**	**1**
0	1	0	**1**	**0**
0	0	1	**1**	**0**
0	0	0	**0**	**0**

1 Mark for rows 1 and 2

1 Mark for rows 3 and 4

1 Mark for rows 5 and 6

1 Mark for rows 7 and 8

Answer 3

- Circuit adds two bits (and a carry bit) together/is an adder.
- A B and C_{in} are added together
- The result is given in S
- And a carry bit in C_{out}

(1 per -)

AO2.2

4