

Oxford Revise | OCR Computer Science | Answers

Chapter 3 Binary arithmetic

Question	Answer	Extra information	Marks	AO / Specification reference
1	11010100	The final answer must have 8 bits after you have performed the shift, unless the question states otherwise.	1	AO2 1.2.4
2	The original binary number is divided ... by eight	1 mark for stating that the original binary number is divided and 1 mark for stating specifically by how many. In this case, 8.	1 1	AO1 1.2.4
3	<pre> 1 1 1 1 1 0 1 1 1 0 1 1 1 0 0 1 0 0 1 0 1 ----- 1 0 0 1 1 1 0 0 </pre>	Working, for example, showing the two binary numbers correctly lined up. If carry bits are shown, they must also be correctly lined up. Correct answer.	1 1	AO2 1.2.4

Question	Answer	Extra information	Marks	AO / Specification reference
4	If two binary integers are added together, the resulting integer may be larger than the maximum number that can be stored using the number of bits available. This would mean that some of the bits in the number will be lost, which is an overflow error. The final number is not an accurate representation of the two integers that were added together.	<p>1 mark for each correct statement to a maximum of 3 marks, for example:</p> <p>The action that was taking place before the overflow error occurred.</p> <p>The reason for the overflow error.</p> <p>The consequence of the overflow error.</p>	<p>1</p> <p>1</p> <p>1</p>	<p>AO1/AO2</p> <p>1.2.4</p>