

**0478 and 0984(9-1)  
COMPUTER SCIENCE  
TOPIC MARK SCHEMES SET-7  
SMART EXAM RESOURCES**

**Unit 1.1 Number Systems**

**MARKS SCHEME**

ANSWER 1(a)

1 mark for <b>any</b> two correct values, 2 marks for all 4 correct values. 29FC	<b>2</b>
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ANSWER 1(b)

<p><b>Two</b> from:</p> <input type="checkbox"/> Easier/quicker to understand/read <input type="checkbox"/> Easier to debug/identify errors <input type="checkbox"/> Fewer digits are used / shorter // takes up less space on screen // more can be shown on screen / page	<b>2</b>
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ANSWER 1(c)

<p><b>Two</b> from:</p> <input type="checkbox"/> Notations for colour in HTML // HTML colour (codes) <input type="checkbox"/> Error messages <input type="checkbox"/> MAC address // IP address <input type="checkbox"/> Locations in memory <input type="checkbox"/> Memory dump	<b>2</b>
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ANSWER 2(a)

1 mark for correct method, 1 mark for correct answer  32 □ 16 □ 8 □ 1 (00)111001	<b>2</b>
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ANSWER 2(b)

<p>registers <b>must</b> have leading zeros, allow follow through from 5(a) for an incorrect value 1 mark for each correct register.</p> <table border="1" style="margin-left: 20px;"> <tr> <td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td> </tr> </table> <table border="1" style="margin-left: 20px;"> <tr> <td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td> </tr> </table>	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	<b>2</b>
0	0	1	1	1	0	0	1																		
0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1										

Unit 1.1 Number Systems

ANSWER 2(c)

<p><b>Two from:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> data</li> <li><input type="checkbox"/> ASCII value / Unicode value / character</li> <li><input type="checkbox"/> number</li> <li><input type="checkbox"/> part of image / small image</li> <li><input type="checkbox"/> a sound / sound sample / small sound track</li> <li><input type="checkbox"/> instruction</li> </ul>	<b>2</b>
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ANSWER 2(d)

3A

1

ANSWER 3(a)

<p>1 mark for <b>any</b> two correct values, 2 marks for all 4 correct values. 29FC</p>	<b>2</b>
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ANSWER 3(b)

<p><b>Two from:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Easier/quicker to understand/read</li> <li><input type="checkbox"/> Easier to debug/identify errors</li> <li><input type="checkbox"/> Fewer digits are used / shorter // takes up less space on screen // more can be shown on screen / page</li> </ul>	<b>2</b>
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ANSWER 3(c)

<p><b>Two from:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Notations for colour in HTML // HTML colour (codes)</li> <li><input type="checkbox"/> Error messages</li> <li><input type="checkbox"/> MAC address // IP address</li> <li><input type="checkbox"/> Locations in memory</li> <li><input type="checkbox"/> Memory dump</li> </ul>	<b>2</b>
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ANSWER 4

<p>1 mark per correct instruction:</p> <ul style="list-style-type: none"> <li>9 – LEFT</li> <li>1 – DOWN</li> <li>C – OPEN</li> <li>3 – CLOSE</li> <li>F – UP</li> </ul>	<b>5</b>
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## Unit 1.1 Number Systems

### ANSWER 5(a)

<p>Any <b>four</b> from (<b>Max 2</b> per number system) :</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> A binary number system is a base-2 system</li> <li><input type="checkbox"/> A denary number system is a base-10 system</li>   <li><input type="checkbox"/> A binary number system uses 0 and 1 values</li> <li><input type="checkbox"/> A denary number system uses 0 to 9 values</li>   <li><input type="checkbox"/> A binary number system has units/ placeholders/column headings that increase by the power of 2</li> <li><input type="checkbox"/> A denary number system has units/ placeholders/column headings that increase by the power of 10</li>   <li><input type="checkbox"/> Binary has more digit <u>for the same value</u>// Denary has less digits <u>for the same value</u></li> </ul>	<b>4</b>
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### ANSWER 5(b)

<p><b>Five</b> from:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Correct column headings / place holders by example</li> <li><input type="checkbox"/> Correctly place a 1 or a 0 for each column</li> <li><input type="checkbox"/> Identify the columns to be added</li> <li><input type="checkbox"/> Add together the (denary) values identified ...</li> <li><input type="checkbox"/> ... this will give a total which is the denary number/answer</li> <li><input type="checkbox"/> Answer is 10</li> </ul>	<b>5</b>
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### ANSWER 6(a)

<p>1 mark for <b>any two</b> correct values, 2 marks for all 4 correct values. 29FC</p>	<b>2</b>
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### ANSWER 6(b)

<p><b>Two</b> from:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Easier/quicker to understand/read</li> <li><input type="checkbox"/> Easier to debug/identify errors</li> <li><input type="checkbox"/> Fewer digits are used / shorter // takes up less space on screen // more can be shown on screen / page</li> </ul>	<b>2</b>
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### ANSWER 6(c)

<p><b>Two</b> from:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Notations for colour in HTML // HTML colour (codes)</li> <li><input type="checkbox"/> Error messages</li> <li><input type="checkbox"/> MAC address // IP address</li> <li><input type="checkbox"/> Locations in memory</li> <li><input type="checkbox"/> Memory dump</li> </ul>	<b>2</b>
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