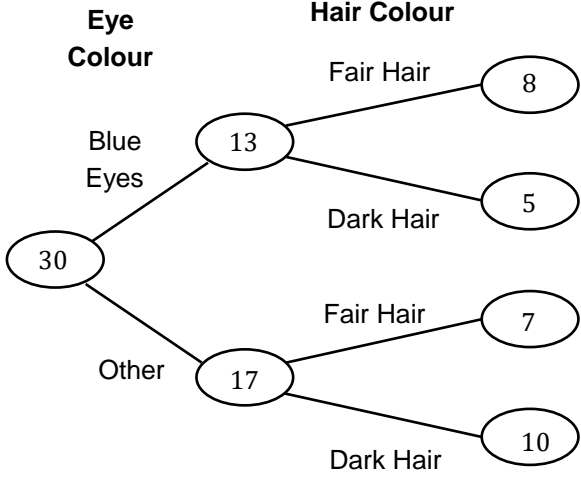
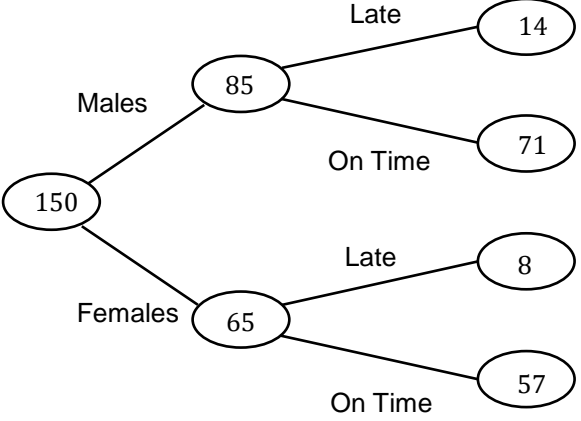
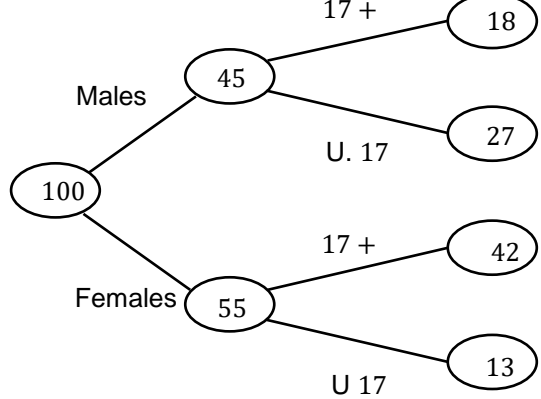
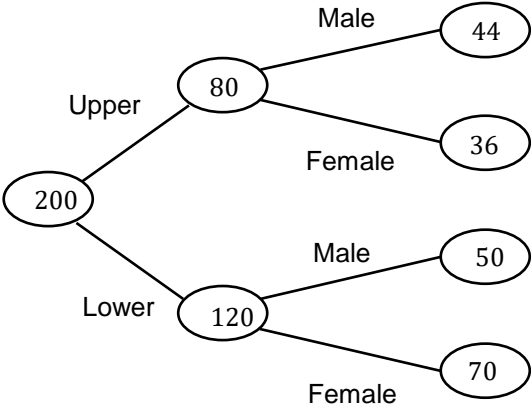
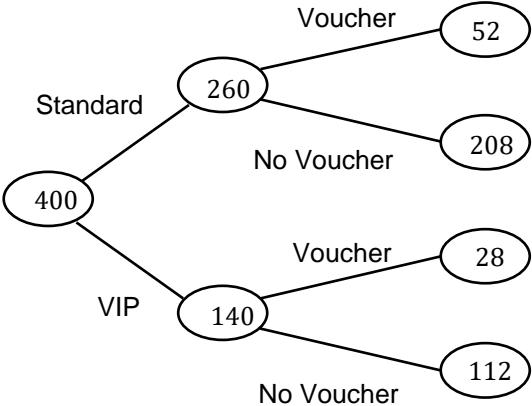


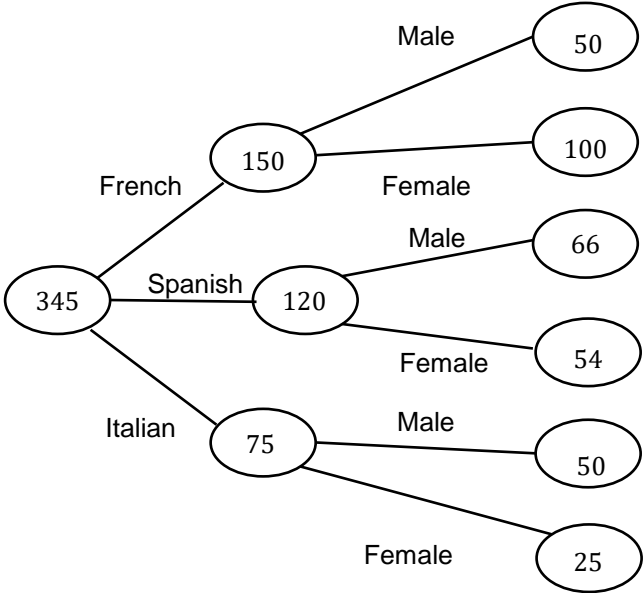
**Frequency Trees Mark Scheme**

<p><b>1(a)</b></p>	<table border="1"> <thead> <tr> <th></th> <th>Fair hair</th> <th>Dark hair</th> <th>TOTAL</th> </tr> </thead> <tbody> <tr> <td><b>Blue eyes</b></td> <td>8</td> <td>5</td> <td>13</td> </tr> <tr> <td><b>Other</b></td> <td>7</td> <td>10</td> <td>17</td> </tr> <tr> <td><b>TOTAL</b></td> <td>15</td> <td>15</td> <td>30</td> </tr> </tbody> </table>		Fair hair	Dark hair	TOTAL	<b>Blue eyes</b>	8	5	13	<b>Other</b>	7	10	17	<b>TOTAL</b>	15	15	30	<p>[1] for two correct values</p> <p>[1] for three correct values</p> <p>[1] all correct</p>
	Fair hair	Dark hair	TOTAL															
<b>Blue eyes</b>	8	5	13															
<b>Other</b>	7	10	17															
<b>TOTAL</b>	15	15	30															
<p><b>1(b)</b></p>		<p>[1] for two correct values</p> <p>[1] for four correct values</p> <p>[1] all correct</p>																
<p><b>2(a)</b></p>		<p>[1] for 150, 85, 14 and 8 all being correct</p> <p>[1]</p> <p>[1]</p> <p>[1]</p> <p>Award one mark for each further correct answer</p>																
<p><b>2(b)</b></p>	$\frac{57}{150}$	<p>[1] Or value given in part (a) for female-on time divided by 150 – error carried forward</p>																
<p><b>3(a)</b></p>		<p>[1] for correct labels</p> <p>[1] for 100, 45 and 13 in correct places</p> <p>[1] for calculating 55 and 42</p> <p>[1] for 27</p> <p>[1] for 18</p>																

Turn over ►

3(b)	$27 + 13 = 40$ members that are under 17	[1] for sum of value given on u17 branches in part (a)
	$\frac{40}{100} \times 100 = 40\%$	[1]
4	 <pre> graph LR     A((200)) --- B((80))     A --- C((120))     B --- D((44))     B --- E((36))     C --- F((50))     C --- G((70))     </pre>	<p>[1] for labelling frequency tree</p> <p>[1] mark for 200 and 120</p> <p>[1] mark for 80</p> <p>[1] mark for 36</p> <p>[1] mark for 50 or 70</p> <p>[1] Full marks if all cells correct with correct labels</p>
5	 <pre> graph LR     A((400)) --- B((260))     A --- C((140))     B --- D((52))     B --- E((208))     C --- F((28))     C --- G((112))     </pre>	<p>[1] mark for 400 and 140</p> <p>[1] mark for 260</p> <p>[1] mark for 28</p> <p>[1] mark for 52</p>
5(b)	10% off is £4.50 or £6.30	[1] mark for £4.50 or £6.30
	<p>Sales without vouchers</p> $= 208 \times £5 + 112 \times £7 = £1824$	[1] Correct calculation
	<p>Sales with vouchers</p> $= 52 \times £4.50 + 28 \times £6.30 = £410.40$	[1] Correct calculation
	£2234.40	[1] All 4 marks for correct answer

Turn over ►

<p><b>6(a)</b></p>	 <pre> graph LR     A((345)) --- B[French]     A --- C[Spanish]     A --- D[Italian]     B --- E((150))     C --- F((120))     D --- G((75))     E --- H[Male]     E --- I[Female]     F --- J[Male]     F --- K[Female]     G --- L[Male]     G --- M[Female]     H --- N((50))     I --- O((100))     J --- P((66))     K --- Q((54))     L --- R((50))     M --- S((25))   </pre>	<p>[1] 50 and 100 correct  [1] 66 and 54 correct  [1] 50 and 25 correct  [1] All correct</p>
<p><b>6(b)</b></p>	<p>There is a total of 166 male students.</p>	<p>[1]</p>

END