edexcel

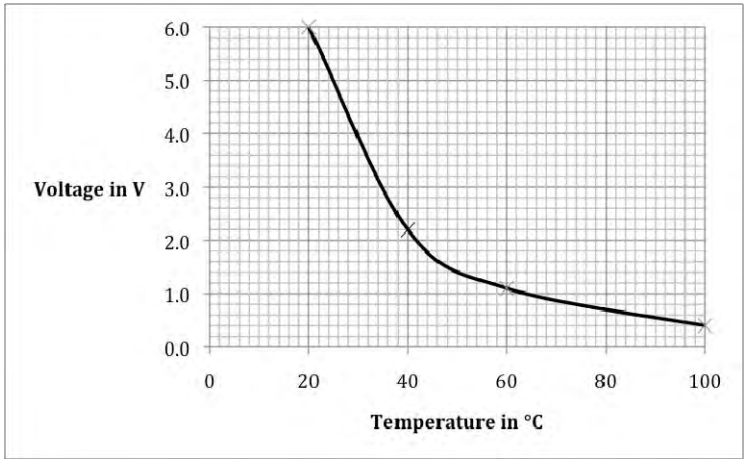
Mark Scheme (Results)

January 2014

International GCSE
Physics (4PH0) Paper 2P

Edexcel Level 1/Level 2 Certificates
Physics (KPH0) Paper 2P

<table>
<tr><th>Question number</th><th>Answer</th><th>Notes</th><th>Marks</th></tr>
<tr><td>4 (a)</td><td>Any three of -
MP1 use a stirrer / stir with thermometer;
MP2 centralise / spread heat source;
MP3 move thermistor and thermometer to same level;
MP4 move thermistor and thermometer closer together;
MP5 Use thermometer with finer scale / digital thermometer;</td><td>Ignore repeat readings

Assume horizontal separation meant</td><td>Max 3</td></tr>
<tr><td>(b)</td><td>(milli)Ammeter;</td><td>Allow ampmeter</td><td>1</td></tr>
<tr><td>(c) (i)</td><td>Scale; (at least half the grid)
Axes labelled including units;
Plotting ±½ small square;;
Line of best fit;
 
</td><td>Accept axes reversed
-1 each plotting error, minimum 0 for plotting
Curve through either (80, 0.2) or (100, 0.4)
Allow line bisecting these two points
<table><tr><th>Temperature in °C</th><th>Voltage in V</th></tr><tr><td>20</td><td>6.0</td></tr><tr><td>40</td><td>2.2</td></tr><tr><td>60</td><td>1.1</td></tr><tr><td>80</td><td>0.2</td></tr><tr><td>100</td><td>0.4</td></tr></table></td><td>5</td></tr>
<tr><td>(c) (ii)</td><td>DOP (80, 0.2) circled (if supported by line of best fit)</td><td>Allow (100, 0.4) circled if supported by line of best fit</td><td>1</td></tr>
</table>

Question number	Answer	Notes	Marks
4 (d) (i)	voltage = current x resistance;	Accept rearrangements and symbols e.g. current = voltage ÷ resistance, V=IR, R=V/I	1
(ii)	Substitution into correctly rearranged equation; Conversion between amps and milliamps; Calculation yielding value correct to at least 2 s.f.; e.g. I = 5.9 ÷ 680 = 0.00868 (A) = 8.7 (mA)	 Accept x 1000 in calculation Allow 1 mark max if response is only a successful reverse argument leading to 5.8 V or 5.78 V	3

Total 14 marks