

Question	Marking Guidance	Mark	Comments
07.1	1. Lowers activation energy; 2. Induced fit causes active site (of enzyme) to change shape; 3. (So) enzyme-substrate complex causes bonds to form/break;	3	3. Accept: description, of induced fit 3. Accept: enzyme-substrate complex causes stress/strain on bonds.
07.2	Size/dimensions /mass/variety of potato OR Temperature (of solution/flask) OR pH (of solution);	1	Accept : weight of potato Ignore : amount of potato Ignore concentration/ volume of catalase
07.3	0.33, 0.60, 0.86, 1.0, 1.0 = 2 marks;; $\frac{6}{time}$ 2 significant figures If answer incorrect accept for 1 mark, Correct values but incorrect number of significant figures OR 1.0 written on row for hydrogen peroxide 2.0/2.5 in Table 5 OR Answers showing correct division, eg 0.3, 0.6, 0.9 OR Answers showing correct significant figures using incorrect calculation ($\div 18$) 1.0, 0.56, 0.39, 0.33, 0.33	2	
07.4	1. Hydrogen peroxide concentration on x axis and	3	1. Graph should cover

	<p>rate of reaction on Y axis, linear number sequence and appropriate scale;</p> <p>2. Correct units /mol dm⁻³ and /arbitrary units/au;</p> <p>3. All co-ordinates plotted accurately with point-to-point or smooth curve;</p>		<p>half or more of the grid; eg reject if Y axis covers only three big squares</p> <p>2. Accept brackets instead of solidus</p> <p>3. Accept accurate plotting of co-ordinates given in 07.3</p> <p>3. Reject: bar chart</p> <p>3. Reject: if ruled straight line of best fit</p> <p>3. Accept: if x axis starts at 0.5</p> <p>3. Accept: if line is extended to (0,0)</p> <p>Plot coordinates must be processed data, hydrogen peroxide vs time = 0</p>
07.5	<p>Cut up/use discs/homogenise/increase surface area (of potato chips)</p> <p>OR</p> <p>Use bigger chips</p> <p>OR</p> <p>Increase temperature</p> <p>OR</p> <p>Change pH;</p>	1	<p>Reject answer if the temperature is above 40°C</p> <p>Ignore: more/increase heat</p>
TOTAL		10	