

Question Number	Answer	Additional Guidance	Mark
4(a)	<p>A description that makes reference to the following:</p> <ul style="list-style-type: none"> <li>• use of light (energy) to excite electrons in chlorophyll (1)</li> <li>• {photolysis / splitting of water} to produce oxygen, electrons and hydrogen ions (1)</li> <li>• electrons used { in the electron transport chain / to replace those lost by chlorophyll } (1)</li> <li>• generation of ATP / photophosphorylation (1)</li> <li>• reduction of NADP (1)</li> </ul>	<p>ALLOW electrons promoted to higher energy level ALLOW photosystem (PS) I or II for chlorophyll</p> <p>ALLOW correct equation</p> <p>ALLOW electrons used in redox reactions / electrons move along electron carrier proteins</p>	<b>5</b>

Question Number	Answer	Mark
4(b)(i)	<p><b>4(b)(i). The only correct answer is C – Stroma</b></p> <p>A is not correct because light-independent reactions take place in the stroma</p> <p>B is not correct because light-independent reactions take place in the stroma</p> <p>D is not correct because light-independent reactions take place in the stroma</p>	<b>1</b>

Question Number	Answer	Mark
4(b)(ii)	<p><b>4(b)(ii). The only correct answer is C – RUBISCO (ribulose bisphosphate carboxylase/oxygenase)</b></p> <p>A is not correct because RUBISCO (ribulose bisphosphate carboxylase/oxygenase) is the enzyme that fixes carbon dioxide</p> <p>B is not correct because is not correct because RUBISCO (ribulose bisphosphate carboxylase/oxygenase) is the enzyme that fixes carbon dioxide</p> <p>D is not correct because is not correct because RUBISCO (ribulose bisphosphate carboxylase/oxygenase) is the enzyme that fixes carbon dioxide</p>	<b>1</b>

Question Number	Answer	Mark
4(b)(iii)	<p><b>4(b)(iii). The only correct answer is B – GP</b></p> <p>A is not correct because glucose is made from the products of the light-independent reactions</p> <p>C is not correct because RuBP is the molecule that CO<sub>2</sub> combines with to form molecules of GP</p> <p>D is not correct because starch is formed from glucose</p>	<b>1</b>