

AQA, OCR, Edexcel

A Level

A Level Biology

Photosynthesis 2 Answers

Name:

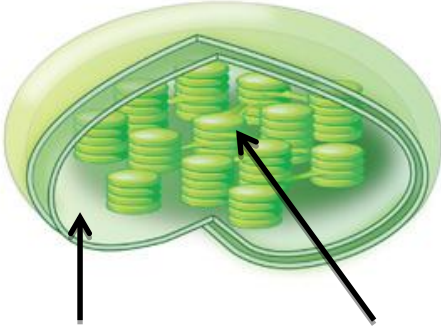
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Mathsmadeeasy.co.uk

Total Marks: /27

Answer	Marks
<p>1.</p> <p>a)</p> <p>i)</p>  <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; padding: 5px; width: 45%;">Stroma – light independent reaction</div> <div style="border: 1px solid black; padding: 5px; width: 45%;">Thylakoids – light dependent reaction</div> </div> <p>b) i) - Chlorophyll A - Chlorophyll B - Carotene</p> <p>ii) – Capture light energy - Capture different wavelengths of light</p> <p>iii) To cover a wider spectrum of light wavelengths</p> <p>2. A)</p> <p>i) – ATP - NADPH - O₂</p> <p>ii) – electron pairs are excited - They move up to a higher energy levels for the light dependent reaction</p> <p>iii) -Electrons are passed down a chain of electron carriers - Energy released - The energy lost at each level is used to make ATP</p>	<p style="text-align: center; margin-top: 100px;">2 marks</p> <p style="text-align: center; margin-top: 100px;">3 marks</p> <p style="text-align: center; margin-top: 100px;">2 marks</p> <p style="text-align: center; margin-top: 100px;">1 mark</p> <p style="text-align: center; margin-top: 100px;">2 marks</p> <p style="text-align: center; margin-top: 100px;">2 marks</p> <p style="text-align: center; margin-top: 100px;">3 marks</p> <p style="text-align: center; margin-top: 100px;">Accept description of chemiosmosis</p>

<p>iv) Splitting water using light energy</p>	<p>1 mark</p>
<p>3.</p> <p>a)</p> <p>i) Photosystem I – electrons excited from the chlorophyll are recycled in back to the chlorophyll molecule (not passed to NAPH)</p> <p>b)</p> <p>i) electron carrier proteins transfer electrons down a chain.</p> <p>ii) – Light energy enters photosystem II</p> <ul style="list-style-type: none">- This excites the electrons- Electrons move to a higher energy level- Electrons move along the electron transport chain- Release energy- Pumps H⁺- Chemiosmosis- ATP Synthase produces ATP from ADP + Pi <p>iii) – photolysis splits water into H⁺, e⁻ and O₂</p> <ul style="list-style-type: none">- Electrons need to be replaced in photosystem II	<p>2 marks</p> <p>1 mark</p> <p>6 marks</p> <p>2 marks</p>