

**AQA, OCR, Edexcel**

**A Level**

# **A Level Biology**

## **Respiration 2 Answers**

Name:

**M M E**

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**Total Marks: /41**

Answer	Marks
<p>1.</p> <p>a)</p> <p>i) Matrix – mitochondria</p> <p>ii) A – 2 carbons B – 6 carbons C – 5 carbons D – 4 carbons</p> <p>iii) Used in the next link reaction</p> <p>iv) CO<sub>2</sub>, ATP, reduced NAD, reduced FAD</p>	<p>1 mark</p> <p>4 marks</p> <p>1 mark</p> <p>4 marks</p>
<p>2.</p> <p>a)</p> <p>i) Glycolysis – 2 Link reaction – 0 Krebs Cycle – 2 ETC – 28</p> <p>ii) – H atoms are released from reduced NAD &amp; FAD – Hydrogen splits into H<sup>+</sup> and e<sup>-</sup> -Electrons move along the electron transport chain -They lose energy at each stage -Energy is used to pump protons from the mitochondrial matrix into the intermembrane space -Forms an electrochemical gradient -Protons move down the gradient via ATP synthase - Chemiosmosis -Drives synthesis of ATP from ADP + Pi</p> <p>iii) -Oxygen is final electron acceptor -Protons, electrons and oxygen from the blood combine to form water</p>	<p>4 marks</p> <p>8 marks</p> <p>2 marks</p>

<p><b>3.</b></p> <p>a.</p> <p>i) A – Glucose B – Pyruvate C – Ethanal C – Ethanol</p> <p>b)</p> <p>i) So that glycolysis can continue to take place</p> <p>ii) – muscle cells are involved in exercise - Insufficient oxygen during intense exercise - Lactate fermentation then occurs</p>	<p>4 marks</p> <p>1 mark</p> <p>2 marks</p>
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