

AQA, OCR, Edexcel

A Level

A Level Biology

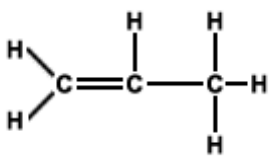
Lipid Answers

Name:

M M E

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Total Marks: /26

Answer	Marks
<p>1. a)</p> <p>i) <u>Any three from:</u></p> <ul style="list-style-type: none"> - Storage as fat - Hormones – steroids - Cell membranes - Thermal Insulation - Electrical insulation (myelin) - Waterproofing <p>ii) Carbon, Oxygen, Hydrogen</p> <p>b)</p> <p>i) Triglyceride</p> <p>ii)</p> <ul style="list-style-type: none"> - One glycerol molecule (green) - Attached to three fatty acid chains - Glycerol head is hydrophilic – interacts with water - Fatty acid tails are hydrophobic – repel water <p>iii) Energy storage molecule</p>	<p>3 marks</p> <p>3 marks</p> <p>1 mark</p> <p>4 marks</p> <p>1 mark</p>
<p>2. a)</p> <p>i) -In the hydrocarbon tails of saturated lipids all the carbon atoms are joined by a single bond. -In unsaturated lipids two or more of the carbon atoms are joined by a double carbon bond</p> <p>ii)</p> <div style="text-align: center;">  </div> <p>1 mark for the presence of the double bond 1 mark for the correct number of hydrogen atoms</p> <p>b)</p> <p>i) – Olive oil, vegetable oil, safflower</p>	<p>2 marks</p> <p>2 marks</p> <p>1 mark</p>

<p>oil, brazil nuts, oily fish</p> <p>ii) Lowers the boiling point</p>	<p>1 mark</p>
<p>3.</p> <p>A)</p> <p>i) Three condensation reactions</p> <p>ii)</p> $ \begin{array}{c} \text{H} = \\ \quad \quad \quad \wedge \\ \text{H} - \text{C} - \text{O} - \text{C} - \text{R} \\ \quad \quad \quad = \\ \text{H} - \text{C} - \text{O} - \text{C} - \text{R} \quad + 3\text{H}_2\text{O} \\ = \\ \text{H} - \text{C} - \text{O} - \text{C} - \text{R} \\ \\ \text{H} \end{array} $ <p>2 marks for all three correctly draw fatty acid chain 1 mark showing 3 water molecules</p> <p>iii) Ester bond</p> <p>b)</p> <p>i) One of the fatty acids tails is replaced with a phosphate molecule</p> <p>ii) Cell membranes</p>	<p>1 mark</p> <p>3 marks</p> <p>1 mark</p> <p>2 mark</p> <p>1 mark</p>