

**AQA**

**A Level**

# **A Level Biology**

## **Digestion Answers**

Name:

**M M E**

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Total Marks: /38

### Digestion

Answer	Marks
<p>1. A)</p> <p>i) Polysaccharides</p> <p>ii) Amino acids</p> <p>b)</p> <p>i) – Breaks the bonds holding polymers together - Using water</p> <p>ii) – Speed up hydrolysis reactions</p>	<p>1 mark</p> <p>1 mark</p> <p>2 marks</p> <p>1 mark</p>
<p>2. A)</p> <p>i) <u>Any two from:</u> - Saliva contains enzymes which start digestion e.g. amylase - Teeth break up food to increase the surface area of the food molecules for enzymes to work on - Tongue moves food around and mixes it with the saliva</p> <p>b)</p> <p>i) Peristalsis</p> <p>ii) To move the food bolus along the digestive tract</p> <p>iii) A – The muscles are contracting B – The muscles are relaxing Moves the food along in one direction</p> <p>iv) <u>Any one from:</u> – oesophagus - small intestine - Large intestine</p>	<p>2 marks</p> <p>1 mark</p> <p>1 mark</p> <p>3 marks</p> <p>1 mark</p>
<p>3. A)</p> <p>i) Pepsin/protease</p> <p>ii) - Parietal cells - create the optimum pH for the stomach enzymes to function - low pH kills bacteria from the</p>	<p>1 mark</p> <p>3 marks</p>

external environment	
iii) – Mucus - Protects the stomach lining from the acidic conditions	2 marks
b) i) – Lining of the small intestine is folded into villi which are made up of microvilli - this increases surface area for absorption - Each villus has its own blood supply - Meaning there is a short diffusion pathway for exchange of substances	4 marks
ii) – released digestive enzymes directly into the small intestine - Released sodium hydrogen carbonate to neutralise the stomach acid.	2 marks
iii) – The saliva contains enzymes - Amylase breaks down starch into maltose - In the small intestine - maltase breaks down maltose into glucose -Glucose is small enough to pass directly into the blood	5 marks
c) i) –Co-transport -Sodium ions are transported by active transport out of epithelial cells into the blood -Sodium ions from the small intestine diffuse into the cell via sodium-glucose co-transporter proteins -Glucose is transported with the sodium into the cell -The glucose concentration in the cell increases -Glucose diffuses into the blood down its concentration gradient via facilitated diffusion	5 marks
d) i) – Liver produces bile - the gall bladder stores the bile -Bile emulsifies fat which aids digestion	3 mark