

2A2B HUMAN BIOLOGY DIGESTIVE SYSTEM TEST

Name: Answer Key

Teacher: \_\_\_\_\_

ABG  
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Part one – multiple choice

1. Digestion begins in the mouth. Which of the following statements is INCORRECT?
  - a) The tongue aids in the digestion of food.
  - b) The saliva changes some of the starches in the food to sugar.
  - ☒ c) The tongue keeps the food in place in the mouth while the food is being chewed.
  - d) Saliva can react more easily with the food when chewed.
  
2. Our pharynx divides into two separate tubes: the trachea and the oesophagus. What prevents food from entering the trachea?
  - a) The uvula.
  - b) The tongue.
  - c) The trachea.
  - ☒ d) The epiglottis.
  
3. Where does the partly-digested food (in liquid form) go after it leaves the stomach?
  - a) The liver.
  - b) The appendix.
  - ☒ c) The small intestine.
  - d) The large intestine.
  
4. Digestion takes place in a long tube-like canal called the alimentary canal, or the digestive tract. Food travels through these organs in the following order:
  - ☒ a) Mouth, oesophagus, stomach, small intestine, large intestine and rectum.
  - ☒ b) Mouth, oesophagus, stomach, large intestine, small intestine and rectum.
  - c) Mouth, stomach, oesophagus, small intestine, large intestine and rectum.
  - d) Mouth, stomach, oesophagus, small intestine, large intestine and rectum.
  
5. Another term for swallowing of food is:
  - a) Digestion.
  - ☒ b) Ingestion.
  - c) Deglutition.
  - d) Peristalsis.

Part two – short answer

1. Write the dental formula for humans.

i-2/2 C-1/1 P-2/2 M-3/3 = 16 x 2 = 32

(1 mark)

2a. What special substance does the liver produce? bile

(1 mark)

2b. What does this substance do?

emulsifies fats

(1 mark)

2c. Where is this substance stored? gall bladder

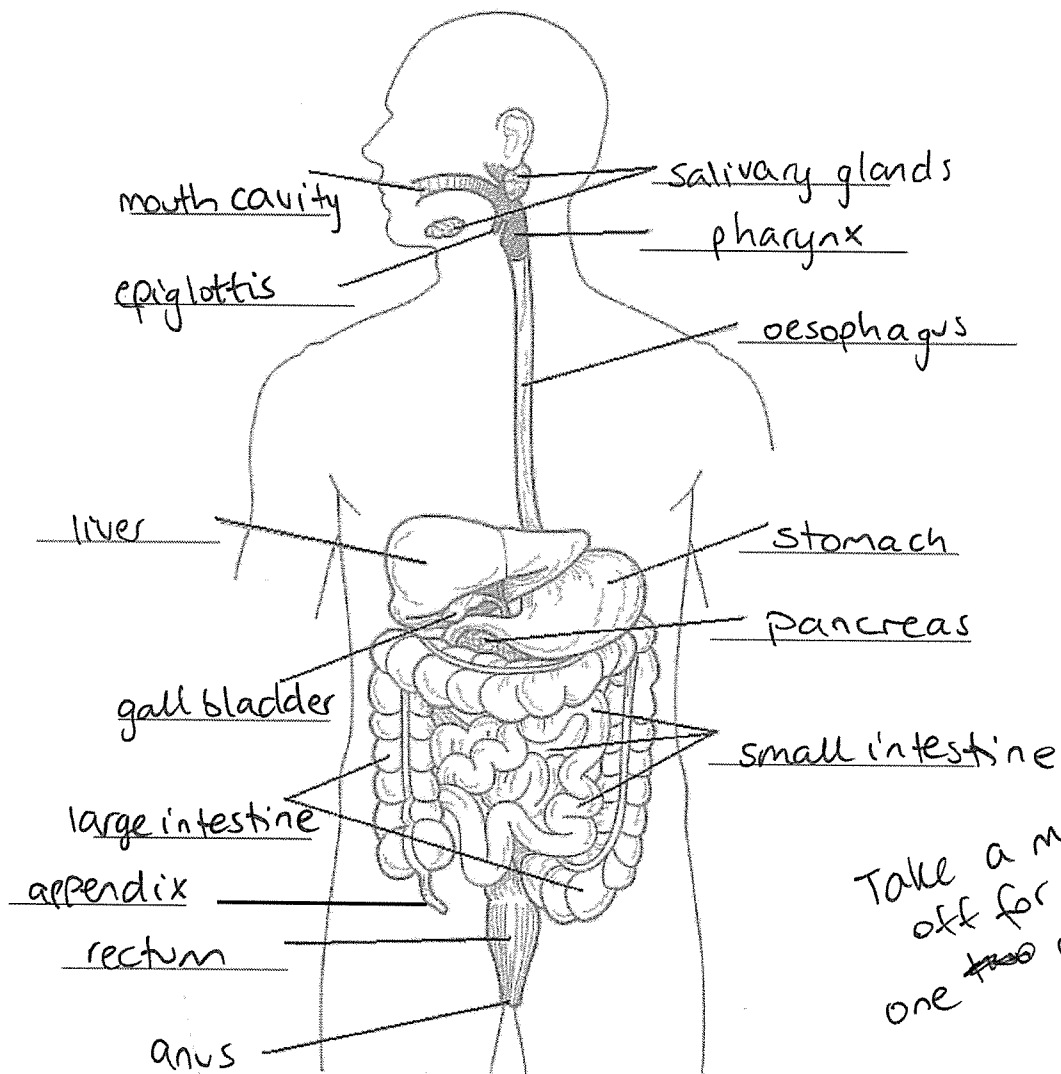
(1 mark)

3. Complete the table below.

Structure	Where they are found	Function
Circular and longitudinal muscle layers	whole digestive tract (stomach, oesophagus, small & large intestines, rectum)	- moves food by peristalsis - churns food in stomach
Villi	Small intestine	increases surface area available for absorption
Goblet cells	small intestine	produces digestive enzymes
Mucus	Stomach wall	stops stomach from digesting itself

(8 marks)

4. Label the diagram below.



(7 marks)

5. Explain what peristalsis is.

(1)  
- progressive waves of contraction & relaxation of muscular tube that pushes material along.  
(1)

(2 marks)

6. Fill in the table below.

Name of enzyme	Where it is made	Where it is found (used)	What it acts on (substrate)	Product
Salivary amylase	Salivary gland	mouth	starch	disaccharides
Pancreatic lipase	pancreas	small intestine	fats & lipids	fatty acids & glycerol
Pancreatic protease (trypsin)	pancreas	small intestine	protein	peptide chains (polypeptide)
Pancreatic amylase	pancreas	small intestine	starch	disaccharide
Gastric protease (pepsin)	stomach	stomach	protein	peptide chains (polypeptide)

(20 marks)

### Part three – extended answer

1. Vitamin D, vitamin C and Vitamin B1 are all important vitamins which your body needs to keep healthy. For each of these vitamins, state a deficiency disease caused by a lack of the vitamin, two symptoms of the deficiency and two food sources of the vitamin.

(10 marks)  
15

#### Vitamin D

- deficiency disease - Rickets (1)
- symptoms - soft bones, weak bones, enlarged joints, bowed limbs Any two

(2)

- food source - Eggs, cod liver oil, any two

(2)

Sun

#### Vitamin C

- deficiency disease - scurvy (1)
- symptoms - sore gums, bleeding around bones, delayed healing of wounds Any two

(2)

- food source - citrus fruits, tomatoes, strawberries, potatoes, leaf vegetables Any two

(2)

#### Vitamin B1

- deficiency disease - beri beri (1)
- symptoms - poor appetite, loss of weight, nausea, indigestion any 2 (2)

(2)

- food source - whole grains, green vegetables, milk, meat, seafood, poultry

Any two (2)