

Biology revision test
ch.6 2 mid-term exam
marks: 110 1.



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Biology revision test ch. 6 2 mid-term exam Marks: /110 1. The following diagram shows two similar models simulating a region of the mammalian alimentary canal. The water in the test tubes surrounding the dialysis tubings was tested with standard food test reagents at the beginning of the experiment and again after one hour. The results showed that neither starch nor reducing sugar was present in the water surrounding tubes A and B at the beginning of the experiment. (7 marks) water bath at 37°C starch + water starch + amylase + water dialysis tubing test tubes A B water bath at 37°C starch + water starch + amylase + water dialysis tubing test tubes A B

(a) What results would be expected after one hour when water surrounding the dialysis tubing was tested for starch and reducing sugar? (2 marks)

----- (b)

Name a suitable chemical for testing reducing sugar. (1 mark)

----- (c) What structure in the human body does the liquid surrounding the dialysis tubing represent? (1 mark)

----- (d) If the experiment were repeated, with the two test tubes placed in a refrigerator instead of a water bath, how would you expect the results to differ? Explain your answer. (3 marks)

----- 2. The figure below shows a human teeth set in the lower jaw. (9 marks) P Q R S T P Q R S T (a) What type of tooth is P? How many roots does it have? (2 marks)

----- (b) Is this teeth set normally found in a 4-year-old boy or a 40-year-old man? What is the evidence which supports your hypothesis? (2 marks)

----- (c)

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List two differences between milk teeth and permanent teeth. (2 marks)

----- (d) Write down the letter of the teeth which is responsible for tearing food. (1 mark)

----- (e) State the special feature of tooth T and state the corresponding function of such feature. (2 marks)

----- 3.

The diagram below shows the human digestive system labelled A to J. (15

marks) F A B G H C D E I J F A B G H C D E I J (a) Which structures of the digestive system secrete juice that provides an alkaline condition? Use the letters to indicate the parts. (2 marks) ----- (b)

In which structure can amylase, protease and lipase first be found along the alimentary canal? Use the letters to indicate the structures. (3 marks)

----- (c) (i) What is structure A? (1 mark)

----- (ii) Structure A contains a fluid. What is this fluid called? Name two substances found in this fluid. (3 marks)

----- (d)

Name any two structures in the diagram that have functions other than digestion or absorption. State their functions. (4 marks)

----- (e)

Name any two sphincter muscles found in the alimentary canal. (2 marks)

----- 4.

The diagram below shows a liver and the associated blood vessels. (11

marks) (a) What is structure L? Structure L stores a fluid which is important
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to digestion. State a function of this fluid. (2 marks)

----- (b) Name vessels J, K, O and P. (2 marks)

----- (c)

Which vessel contains blood with the highest concentration of glucose during starvation? Explain in relation to the hormone(s) involved. (3 marks)

----- (d)

Two pathways are involved in blood circulation in this region. Use a flowchart to show their sequences. (2 marks) -----

----- (e) Which vessel contains blood with the highest concentration of carbon dioxide? Suggest another substance that is present at the highest concentration in blood carried by this vessel. (2 marks) -----

5. The following diagram shows the percentage of digestion of different food substances along different regions of the alimentary canal of a man. The food substances are carbohydrate, protein and lipid. (17 marks) 100 0 Percentage of digestion (%) stomach X Y P Q R 100 0 Percentage of digestion (%) stomach X Y P Q R

(a) Name the regions X and Y. (2 marks) -----

----- (b) Which food substances do P, Q and R represent, respectively? (3 marks -----

----- (c)

Describe and explain curve Q. (6 marks) -----

----- (d) Name the secretions present at X.

State its/their sources and components involved in digestion. (6 marks)

----- 6.

The diagram below shows a certain region of the human digestive system.

(15 marks) liver stomach gall bladder C A B liver stomach gall bladder C A B

(a) Name structures A and B. (1 mark) ----- (b)

Name two substances present in the secretion secreted by stomach wall. (1 mark) ----- (c) (i) Name the digestive and

hormonal secretions of structure C. (2 marks)

----- (ii) By

what means do these secretions reach the places where they exert their actions?(2 marks) -----

----- (iii) Name two enzymes present in the digestive secretion of structure C. (1 mark)

----- (iv)

What are the functions of these enzymes? (3 marks)

----- (d) (i) Name the secretion of the liver that assists in digestion. (1 mark) ----- (ii)

Where is this secretion stored before entering structure B? (1 mark)

----- (iii) State the functions of this secretion. (3 marks) -----

----- 7.

The following diagram shows the structure of the posterior region of the

human alimentary canal. (10 marks) A B C D E F A B C D E F (a) Name
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structures A, B, C, D, E and F. (3 marks) -----

----- (b) Explain the differences in structure and function between structure B of a human and that of a rabbit? (4 marks)

----- (c)

Name the substance in our diet that assists in the passage of food along the large intestine. (1 mark) -----

(d) State the function of (i) D. (1 mark) ----- (ii) E. (1 mark)

----- 8. The diagram below shows the anterior region of the alimentary canal of a man. (10 marks) A A B C F D E A A B C F D

E (a) (i) What is the name of the fluid produced by structure A? (1 mark)

----- (ii) Name the enzyme found in the above fluid and describe its function. (2 marks) -----

----- (b) Give two functions of structure B. (2 marks) -----

----- (c) (i) Name structure D. (1 marks)

----- (ii) State the function of D. (1 mark)

----- (d) Where do structures E and F lead to, respectively? (2 marks) -----

----- (e) Name the process by which food is passed along the intestine. (1 mark) ----- 9.

The diagram below shows the structure of the wall of the mammalian small intestine. (16 marks) (a) Name structure A, B and C. (2 marks)

----- (b) (i) What is the function of structure C? (1 mark) ----- (ii) State and explain how

structure C is adapted to perform its functions. (4 marks)

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----- (c)

What is the function of structure A? (1 mark)

----- (d) (i) What is the function of structure B?
(1 mark) ----- (ii) State the transport system

to which structure B belongs. (1 mark) -----

(e) Use a flowchart to list the structures (in correct order) by which food
absorbed by A is transported to the kidney. (5 marks)

----- (f) Structure D and E are circular and

longitudinal muscles, respectively. What is their function? (1 mark)
