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90929



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## Level 1 Biology, 2017

### 90929 Demonstrate understanding of biological ideas relating to a mammal(s) as a consumer(s)

9.30 a.m. Thursday 16 November 2017  
Credits: Three

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of biological ideas relating to a mammal(s) as a consumer(s).	Demonstrate in-depth understanding of biological ideas relating to a mammal(s) as a consumer(s).	Demonstrate comprehensive understanding of biological ideas relating to a mammal(s) as a consumer(s).

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

**You should attempt ALL the questions in this booklet.**

If you need more space for any answer, use the page(s) provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–8 in the correct order and that none of these pages is blank.

**YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.**

TOTAL

ASSESSOR'S USE ONLY

**QUESTION ONE: DIGESTION**ASSESSOR'S  
USE ONLY

The diagrams below show the digestive system in the body and the pH of the different parts.



<http://pulpbits.net/7-label-the-parts-of-the-digestive-system/the-digestive-system-with-labels/>

<http://www.badgut.org/information-centre/a-z-digestive-topics/pill-coating/>

Compare and contrast the physical and chemical digestion of proteins, carbohydrates and fats in the digestive system of a mammal such as a human.

In your answer:

- describe the purpose and location of the processes of physical and chemical digestion
- explain how digestion of proteins, carbohydrates, and fats occurs
- discuss why the pH of the different parts of the digestive system is important in the digestion of food, and how the pH is regulated.

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## QUESTION TWO: HERBIVORE AND CARNIVORE DIGESTIVE SYSTEMS

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Herbivores and carnivores have differences in their mouths and guts which help them digest their different diets.



### Rabbit gut (herbivore)

### Dog gut (carnivore)

<http://www.vivahealth.org.uk/wheat-eaters-or-meat-eaters/length-digestive-tract>



### Rabbit (herbivore) skull

### Dog (carnivore) skull

<https://nz.pinterest.com/pin/299419075201863865/>

<http://www.angelfire.com/mi/dinosaurs/dogs.htm>

Compare and contrast the differences in the digestive system and mouth of a herbivore and a carnivore.

In your answer:

- describe the diet of a herbivore such as a rabbit, and a carnivore such as a dog
- explain why and how the digestion that occurs in the mouths of a herbivore and a carnivore are different
- explain the main differences in structures and functions of the herbivore and carnivore gut
- evaluate the effectiveness of the digestive systems of a herbivore and a carnivore.

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**QUESTION THREE: ABSORPTION, CIRCULATION, ASSIMILATION AND RESPIRATION**ASSESSOR'S  
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The pictures below show the main sites of digestion and how blood is circulated in the human body.



<http://www.mentone-educational.com.au/how-food-is-digested-the-heart-and-blood-circulati>

Discuss how the processes of absorption, circulation, assimilation, and respiration work together to ensure the products of food digestion are distributed around and used by the body.

In your answer:

- describe the processes of absorption, circulation, assimilation, and respiration, and where these processes occur
- explain how and why the processes of absorption, circulation, assimilation, and respiration occur in the body
- discuss how the processes of absorption, circulation, assimilation, and respiration work together to ensure the healthy functioning of the body.

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Extra paper if required.  
Write the question number(s) if applicable.

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QUESTION  
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