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NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

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SUPERVISOR'S USE ONLY

Level 1 Biology, 2012

90929 Demonstrate understanding of biological ideas relating to a mammal as a consumer

9.30 am Thursday 15 November 2012

Credits: Three

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

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

You are advised to spend 60 minutes answering the questions in this booklet.

QUESTION ONE: HERBIVORES AND CARNIVORES

A rabbit is a herbivore and a dog is a carnivore. The diagram below shows the digestive systems of each of these mammals.

Digestive system of a rabbit

Digestive system of a dog

For copyright reasons, this resource cannot be reproduced here.

Tracy Greenwood, Lissa Bainbridge-Smith, Richard Allan, *Year 12 Biology Student Workbook* (Biozone, Hamilton, 2008), p 205

Use the diagram above to discuss the significance of the differences in the digestive systems of a rabbit and a dog.

In your answer you should:

- describe the differences between the rabbit's and the dog's large intestine and caecum
- explain the function of the large intestine and caecum in digestion
- explain how these structures allow each mammal to gain maximum nutrient value from the food that they eat.

QUESTION TWO: VILLI

The diagram below shows a villus (plural villi), from the lining of the small intestine, with an enlargement showing microvilli.



Martin Hanson, *NCEA Level 1 Biology & Human Biology* (Auckland, ESA Publications, 2003), p 58.

Discuss how the microvilli, capillary network and lacteal work together to allow the villi to carry out their function.

In your answer you should:

- describe the overall role of the villi
- relate the structure of each part to the role it plays in allowing the villus to carry out its function.

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