NZQA

NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

QUALIFY FOR THE FUTURE WORLD
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Level 1 Biology, 2018

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

9.30 a.m. Tuesday 27 November 2018
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 space provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–12 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: ENZYMES AND DIGESTION IN HERBIVORES, OMNIVORES, AND CARNIVORES

Enzymes are involved in digestion of food in herbivores, omnivores, and carnivores. Use the resource material below to help you answer the questions.

Digestive systems

Herbivore

www.mnn.com/earth-matters/animals/stories/
20-things-you-didnt-know-about-cows

http://slideplayer.com/

Omnivore

https://blogs.fco.gov.uk/leighturner/2017/05/15/an-encounter-
with-a-viennese-wild-boar-wildschwein/

http://slideplayer.com/slide/4687656/

Carnivore

http://globalpetfoodsnb.ca/2015/02/cat-obligate-carnivore/

www.123rf.com/photo_46796459_stock-vector-digestive-
system-of-the-cat-medical-veterinary-vector-illustration.html

Compare and contrast the enzymes involved in the process of digestion in the gut of herbivores, omnivores, and carnivores.

In your answer:

- describe the structure and function of enzymes used in food digestion

- explain how the structure and function of enzymes may be affected by different conditions in the gut of herbivores, omnivores, and carnivores

- discuss why there are differences in type and location of enzymes in the gut of herbivores, omnivores, and carnivores.

There is more space for your answer to this question on the following page.

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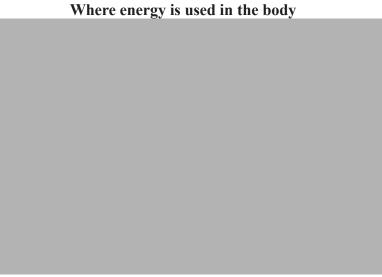
The examination continues on the following page.

QUESTION TWO: ABSORPTION AND ASSIMILATION OF DIGESTED FOOD

Once food is digested, it needs to be absorbed into the bloodstream. Villi are structures that absorb digested food. The diagrams below show villi and some associated structures.

www.slideshare.net/mbregar/the-digestive-system-2010pptm

Discuss the importance of villi to the overall processes of absorption and assimilation.

In your answer:

- describe the processes of absorption and assimilation

- explain why some parts of the digestive system have more villi than other parts

- discuss how the structure and function of the villi allow digested food to be efficiently absorbed and assimilated by the body.

QUESTION THREE: TRANSPORT AND USE OF DIGESTED FOOD

Once food has been digested and absorbed, it needs to be transported around the body to the places where it is used.

Where energy is used in the body

www.saskwellness.com/fatigue-and-vitality/

Discuss how the digestive system and circulatory system work together to ensure body cells have the nutrients they require.

In your answer:

• describe the process of cellular respiration

• explain how the circulatory system transports the products of digestion, such as glucose, around the body

• discuss why cells in some parts of the body require more glucose than others, and how this glucose is delivered efficiently.

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