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90929



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 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

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

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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 reas cannot be repr	
	Tracy Cranwood Lines Dainheides Smith Dishard Allan Varu	12 Dialogy Surdant Workhook (Diagona Hamilton 2009) in 205
	Tracy Greenwood, Lissa Bainbridge-Smith, Richard Allan, Year	12 Biology Student Workbook (Biozone, Hamilton, 2008), p 205
	the diagram above to discuss the significance out and a dog.	of the differences in the digestive systems of a
In y	our 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	l caecum in digestion
•	explain how these structures allow each man food that they eat.	nmal to gain maximum nutrient value from the

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QUESTION TWO: VILLI			
The diagram below shows a villus (plural villi), from the lining of the small intestine, with an enlargement showing microvilli.			
	For copyright reasons, this resource cannot be reproduced here.		
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			
	neir function.		
	ur 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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QUESTION THREE: pH AND ENZYMES

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Different parts of the digestive system of mammals have different pH levels.

Discuss the importance of pH levels to the functioning of enzymes in the process of digestion. In your answer you should:

- consider TWO different parts of the digestive system with differing pH levels
- explain the effect of changing pH levels on the enzyme action
- use a specific example of an enzyme, and link pH changes to its role in digestion in the two parts of the digestive system considered.

Parts of the digestive system considered:	
1	
2	

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