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90168



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA



National Certificate of Educational Achievement
TAUMATA MĀTAURANGA Ā-MOTU KUA TAEA

Level 1 Biology, 2006

90168 Describe how humans use and are affected by micro-organisms

Credits: Two

9.30 am Thursday 30 November 2006

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 answer 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 2–7 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.

For Assessor's use only		Achievement Criteria		
Achievement		Achievement with Merit		Achievement with Excellence
Describe biological ideas relating to how humans use and are affected by micro-organisms.	<input type="checkbox"/>	Explain biological ideas relating to how humans use and are affected by micro-organisms.	<input type="checkbox"/>	Discuss biological ideas relating to how humans use and are affected by micro-organisms.
Overall Level of Performance				<input type="checkbox"/>

You are advised to spend 40 minutes answering the questions in this booklet.

QUESTION ONE

(a) Complete the following table with simple drawings to describe the shape of these bacterial groups. One column has been completed for you.

Type	Bacillus	Vibrio	Spirillum	Coccus
Shape				

(b) Many bacteria are pathogenic; they cause disease.

Give an example of a pathogenic bacteria **and** the disease it causes.

Example: _____

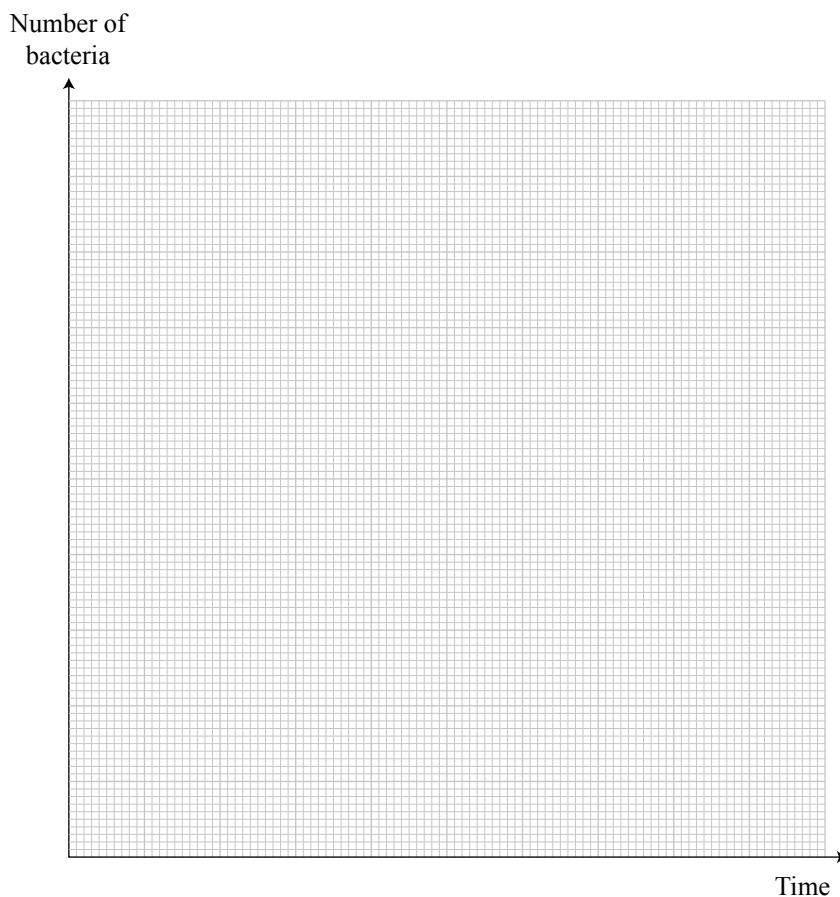
Disease: _____

(c) Some bacteria are classified as saprophytes, and others as parasites.

Explain the difference between these groups.

(d) Bacterial colonies often grow very quickly.

(i) Sketch a graph below to show the population growth curve of a colony of bacteria.



(ii) **Discuss** how the reproduction of bacteria leads to rapid growth, and why such growth cannot continue indefinitely.

(a) The diagram shows three structures (1, 2, 3).

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Adapted from : <http://www.kcom.edu/faculty/chamberlain/Website/Lects/fungi9.jpg>

Complete the table below by naming the structures and describing their functions.

Name of structure	Function (what the parts are for)
1	
2	
3	

(b) **Explain** the role of yeast in the fermentation of alcoholic drinks such as beer and wine.

QUESTION THREE

Explain why fungi and bacteria are important in nutrient cycles such as the carbon and nitrogen cycles.

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QUESTION FOUR

Discuss why the human immune system is often unable to defend against a viral attack.

In your answer consider:

- the way a virus reproduces
- the structure of a virus
- the effect of mutations in the virus.

**Extra paper for continuation of answers if required.
Clearly number the question.**

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Question
number

