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90927



Level 1 Biology, 2011

90927 Demonstrate understanding of biological ideas relating to micro-organisms

9.30 am Friday 18 November 2011 Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of biological ideas relating to micro-organisms.	Demonstrate in-depth understanding of biological ideas relating to microorganisms.	Demonstrate comprehensive understanding of biological ideas relating to micro-organisms.

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 room for any answer, use the extra space provided at the back of this booklet.

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.

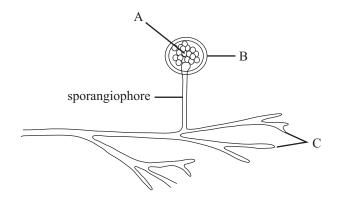
TOTAL

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

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QUESTION ONE: FUNGI

The diagram below shows the generalised structure of a mould, which is a type of fungus.



Each of the parts labelled A, B and C is important in reproduction or feeding.

Discuss the roles that parts A, B and C play in reproduction or feeding.

In your answer you should:

- name the parts A, B and C
- identify the role of each part in either reproduction or feeding
- explain how each of the parts A, B and C carries out its role in either reproduction or feeding

• relate the role of each part to the survival and/or reproduction of the fungus.	

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QUESTION TWO: FOOD STORAGE

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Milk can be found in many forms. For long-term storage, milk is heated and turned into milk powder. The picture below shows two forms of milk – liquid milk (left) and milk powder (right).



Discuss why the milk powder can be stored for a longer time than liquid milk. In your answer you should:

- describe the difference between the two milk products in terms of water content
- consider the effect that this difference in water content has on storage temperature requirements
- relate both water content and temperature of storage to the long-term storage and spoilage of the two products

relate the water content and temperature to the life cycle of bacteria.

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QUESTION THREE: INFECTIOUS PNEUMONIA

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Pneumonia is a condition in humans where the lungs become inflamed. It can occur for a wide range of reasons, but is often caused by either a viral or a bacterial infection.

The X-rays below show lungs unaffected by pneumonia (A) and lungs showing a pneumonia infection (B).

Describe how infectious pneumonia could be passed between people.

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http://en.wikipedia.org/wiki/Pneumonia

(a)

)	Describe what measures could be taken to reduce the risk of spreading infectious pneumonia
)	Describe what measures could be taken to reduce the risk of spreading infectious pneumonia
)	Describe what measures could be taken to reduce the risk of spreading infectious pneumonia

(c)	Discuss how the life processes of bacteria and viruses can cause infections, such as infectious pneumonia.				
	In your answer you should:				
	describe how both bacteria and viruses reproduce				
	• compare and contrast bacterial and viral reproduction, and explain how each process causes disease				
	• consider the role of bacterial excretion in producing symptoms in bacterial pneumonia				
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QUESTION NUMBER	Extra space if required. Write the question number(s) if applicable.