2

90464



For Supervisor's use only

Level 2 Biology, 2007

90464 Describe cell structure and function

Credits: Three 2.00 pm Tuesday 27 November 2007

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 2–9 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 cell structure and function.	Explain cell structure and function.	Discuss cell structure and function.				
Overall Level of Performance						

You are advised to spend 35 minutes answering the questions in this booklet.

QUESTION ONE

The surface area of cells is important for the transfer of materials, but the surface area: volume ratio changes as a cell grows.
Explain why cells can only grow to a limited size.

imilarities and differences.	

QUESTION TWO

Assessor's use only

Chemical reactions in living organisms are made possible by the action of enzymes. Enzymes are usually specific in terms of the conditions they operate in, and the substrates they act upon.

ct upon.			

Discuss the effect of tempor	perature on the activity of an enzyme. (You may include a diagram	A
in your answer if you wish	1.)	
		-
		_
		-
		-
		-
		_
		-
		-
		_
		-
		-
		_
		-
		-

QUESTION THREE

Assessor's use only

Euglena is a common freshwater protist, found in ponds or slow-moving streams.

For copyright reasons, this resource cannot be reproduced here.

Adapted from: Greenwood, Allan & Butler, *Year 12 Biology 2003 Student Resource and Activity Manual* (Hamilton, Biozone, 2002), p 274.

Describe the structure of the nucleus.
Describe the function of the eye spot.
Euglena can absorb nutrients from decayed organic material, but normally it relies on the process of photosynthesis. Discuss how factors may influence the rate of photosynthesis, and why photosynthesis is crucial to organisms that cannot absorb nutrients the way Euglena does.

Note that Question Four is on the next page.

QUESTION FOUR

Assessor's use only

Two athletes trained for different sports. One athlete trained for sprinting (100 m), and the other for endurance running (marathon). During their training, they had their muscle tissues analysed, and the number of mitochondria was found to be much higher in the endurance athlete.

Explain wh	hy there are more mitochondria found in the muscles of the endurance athlete
Zapiwin Wi	The same the same same same and the same same same same same same same sam

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

Assessor's use only

Question number	