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90464



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA



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

Level 2 Biology, 2005

90464 Describe cell structure and function

Credits: Three
2.00 pm Tuesday 15 November 2005

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.	<input type="checkbox"/>	Explain cell structure and function.	<input type="checkbox"/>	Discuss cell structure and function.
Overall Level of Performance				<input type="checkbox"/>

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

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QUESTION ONE: CELL SPECIALISATION

Cells can be specialised to carry out a specific role.

Below are diagrams of two cells specialised for absorbing materials. The diagrams are not to scale.

Plant cell:

Root hair cell

Animal cell:

Small intestine cell

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Chris Lea, Pauline Lowrie, Siobhan McGuigan, *Biology AS*, Heinemann, Oxford, 2000, p 210

Chris Lea, Pauline Lowrie, Siobhan McGuigan, *Biology AS*, Heinemann, Oxford, 2000, p 44

(a) Describe ONE **similarity** (other than size) in the structure of these two cells for absorbing materials.

(b) Explain how this similarity affects how these cells absorb materials.

(c) Osmosis and active transport are both processes used by cells. Compare and contrast these two processes.

QUESTION TWO: ENZYMES

Cell respiration is controlled by enzymes.

(a) Describe TWO factors that affect enzyme activity in the **cell**.

Factor 1: _____

Factor 2: _____

(b) Explain how ONE of the factors in part (a) affects enzyme activity.

Factor: _____

Effect: _____

(c) Give a reason to explain why cell respiration is controlled by enzymes.

(d) Explain how the structure of enzymes is related to the function of enzymes in a cell.

QUESTION THREE: CELL ORGANELLES

Some unicellular organisms are able to move.

(a) Name TWO organelles that unicellular organisms use for movement.

Organelle 1: _____

Organelle 2: _____

Mitochondria are found in cells.

(b) Explain why the number of mitochondria found in a moving unicellular organism will differ from the number found in a non-moving unicellular organism.

QUESTION FOUR: CELLS

The diagrams below show a plant cell and an animal cell.

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Plant cell	Animal cell
<p>[FOR COPYRIGHT REASONS, THIS RESOURCE CANNOT BE REPRODUCED HERE. SEE BELOW.]</p>	

Tracey Greenwood, Richard Allan, Lyn Shepherd, *Year 12 Biology 2004*, Biozone, Hamilton, 2004, pp 258, 260

(a) Identify TWO cell organelles or components found in **both** cells and describe the function of each.

(b) Discuss the role of chloroplasts in relation to other cell organelles **and** the overall functioning of the cell.

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

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Question
number

