



For Supervisor's use only

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90166



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA



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

Level 1 Biology, 2006

90166 Describe the functioning of human digestive and skeletomuscular systems

Credits: Four

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 2–10 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 the functioning of human digestive and skeletomuscular systems.	<input type="checkbox"/>	Describe biological ideas relating to the functioning of human digestive and skeletomuscular systems.	<input type="checkbox"/>
		Explain biological ideas relating to the functioning of the human digestive or the skeletomuscular system.	<input type="checkbox"/>
Overall Level of Performance (all criteria within a column are met)			<input type="checkbox"/>

You are advised to spend 50 minutes answering the questions in this booklet.

QUESTION ONE

The diagram below shows a knee joint.



Image adapted from original source <http://bioweb.wku.edu/courses/Biol131/images/joints.jpg>

- (a) **Describe** the function of the **fluid** found in the synovial cavity.

- (b) (i) Name the structure labelled **X**.

- (ii) **Explain** the purpose of the structure labelled **X**.

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QUESTION TWOAssessor's
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- (a) The knee joint in Question One is an example of a **hinge** joint.

Complete the table below to describe TWO other types of joint in the body, giving an example of where in the body they would be found.

Type of Joint	Example
Hinge	Knee

- (b) Movement of a joint such as the knee could not happen without muscles.

Explain why most skeletal muscles are found as **antagonistic pairs**.

- Discuss the causes and effects** of these two types of injury on the skeletomuscular system of an athlete.

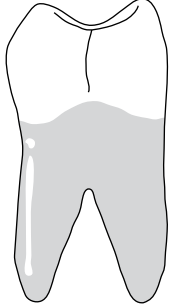
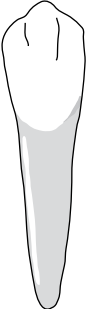
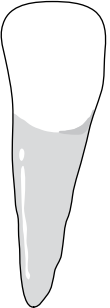
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QUESTION THREE

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- (a) The **mechanical** (physical) digestion of food begins in the mouth.

Complete the table below to name and **describe** the function of the different types of teeth found in the human mouth.

Diagram of tooth	Name of tooth	Function
		
		
		

- (b) **Explain** why only starchy foods start to be **chemically digested** in the mouth.

- Discuss** the importance of **pH levels** to the functioning of enzymes in the process of digestion.

[illegible]

QUESTION FOURAssessor's
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- (a) **Describe** the purpose of **absorption**.

- (b) **Explain** how villi increase the effectiveness of absorption in the small intestine. You may use a diagram in your answer.

- Discuss the roles of **bile** and **pancreatic juice** in the digestion of **fat**.

[illegible]

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

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Question
number

