1

90166

NZQA
NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

For Supervisor's use only

Level 1 Biology, 2007

90166 Describe the functioning of human digestive and skeletomuscular systems

Credits: Four
9.30 am 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 2–11 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. ☐	Describe biological ideas relating to the functioning of human digestive and skeletomuscular systems. ☐	Describe biological ideas relating to the functioning of human digestive and skeletomuscular systems. ☐
	Explain biological ideas relating to the functioning of the human digestive or the skeletomuscular system. ☐	Discuss biological ideas relating to the functioning of the human digestive or the skeletomuscular system. ☐
Overall Level of Performance (all criteria within a column are met) ☐		

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

Assessor's use only

QUESTION ONE

Digestion of food begins in the mouth.

(a) **Describe** how food begins to be digested in the mouth.

(b) **Explain** why extra blood flows to the stomach and intestine walls during and after a meal.

(c) Bowel cancer is a common form of cancer. Each year in New Zealand more than 2 000 people develop bowel cancer.

Discuss how the function of the bowel AND the health of the person are affected by bowel cancer.

Assessor's use only

QUESTION TWO

Assessor's use only

(a) **Describe** how a bone gets bigger as a person grows.

(b) Calcium-rich foods such as milk, yoghurt and cheese must be included in a diet for healthy bones.

Explain how calcium in a diet results in healthy bones.

(c) Osteoporosis is a bone disease that is preventable for many people. Prevention of this disease is important because, while there are treatments, there is no cure.

Discuss the links between the causes, effects and prevention of osteoporosis.

Assessor's use only

QUESTION THREE

Assessor's use only

(a) **Describe** the difference in the control of voluntary and involuntary muscle.

(b) The bones of the hip joint are some of the most freely moving of all of the bones in the body, allowing for the three different movements shown in the diagrams below.

For copyright reasons, this resource cannot be reproduced here.

James Torrence, *Standard Grade Biology* (Sevenoaks UK, Hodder & Stoughton, 1989), p 122.

Explain how the bones of the hip joint allow for these three different movements.

(c) The diagram below shows some of the parts that are needed for the arm to bend when moving the lower arm upwards.

Assessor's use only

V. Slaughter, *Living Things* (London: Hodder & Stoughton, 1980), p 112.

Discuss how the bones, muscles, cartilage, ligaments and tendons **work together** to move the lower arm upwards.

QUESTION FOUR

Assessor's use only

The diagram below shows the structures of the human digestive system.

James Torrence, *Standard Grade Biology* (Sevenoaks UK, Hodder & Stoughton, 1989), p 98.

Assessor's use only

(a) Complete the table below to **describe** the function of each of the structures (i), (ii) and (iii) in the digestive system.

Structure	**Function of the structure in the digestive system**
(i) stomach	
(ii) large intestine	
(iii) rectum	

(b) **Explain** how food is moved through the digestive system.

Note that Question Four continues on the next page.

The diagram below shows a villus, with an enlargement showing microvilli.

Assessor's use only

Martin Hanson, *NCEA Level 1 Biology and Human Biology* (Auckland, ESA, 2003), p 58.

(c) **Discuss** how the microvilli, capillary network and lacteal work together to allow the villi to carry out their function.

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

Assessor's use only

Question number	

90166