higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

THE HUMAN BODY AND MIND
NQF LEVEL 2

(9020072)

10 November 2022 (Y-paper)
13:00–15:00

This question paper consists of 9 pages.

253Q1N2210

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TIME: 2 HOURS
MARKS: 150

INSTRUCTIONS AND INFORMATION

1. Answer all the questions.
2. Read all the questions carefully.
3. Number the answers according to the numbering system used in this question paper.
4. Use only a black or blue pen.
5. Write neatly and legibly.

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QUESTION 1

1.1 Choose a term from COLUMN B that matches a description in COLUMN A. Write only the letter (A–L) next to the question number (1.1.1–1.1.10) in the ANSWER BOOK.

COLUMN A		COLUMN B	
1.1.1	Biting, grinding, breaking down and chewing food into smaller pieces	A	Mouth
1.1.2	Food is ingested into the digestive tract	B	Chemical digestion
1.1.3	Digestion of carbohydrates in the mouth	C	Mechanical digestion
1.1.4	Breakdown of fats into small droplets	D	Bile
1.1.5	Breakdown of starch and fats	E	Anus
1.1.6	Food is broken down by enzymes into soluble monomers	F	Pancreatic juice
1.1.7	Undigested food is removed from the body	G	Stomach
1.1.8	Acid chyme becomes alkaline chyme	H	Duodenum
1.1.9	Receives the remains of the chyme after it passed through the stomach and the small intestines	I	Saliva
1.1.10	Mechanical and chemical digestion	J	Large intestines
		K	Peristalsis
		L	Oropharynx

(10 × 1) (10)

1.2 Define the following terms:

1.2.1 Anatomy

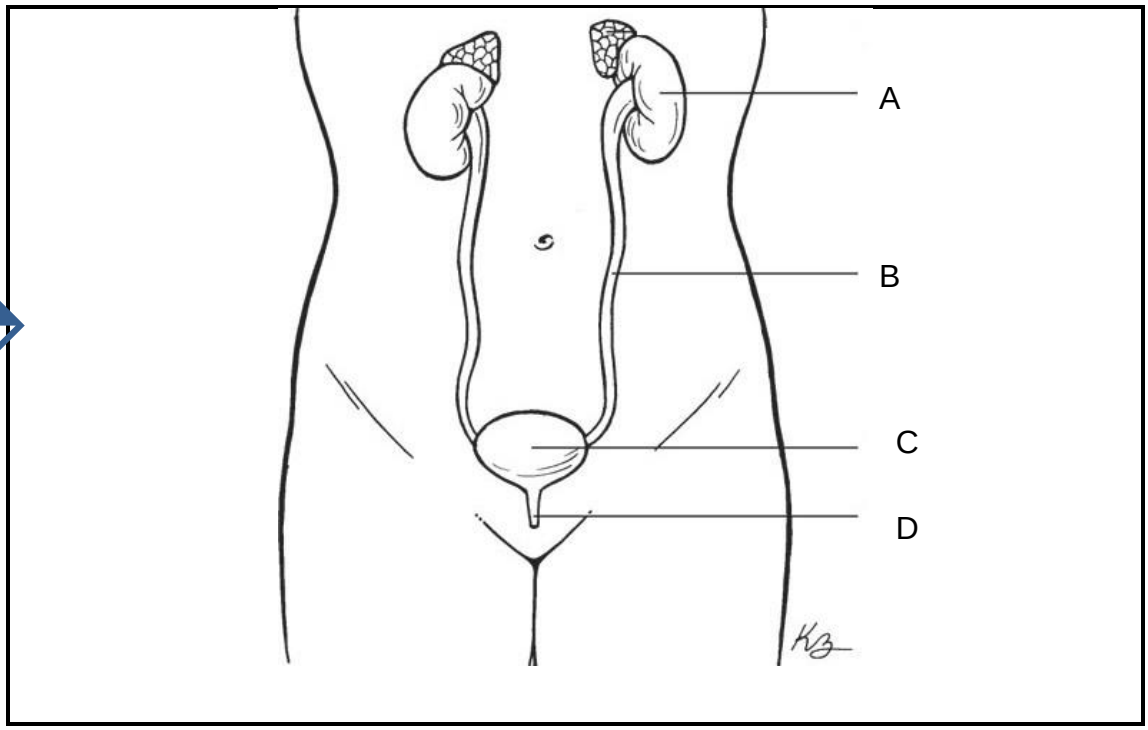
1.2.2 Cell

1.2.3 Physiology

(3 × 2) (6)

1.3 Name FOUR features that are common to almost all cells. (4)

1.4 Answer the questions with regard to the drawing:



[Source: *https://www.dummies.com/careers/medical-careers/medical-terminology/how-the-urinary-system-works/*]

1.4.1 Name the parts indicated on the drawing by writing only the answer next to the letter (A–D) in the ANSWER BOOK. (4)

1.4.2 Where does urine production start? (1)

1.4.3 Why is the male urethra longer than the female urethra? (1)

1.4.4 Give TWO reasons why low urine production is bad for a person's health. (2 × 2) (4)

[30]

QUESTION 2

2.1 Indicate whether the following statements are TRUE or FALSE by writing only 'True' or 'False' next to the question number (2.1.1–2.1.10) in the ANSWER BOOK.

2.1.1 The skull is known as the cranial area.

2.1.2 The axillary area is the armpit.

2.1.3 The chest is also known as the abdominal area.

2.1.4 The umbilical area is also referred to as the navel.

2.1.5 The back of the knee is the popliteal area.

2.1.6 A cracked and broken skin allows bacteria to enter into the body.

2.1.7 A primary assessment should be performed after the secondary assessment.

2.1.8 All natural openings of the body are lined with mucous membranes.

2.1.9 During a primary assessment the skin of the patient is palpated.

2.1.10 The femoral pulse is situated in the anterior part of the neck.

(10 × 1) (10)

2.2 Name the body system to which each of the following structures belongs:

2.2.1 Epidermis

2.2.2 Medulla oblongata

2.2.3 Alveoli

2.2.4 Liver

2.2.5 Patella

(5 × 1) (5)

2.3 List the THREE layers of the wall of the heart and give their biological names.

(3 × 2) (6)

2.4 Victoria was born with only one functioning ovary on the left side of her body. The rest of her reproductive system is intact and unaffected.

2.4.1 Discuss how it is possible for Victoria to become pregnant. (2 × 2) (4)

2.4.2 Would Victoria be able to fall pregnant and carry the foetus to term even if she has one ovary? (5)

[30]

QUESTION 3

3.1 Various options are given as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question number (3.1.1–3.1.5) in the ANSWER BOOK.

3.1.1 Which is not a bone of the lower limbs?

A Tibia
B Fibula
C Radius
D Patella

3.1.2 … joints allow for a free range of movements.

A Fixed
B Fibrous
C Synovial
D Cartilaginous

3.1.3 The cranium consists of … bones

A 8
B 14
C 26
D 5

3.1.4 A … is an example of a flat bone.

A spinal bone
B scapula
C metatarsal
D humerus

3.1.5 The central nervous system comprises the …

A head and neck.
B brain and spinal cord.
C cranium and vertebral column.
D thoracic and lumbar vertebrae.

(5 × 1) (5)

3.2 Draw the table in the ANSWER BOOK. Complete the table by organising the main blood vessels of the cardiovascular system into blood vessels that carry OXYGENATED BLOOD or DE-OXYGENATED BLOOD.

aorta; superior vena cava; four pulmonary veins; inferior vena cava; two pulmonary veins; two coronary arteries

OXYGENATED BLOOD	DE-OXYGENATED BLOOD

(6 × 1) (6)

3.3

Julia woke up feeling unwell. She has a runny nose and her throat is red and swollen. It is also very painful when she swallows. The next day she lost her voice.

3.3.1 Which body system is affected in the scenario above? (1)

3.3.2 Quote THREE words from the passage that indicate that Julia might have a throat infection. (3)

3.3.3 Discuss why the lymph nodes around her neck are swollen. (3)

3.3.4 Why did Julia lose her voice? (2)

3.3.5 Will Julia develop a fever? Motivate the answer. (3)

3.3.6 Which organ controls a person's body temperature? (1)

3.3.7 Name THREE senses that may be affected by Julia's illness. (3)

3.3.8 Explain why Julia may lose her appetite while she is sick. (3)

[30]

QUESTION 4

4.1 Name the organs that are part of the digestive system. (5)

4.2 Complete the table below by writing only the answer next to the question number (4.2.1–4.2.6) in the ANSWER BOOK.

TYPE OF MUSCLE TISSUE	APPEARANCE	WHERE IT IS FOUND	TYPE OF CONTROL
4.2.1	Striped or striated	4.2.2	Voluntary control
Smooth muscle tissue	4.2.3	Digestive tract, urinary bladder and uterus	4.2.4
4.2.5	Cylindrical-shaped and striated	Walls of the heart	4.2.6

(6 × 1) (6)

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4.3 Read the following scenario and answer the question below.

With type-1 diabetes mellitus a person's own immune system attacks the insulin-producing cells in the pancreas, destroying the body's ability to make insulin. Diabetes mellitus can lead to damage to the kidneys and affect their ability to filter waste products from the blood. Diabetes mellitus raises the risk of developing high blood pressure, which puts further strain on the heart. Diabetes mellitus can lead to nerve damage, which can affect the perception of heat, cold, and pain. It can cause the skin on the feet to dry and crack and may also cause repeated infections affecting the vagina and bladder.

Copy and complete the table in the ANSWER BOOK by stating FIVE health problems associated with diabetes mellitus and naming the body system affected by each health problem.

BODY SYSTEM	HEALTH PROBLEM

(5 × 2) (10)

4.4

The digestive system consists of many organs that require cooperation to allow food to move through the tract.

4.4.1 In which organ of the digestive system are most nutrient absorbed into the blood capillaries? (1)

4.4.2 Name FOUR things that will happen to the body if the nutrients are not absorbed into the bloodstream. (4)

4.4.3 Discuss the importance of expelling faeces from the rectum. (4)

[30]

QUESTION 5

5.1 List the FIVE basic goals of psychology. (5)

5.2 Choose the correct option from those given in brackets. Write only the answer next to the question number (5.2.1–5.2.5) in the ANSWER BOOK.

5.2.1 (Self-awareness/Self-confidence) is the skill of knowing yourself.

5.2.2 (A favourable/An unfavourable) attitude towards oneself will result in a low self-esteem.

5.2.3 People with a (low/high) self-esteem set high standards for themselves.

5.2.4 Trust represents the (roots/trunk) of the tree of mental health.

5.2.5 (Security/Self-worth) is an example of a fruit of the tree of mental health.

(5 × 1) (5)

5.3 Name FIVE common stages in preparation for death. (5)

5.4 Richard is nine months old and bonded with his mother since birth. His father was not present at birth and only visits on occasion as he lives in another town. When his father does visit, Richard cries and reaches for his mother. His father is upset and irritated by Richard's behaviour and visits only for a short while.

5.4.1 Discuss why Richard does not have a bond with his father. (2)

5.4.2 Give THREE reasons why Richard trusts his mother. (3)

5.4.3 State TWO possible solutions to improve the bond between Richard and his father. (2)

5.5 Sipho is three years old. He loves to draw colourful pictures. He wanted to surprise his mother with a drawing, but could not find paper. He decided to draw his picture on the wall. When his mother saw it, she was very angry. She yelled at Sipho and threw his crayons in the bin.

5.5.1 Do you think his mother behaved appropriately? Explain the answer. (3)

5.5.2 Explain why Sipho may not enjoy drawing anymore. (2)

5.5.3 The teacher at Sipho's playschool noticed that he is sad and does not want to make drawings. She discussed this matter with his mother.

What should his mother and teacher do to correct his negative feeling towards drawing pictures? (3)

[30]

TOTAL: 150

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