higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

THE HUMAN BODY AND MIND
NQF LEVEL 2

(9020072)

21 November 2023 (Y-paper)
13:00–15:00

This question paper consists of 11 pages.

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)
THE HUMAN BODY AND MIND
NQF LEVEL 2
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. Start each section on a new page.
5. Use only a black or blue pen.
6. Write neatly and legibly.

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QUESTION 1

1.1 Indicate whether the following statements are TRUE or FALSE by writing only 'True' or 'False' next to the question number (1.1.1– 1.1.10) in the ANSWER BOOK.

1.1.1 Eukaryotic cells contain a nucleus and other membrane-enclosed organelles.

1.1.2 Red blood cells make it possible for different body parts to move.

1.1.3 White blood cells carry oxygen to different parts of the body.

1.1.4 Nervous tissue is found in the brain, spinal cord and the nerves.

1.1.5 The epidermis contains sweat glands.

1.1.6 The brain is located in the thoracic cavity.

1.1.7 Melanin is responsible for the colour of our skin and hair.

1.1.8 There are 31 pairs of cranial nerves that arise from the brain.

1.1.9 The nose is common to the respiratory and digestive system.

1.1.10 The central nervous system comprises the brain and spinal cord.

(10 × 1) (10)

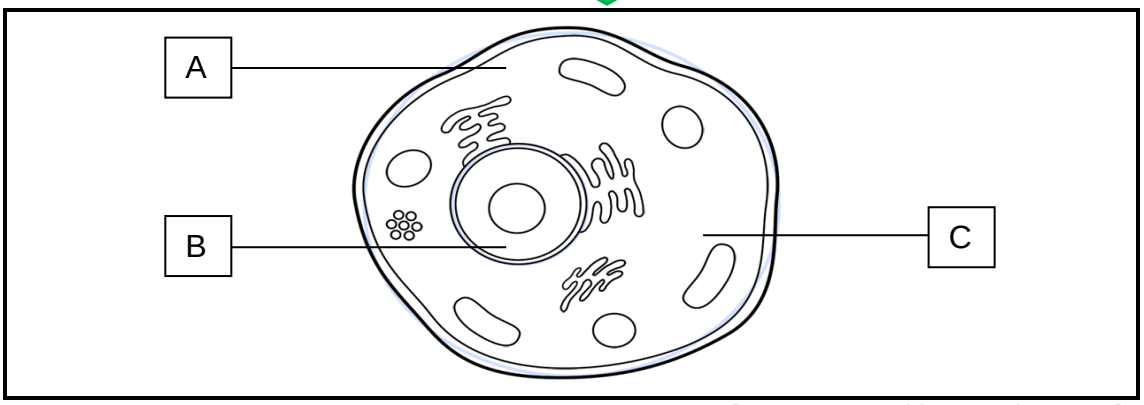
1.2 Define the following terms:

1.2.1 *Anatomy*

1.2.2 *Cell*

(2 × 2) (4)

1.3 Label FIGURE 1 below:

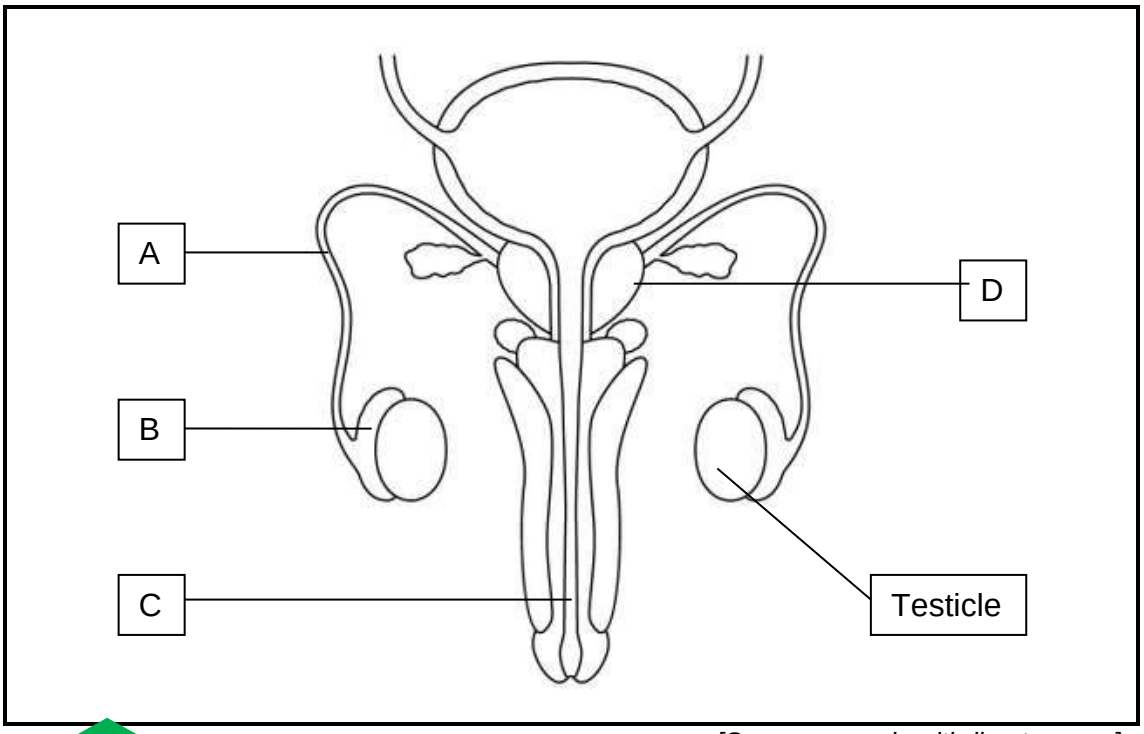


[Source: *www.khanacademy.org*]

FIGURE 1

(3 × 1) (3)

1.4 Study FIGURE 2 below and answer the questions that follow:



[Source: *www.healthdirect.gov.au*]

FIGURE 2

1.4.1 Which body system is illustrated in the diagram above? (1)

1.4.2 What is the main purpose of this body system? (1)

1.4.3 C is also an organ of the urinary system.

Explain its function in each of these body systems. (4 × 1) (4)

1.5 Adam is about to go through puberty, but his testes are underdeveloped and do not produce testosterone.

1.5.1 How will it affect his development if the testes fail to produce testosterone? (4 × 1) (4)

1.5.2 Do you think that Adam will be able to produce sperm? Substantiate your answer. (3)

[30]

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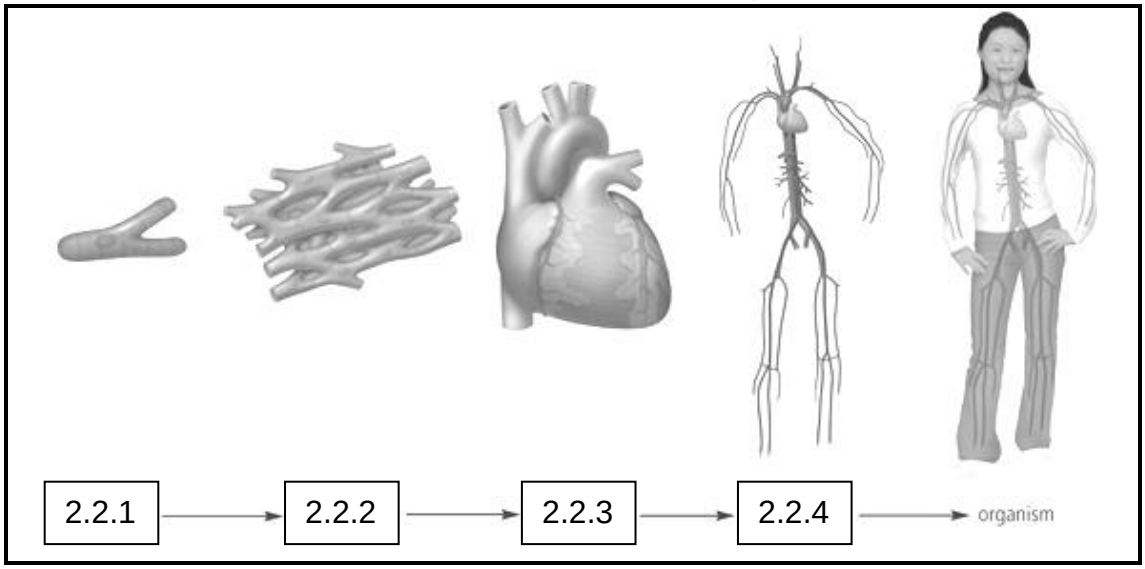
QUESTION 2

2.1 Choose an organ from COLUMN B that matches an organ system in COLUMN A. Write only the letter (A–L) next to the question number (2.1.1–2.1.10) in the ANSWER BOOK.

COLUMN A		COLUMN B	
2.1.1	Female reproductive system	A	kidney
2.1.2	Urinary system	B	ovary
2.1.3	Respiratory system	C	liver
2.1.4	Cardiovascular system	D	larynx
2.1.5	Skeletal system	E	vertebrae
2.1.6	Muscular system	F	biceps
2.1.7	Brain and nervous system	G	cerebrum
2.1.8	Gastrointestinal system	H	bulbo-urethral gland
2.1.9	Male reproductive system	I	superior vena cava
2.1.10	Skin and integumentary system	J	lymph nodes
		K	nails
		L	eye

(10 × 1) (10)

2.2 Complete FIGURE 3 flow diagram below:



[Source: *www.khanacademy.org*]

FIGURE 3

(4 × 1) (4)

2.3 Mary had a hysterectomy at the age of 35. This is a permanent method of contraception where the ovaries and uterus are surgically removed.

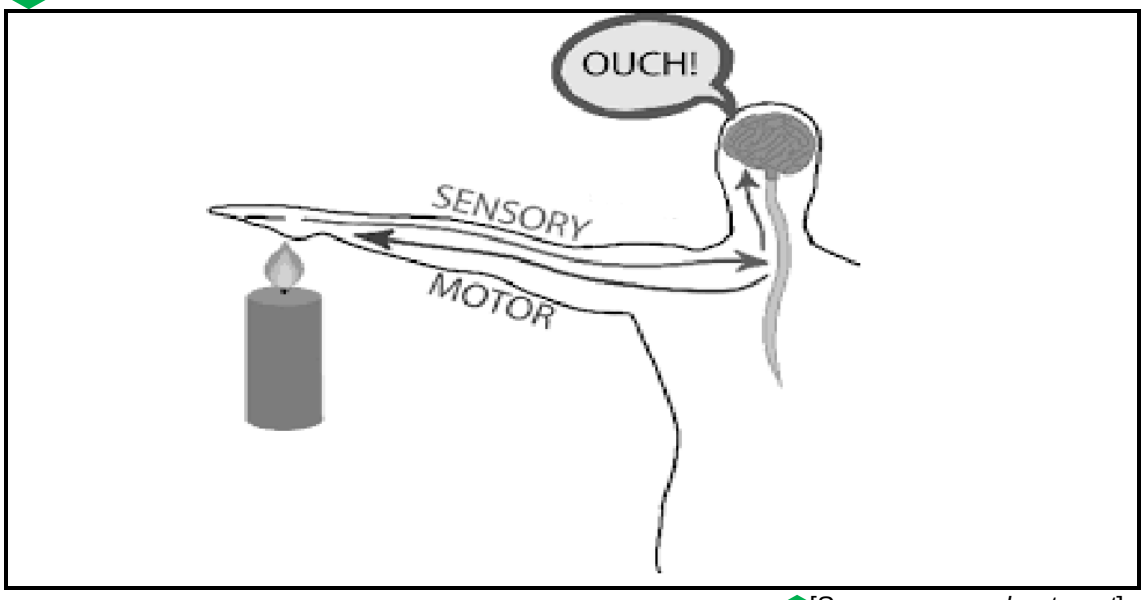
2.3.1 Which body system is affected? (1)

2.3.2 Discuss why Mary will not be able to fall pregnant again. (4 × 1) (4)

2.3.3 Mary's body does not produce any oestrogen after the operation. She will need to receive hormone replacement therapy to prevent premature menopause.

Discuss this statement. (3 × 1) (3)

2.4 Study FIGURE 4 diagram below and answer the questions that follow:



[Source: *researchgate.net*]

FIGURE 4

2.4.1 Name TWO body systems that apply the illustration above. (2)

2.4.2 Explain the THREE overlapping functions of these systems with reference to the diagram above. Use the following as a guide:

(a) Sensory input
(b) Integration
(c) Motor output (3 × 1) (3)

2.4.3 Alcohol is a drug. It acts on the brain and other parts of the nervous system to slow activity down. It affects everyone this way.

What will happen if a person holds their hand over a candle while under the influence of alcohol? (3 × 1) (3)

[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 The lungs lie in the … cavity.

A cranial
B thoracic
C abdominal
D oral

3.1.2 The circulatory system is also known as the … system.

A transport
B filtration
C sensation
D communication

3.1.3 The … valve separates the right atrium from the right ventricle.

A pulmonary
B aortic
C bicuspid
D tricuspid

3.1.4 Which ONE is an accessory organ of digestion?

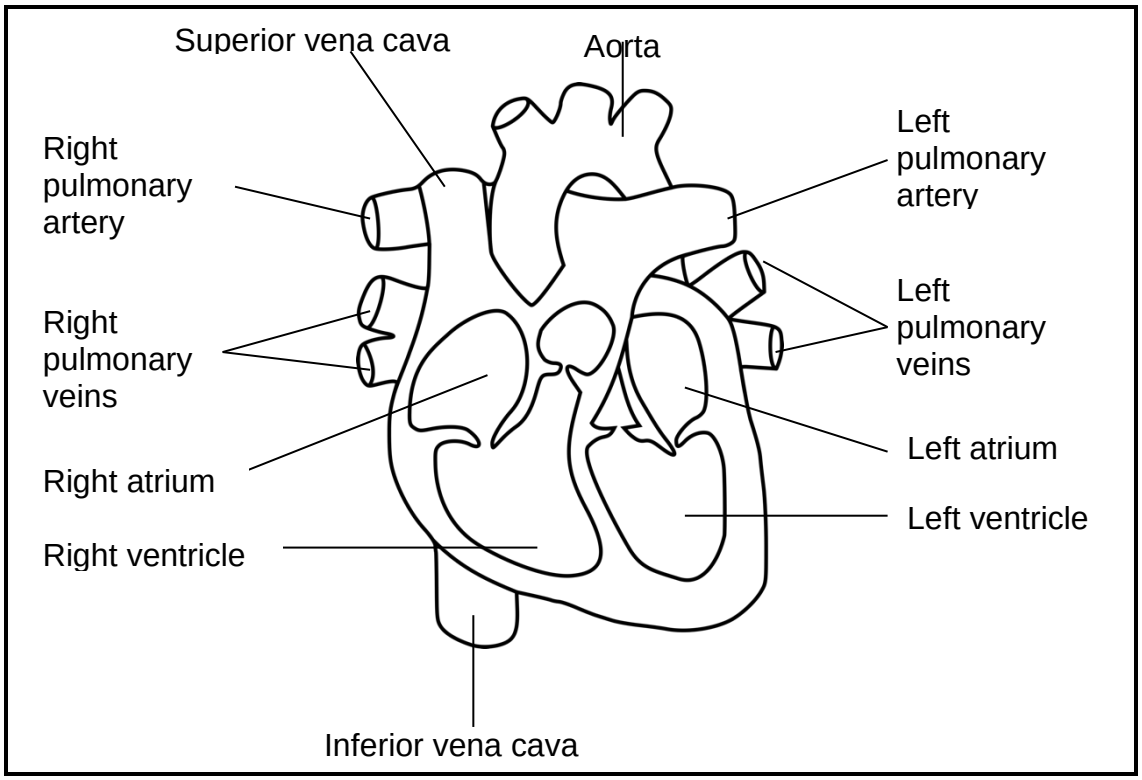
A Liver
B Pancreas
C Gall bladder
D Salivary glands

3.1.5 There are … cervical vertebrae.

A 7
B 12
C 5
D 3

(5 × 1) (5)

3.2 Study FIGURE 5 below and answer the questions that follow:



[Source: *www.huffpost.com*]

FIGURE 5

3.2.1 Identify TWO blood vessels that carry oxygenated blood. (2)

3.2.2 Identify TWO blood vessels that carry deoxygenated blood. (2)

3.2.3 Explain how the shape and structure of the heart allow it to pump oxygenated blood. (6 × 1) (6)

3.2.4 What lifestyle advice can you give to your friends to make sure that their blood is oxygenated properly? (3 × 1) (3)

3.3 Waste products are produced in the body during respiration, filtration, digestion and temperature regulation. These wastes need to be removed from the body to function correctly.

3.3.1 Name FOUR body systems responsible for removing waste from the body. (4)

3.3.2 Identify ONE waste product produced by each of the body systems mentioned in QUESTION 3.3.1. (4 × 1) (4)

3.3.3 What do you think will happen when waste is not removed from the body? (4 × 1) (4)

[30]

QUESTION 4

4.1 Choose the correct term from those in brackets and write it next to the question number (4.1.1–4.1.5) in the ANSWER BOOK.

4.1.1 The male and female genitals are also known as the (pubic/axillary) area.

4.1.2 The cranial area refers to the (skull/neck).

4.1.3 The (brachial/carotid) pulse is situated in the anterior part of the neck.

4.1.4 Normal body temperature is about (39/37) degrees centigrade.

4.1.5 Straitening the fingers is called (flexion/extension).

(5 × 1) (5)

4.2 Name FOUR senses and discuss the challenges a person may have when these senses do not function effectively. (4 × 2) (8)

4.3 The life-cycle of a human cell consists of growth and division.

4.3.1 Name FIVE phases of the life cycle of a cell. (5)

4.3.2 What will happen to the cell once it has completed its function? (1)

4.4 Explain how the muscular and the skeletal system work together to function properly. (4 × 1) (4)

4.5 You are the first person to arrive at an accident scene. A cyclist was knocked over by a car. He did not wear a safety helmet.

4.5.1 Explain why you would perform both a primary and a secondary assessment. (4 × 1) (4)

4.5.2 Should you move the cyclist to the side of the road until the ambulance arrives? Substantiate your answer. (1 + 2) (3)

[30]

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QUESTION 5

5.1 Choose the correct term from those given in brackets. Write only the answer next to the question number (5.1.1–5.1.5) in the ANSWER BOOK.

5.1.1 During the (phallic/oral) stage, sexual energy is focused around the mouth.

5.1.2 (Latency/Genital) stage is when the sexual instinct decreases and children are more interested in interacting with their peers.

5.1.3 When a person does not show any sign of emotion, it is described as a (blunt/flat) affect.

5.1.4 (Behaviour/Cognition) is the ability to process information and make decisions.

5.1.5 The trunk of the tree of mental health represents (love/trust).

(5 × 1) (5)

5.2 Name FOUR qualities of a person with a good self-esteem. (4 × 1) (4)

5.3 Complete the psychosocial stages by choosing a word from the list below. Write only the answer next to the question number (5.3.1–5.3.5) in the ANSWER BOOK.

shame; isolation; generativity; mistrust; initiative

5.3.1 Basic trust versus …

5.3.2 … versus stagnation

5.3.3 Intimacy versus …

5.3.4 … versus guilt

5.3.5 Autonomy versus …

(5 × 1) (5)

5.4 Juliet suffers from a life-threatening illness. The doctor just informed her that she may only have a few months to live.

5.4.1 Name the FIVE stages of preparation for death. (5)

5.4.2 Explain to Juliet what she might feel and experience during each of these stages as mentioned in QUESTION 5.4.1. (5 × 1) (5)

5.5 James found a wallet on the floor of the classroom. It contained a student card, ID and cash.

5.5.1 How would the *id, ego* and *superego* play a role in his decision whether to keep the wallet or to return it to his classmate? (3 × 1) (3)

5.5.2 Do you think that James should keep the wallet? (3 × 1) (3)
[30]

TOTAL: 100

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