higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

THE HUMAN BODY AND MIND
NQF LEVEL 3

(9020083)

11 December 2020 (Y-paper)
13:00–15:30

This question paper consists of 10 pages.

583Q1N2011

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TIME: 2½ HOURS
MARKS: 180

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 question 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 numbers (1.1.1–1.1.10) in the ANSWER BOOK.

1.1.1 The hyoid bone is a cranial bone.

1.1.2 The orbicularis oris is a muscle of chewing.

1.1.3 Thyroid cartilage forms the Adam's apple in males in puberty.

1.1.4 The internal carotid arteries supply oxygenated blood to the outer parts of the face.

1.1.5 The sublingual salivary glands form part of the endocrine system.

1.1.6 The sternocleidomastoid muscles are situated on the lateral sides of the neck.

1.1.7 The larynx is a structure of the digestive system.

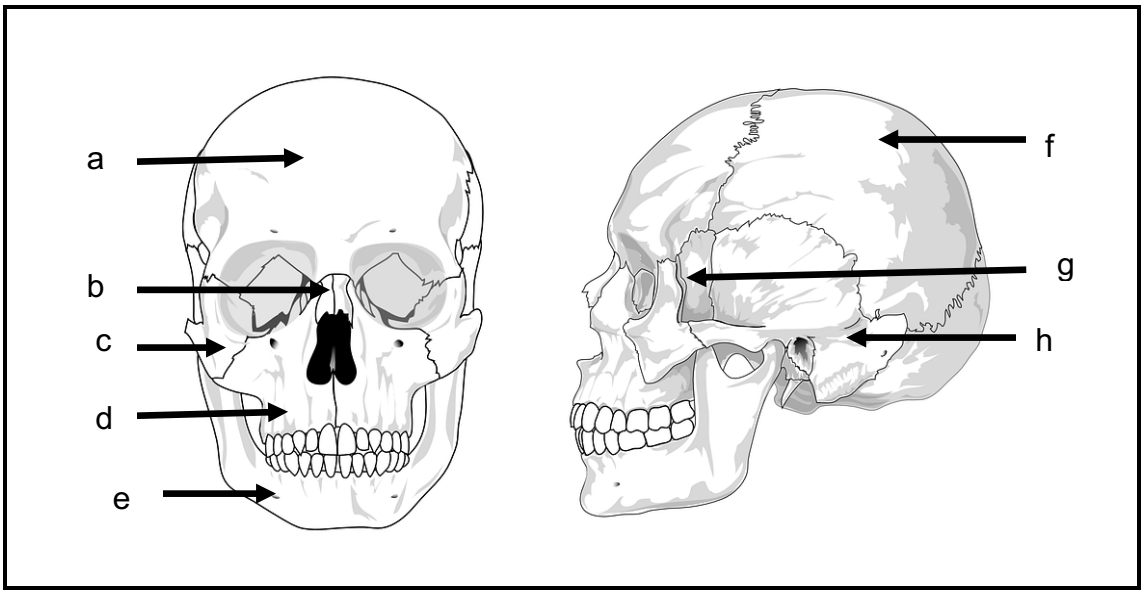
1.1.8 The heart is situated in the thoracic cavity.

1.1.9 Adrenalin is given to treat severe allergic reactions.

1.1.10 The skin consists two layers.

(10 × 1) (10)

1.2 Label the following diagrams. Write only the answer next to the letter (a–h) in the ANSWER BOOK.



(8)

1.3 Valvular heart disease is characterised by a defect in one of the heart valves which can lead to premature (early) death.

1.3.1 Name FOUR valves that are found in the heart. (4)

1.3.2 Identify TWO body systems which are directly affected by a defect in one of the heart valves. (2)

1.3.3 Discuss why a person with a defect in one of the heart valves can die prematurely. (4)

1.3.4 Why would a person with a defect in one of the heart valves automatically breathe faster? (2)

[30]

QUESTION 2

2.1 Choose a term from COLUMN B that matches a description in COLUMN A. Write only the letter (A–L) next to the number (2.1.1–2.1.10) in the ANSWER BOOK.

COLUMN A		COLUMN B	
2.1.1	Anterior neck muscles	A	carpals
2.1.2	Wrist bones	B	cervical plexus
2.1.3	Muscle of the upper arm where intramuscular injections are given	C	pharynx
2.1.4	Endocrine structures found on the lateral sides of the sternum on the chest	D	intercostal
2.1.5	Membranes that surround the lungs for protection	E	deltoid
2.1.6	Group of nerves which originate from cervical nerves 1 to 8	F	infrahyoid muscles
2.1.7	Muscles that contract and lift the ribcage during inhalation	G	pulmonary veins
2.1.8	A digestive structure situated in the neck	H	rectus abdominus
2.1.9	Blood vessel that transport oxygenated blood from the lungs into the left atrium	I	mammary glands
2.1.10	Muscles of the abdomen	J	tarsals
		K	pleura
		L	pulmonary arteries

(10 × 1) (10)

2.2 Give the anatomical/medical names for the following structures:

2.2.1 Windpipe

2.2.2 Voice box

2.2.3 Collarbone

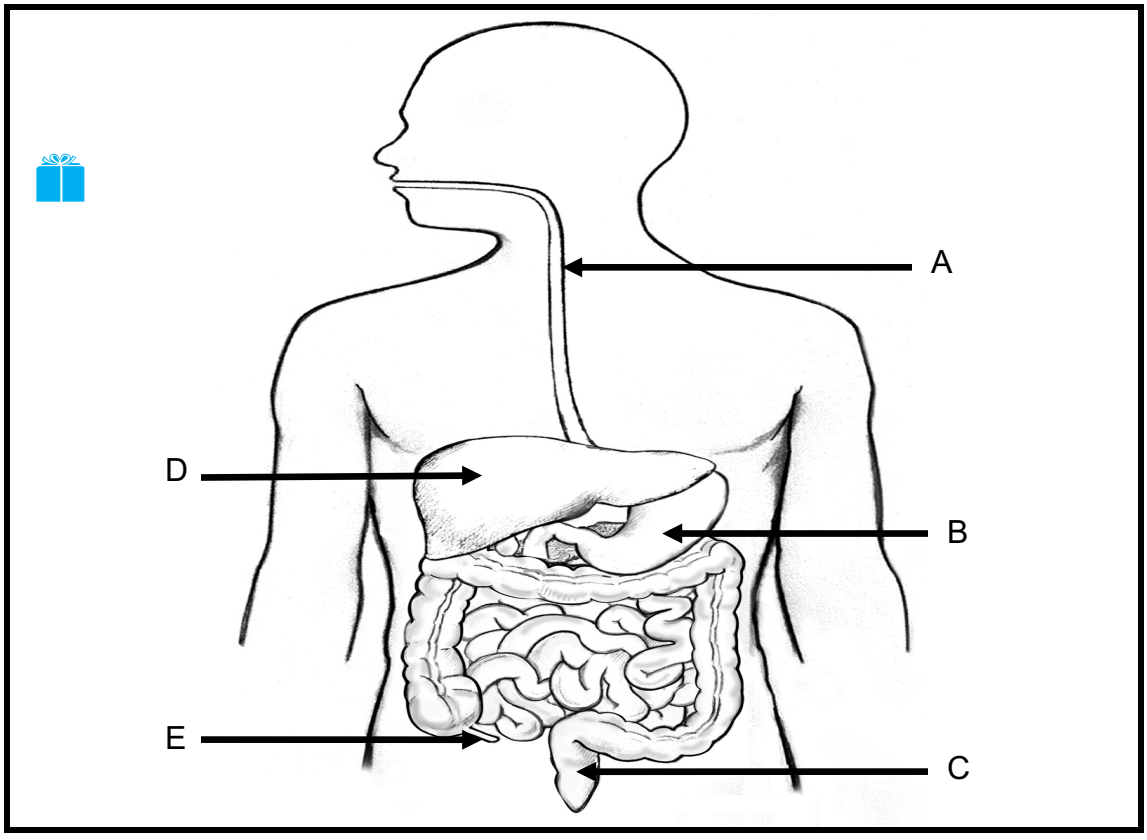
2.2.4 Shoulder blades

2.2.5 Breastbone

2.2.6 Finger bones

(6 × 1) (6)

2.3 Study the image below and answer the questions.



2.3.1 Write down the names of the organs labelled A–D in the ANSWER BOOK. (4)

2.3.2 Identify the structure labelled E. (1)

2.3.3 Discuss why the structure mentioned in QUESTION 2.3.2 can cause a person to end up in hospital. (3)

2.4 While walking down the street, a dog jumped over a fence and chased you. You ran away and climbed in a tree to protect yourself from the dog. You started sweating, and your heart rate and breathing increased.

2.4.1 Discuss the role of the adrenal gland in the above case. (4)

2.4.2 Why does a person breathe faster during and after running? (2)

[30]

QUESTION 3

3.1 Name the organ that is situated between each of the following sphincters of the digestive system:

3.1.1 Cardiac sphincter

3.1.2 Pyloric sphincter

(2 × 2) (4)

3.2 Various options are given as possible answers to the following questions. Write only the letter (A–D) next to the question number (3.2.1–3.2.10) in the ANSWER BOOK.

3.2.1 A structure in the knee joint that prevents friction between the bones of the knee joint.

A Tendon
B Ligament
C Patella
D Meniscus

3.2.2. The … artery is located behind the knee.

A tibial
B popliteal
C saphenous
D plantar

3.2.3 The stomach is situated in most of the … region.

A right hypochondriac
B epigastric
C left hypochondriac
D umbilical

3.2.4 The … divides the thoracic and abdominal regions.

A trapezius
B deltoid
C diaphragm
D pectoralis major

3.2.5 The … supplies the heart with oxygenated blood.

A oesophageal artery
B inferior phrenic artery
C renal vein
D coronary arteries

3.2.6 The eye is inferiorly protected by the ... bones.

A maxilla
B vomer
C zygomatic
D turbinate

3.2.7 The following is not a layer of the skin.

A epidermis
B hypodermis
C dermis
D endodermis

3.2.8 The gland that produces tears is the … gland.

A parotid
B adrenal
C lacrimal
D sublingual

3.2.9 … muscles that keep the eye in position.

A Ocular
B Orbicularis oris
C Nasalis
D Frontalis

3.2.10 Muscles of the upper legs.

A Gastrocnemius
B Quadriceps
C Trapezius
D Brachioradialis

(10 × 1) (10)

3.3 Many different systems are present in the human body and they all work together for optimal functioning of the body.

Name FOUR systems that are found in the upper and lower legs. (4)

3.4 Draw a mind map to illustrate the protection of the central nervous system. (6)

3.5 The mother of a newborn baby must decide if she is going to breastfeed or bottle-feed her baby.

Discuss the effects of each feeding type on the immune system. (2 × 3) (6)
[30]

QUESTION 4

4.1 Indicate whether the following key concepts are those of the psychodynamic, behaviorist or developmental approach. Write only the answer next to the number (4.1.1–4.1.6) in the ANSWER BOOK.

4.1.1 Reward

4.1.2 Growth

4.1.3 Conscious

4.1.4 Maturation

4.1.5 Result

4.1.6 Unconscious

(6 × 1) (6)

4.2 Name FOUR personality types. (4)

4.3 Name and discuss the first stage of Sigmund Freud's psychosexual stages. (4)

4.4 Discuss how fever and inflammation can protect someone who steps in a rusty nail. (5)

4.5 Read the following scenario and answer the questions.

Sam, his wife and 8-month-old baby stay in an informal dwelling with windows that are closed every day to prevent the baby from getting a cold. The baby has not been immunised yet. She is only bottle-fed and is sometimes given water to stretch the milk until the next child grant pay-out. Sam smokes inside the house.

What advice would you give the family that could help them to boost their immune systems? (3 × 2) (6)

4.6 Name THREE ways in which the skin protects the body. (3)

4.7 Name TWO signs/symptoms of inflammation. (2)
[30]

QUESTION 5

5.1 Give FIVE practical examples of how your senses protect you. (5 × 2) (10)

5.2 List SIX functions of the skeleton. (6)

5.3 Name the THREE layers of the uterus. (3 × 2) (6)

5.4 According to Erik Erikson, how should parents discipline children when they make mistakes? Substantiate the answer. (3)

5.5

Susan is 4 years old. Her mother packs her a peanut butter sandwich, fruit and yoghurt for lunch. Susan must choose whether her mother should pack her lunch in the big or small lunchbox. She chooses the bigger lunchbox.

5.5.1 Name the stage of Susan's cognitive development according to Jean Piaget. (2)

5.5.2 Substantiate the answer in QUESTION 5.5.1. (3)
[30]

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QUESTION 6

6.1 Name the systems to which each of the following organs/structures belong.

6.1.1 Spleen

6.1.2 Meninges

6.1.3 Sebaceous glands

6.1.4 C-shaped cartilage rings

6.1.5 Pelvis

(5 × 1) (5)

6.2 David has severe allergies. Whenever the wind blows, he sneezes a lot and his eyes tear. He was admitted to hospital once before due to a severe allergic reaction to an unknown allergen.

6.2.1 Identify the allergic reaction that caused David to be hospitalised. (1)

6.2.2 Name FOUR allergens which could possibly be responsible for David's allergic reaction. (4)

6.2.3 Indicate whether the case study refers to first-line OR second-line defence. Substantiate your answer. (1 + 3 × 1) (4)

6.3 Explain how the characteristics of an extrovert will help him/her to have a successful career. (5 × 2) (10)

6.4 Name THREE opportunistic infections. (3)

6.5 Name the disease-causing microorganisms that cause each of the following:

6.5.1 Oral thrush

6.5.2 Malaria

6.5.3 HIV, flu

(3 × 1) (3)

[30]

TOTAL: 180

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