higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

THE HUMAN BODY AND MIND
NQF LEVEL 3

(9020083)

12 November 2019 (X-Paper)
09:00–11:30

This question paper consists of 13 pages.

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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. Write neatly and legibly.

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QUESTION 1

1.1 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 (1.1.1–1.1.10) in the ANSWER BOOK.

1.1.1 The layer of the skin responsible for the formation of new cells:

A Stratum corneum
B Stratum granulosum
C Stratum germinativum (basale)
D Stratum lucidum

1.1.2 An organ situated in the pelvic region:

A Heart
B Bladder
C Liver
D Kidney

1.1.3 The gall bladder is situated … to the liver.

A superior
B anterior
C lateral
D inferior

1.1.4 The central nervous system consists of the brain and the …

A cranial nerves.
B spinal cord.
C vertebral column.
D thyroid.

1.1.5 The number of protective layers around the lungs:

A One
B Three
C Two
D Four

1.1.6 The breasts develop from the … muscles.

A pectoralis major
B gastrocnemius
C brachioradialis
D infrahyoid

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1.1.7 The … prevents dryness of the eye.

A sclera
B cornea
C iris
D conjunctiva

1.1.8 Worms are an example of …

A germs.
B viruses.
C parasites.
D phagocytes.

1.1.9 Pulling your hand away from a hot plate, is an example of …

A unconditioned response.
B positive reinforcement.
C conditioned response.
D negative reinforcement.

1.1.10 … is a key concept of the psychodynamic approach.

A Maturation
B Consciousness
C Response
D Needs cycle

(10 × 1) (10)

1.2 Study the following diagram and answer the questions.

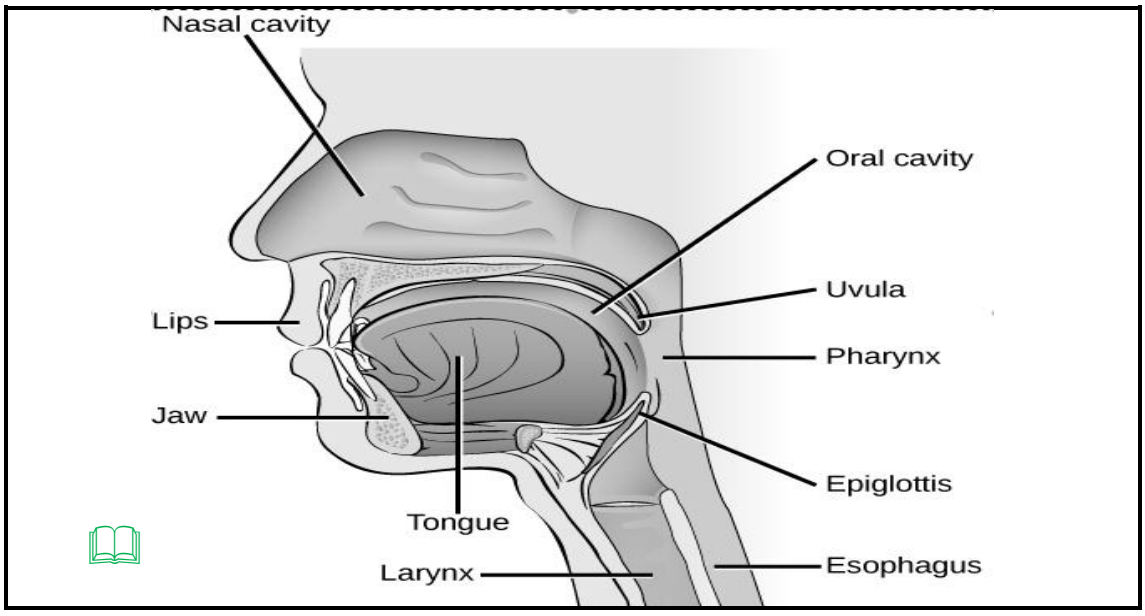

FIGURE 1

1.2.1 Identify the system illustrated in the diagram. (1)

1.2.2 Give the anatomical name for the lower jaw. (1)

1.2.3 Explain the position of the lips. (1)

1.2.4 Is the oesophagus situated anterior or posterior to the trachea? (1)

1.2.5 To which organ does the oesophagus attach after passing through the diaphragm? (1)

1.2.6 Explain the position of the organ mentioned in QUESTION 1.2.5. (3)

1.2.7 What can happen if the epiglottis fails to perform its function? (3)

1.2.8 Name the bone to which the tongue is attached. (2)

1.3 Explain why a person who is HIV positive can be affected easily by opportunistic infections. (3)

1.4 The immune system of a two-year old child who received all the vaccinations can fight various diseases.

1.4.1 Does vaccination provide innate or acquired immunity? (1)

1.4.2 Discuss how a child's immune system is boosted after being vaccinated against measles. (3)

[30]

QUESTION 2

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

COLUMN A		COLUMN B	
2.1.1	Involves learning from the consequences of behaviour	A	endocardium
2.1.2	Muscles that turn the arm and hand upward	B	duodenum
2.1.3	The inner wall of the heart	C	tuberculosis
2.1.4	Arteries that supply oxygenated blood to the wall of the heart	D	Carl Jung
2.1.5	Part of the digestive system that is ±5m long	E	BF Skinner
2.1.6	Type of tissue found in the hypodermis that act as a protective layer and to conserve heat	F	operant conditioning
2.1.7	The first part of the small intestine	G	coronary arteries
2.1.8	An example of an opportunistic infection	H	small intestines
2.1.9	A behaviourist theorist known for operant conditioning	I	supinators
2.1.10	A theorist well-known for his experiments with dogs	J	pericardium
		K	adipose tissue
		L	Ivan Pavlov
		M	pulmonary arteries

(10 × 1) (10)

2.2 Choose one of Sigmund Freud's psychosexual stages that best describes the statements below. Write only the answer next to the number (2.2.1–2.2.5) in the ANSWER BOOK.

oral stage; anal stage; phallic stage; latency stage; genital stage

2.2.1 At this stage, children are fascinated by stools.

2.2.2 Children like to play with other children of the same gender.

2.2.3 Sexual energy is around the mouth and children derive pleasure from sucking.

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2.2.4 The sexual impulse reappears and adolescents are sexually attracted to adolescents of the opposite gender.

2.2.5 During this stage the child becomes aware of anatomical sex differences.

(5 × 1) (5)

2.3 2.3.1 Name FOUR structures that are found in the dermis and give each structure's function. (4 × 2) (8)

2.3.2 Name the function of the epidermis. (2)

2.4

CONSEQUENCES OF SHAVING EYEBROWS

- Eyebrows may not grow back or will grow back in an unflattering shape.
- The skin is much thinner over the eyebrow bone. The skin will cut and scratch very easily and will compromise the immune system.
- Eyebrows also assist with facial expression.

2.4.1 State whether the first or second line of defense can be compromised in the above case. Substantiate your answer. (2)

2.4.2 What do you think will happen if the eyebrows never grow back? (2)

2.4.3 Identify the facial muscle of expression that assists in the movement of the eyebrows. (1)

[30]

QUESTION 3

3.1 Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'True' or 'False' next to the question number (3.1.1–3.1.10) in the ANSWER BOOK.

3.1.1 Gas exchange takes place in the heart.

3.1.2 According to Erik Erikson, teenagers who are loved and cared for will develop trust.

3.1.3 Children become less egocentric at Jean Piaget's concrete operational stage.

3.1.4 The occipital bone protects the brain at the back.

3.1.5 There are five cervical vertebrae in the vertebral column.

3.1.6 Personal hygiene is important to ensure a strong immune system.

3.1.7 When crossing a road, it is important to only use the sense of sight to hear oncoming traffic.

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3.1.8 Disciplining children with love and guidance is an example of negative reinforcement.

3.1.9 Ivan Pavlov is well-known for his classical conditioning experiments with dogs.

3.1.10 Each psychological perspective has its own strengths and weaknesses.

(10 × 1) (10)

3.2 Indicate whether the following are examples of CLASSICAL or OPERANT conditioning. Write only 'CLASSICAL' or 'OPERANT conditioning next to the number (3.2.1–3.2.5) in the ANSWER BOOK.

3.2.1 Attending a fitness club and earning rewards for losing weight

3.2.2 Training your dog to sit and wait while his food is being prepared

3.2.3 Owning a club card to collect points for gifts or prizes

3.2.4 Staying in during break for not doing homework

3.2.5 A child being bullied at school starts disliking school and responds with fear at the every thought of school

(5 × 1) (5)

3.3 Study the image below and answer the questions.

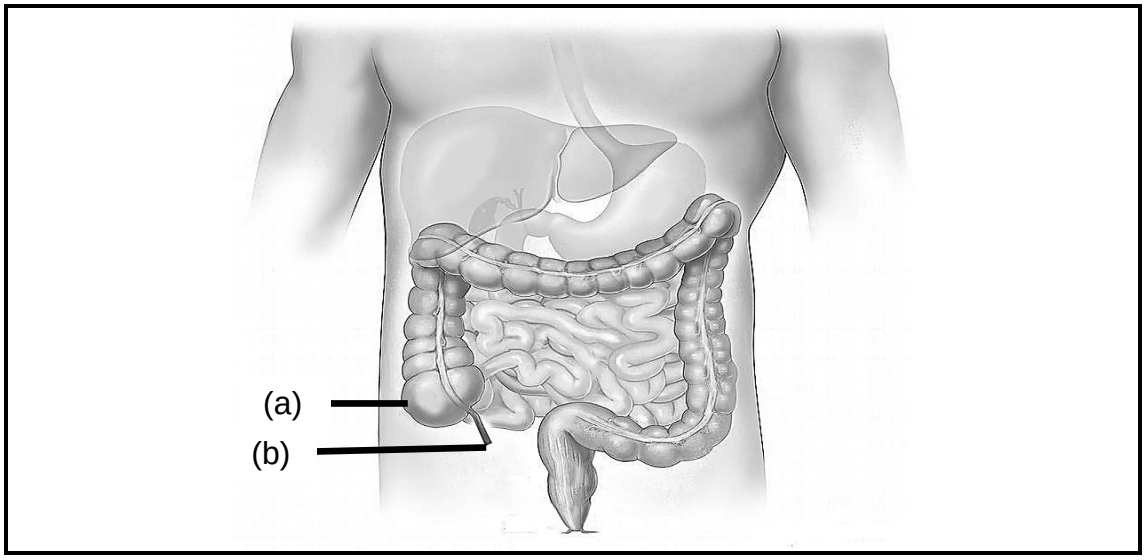

FIGURE 2

3.3.1 Label (a) indicates the first part of the ascending colon. Name this part. (1)

3.3.2 Name the sphincter that connects the small intestines to the large intestines. (1)

3.3.3 Name the part labelled (b) and explain why it is at high risk of becoming inflamed. (3)

3.3.4 Explain FOUR ways in which the immune system and blood will respond to inflammation, as mentioned in QUESTION 3.3.3. (4 × 2) (8)

3.3.5 Do you think the spleen can play a role in controlling the inflammation? Substantiate your answer. (2)

[30]

QUESTION 4

4.1 Give ONE word or term for each of the following descriptions by choosing a word or term from the list below. Write only the word or term next to the question number (4.1.1–4.1.10) in the ANSWER BOOK

acne; orbicularis oculi; Bell's palsy; brachial artery; results; xifoid; meninges; needs cycle; pancreas; trachea; orbicularis oris

4.1.1 Muscles of facial expression situated around the mouth

4.1.2 Muscles of facial expression situated around the eye

4.1.3 Membranes that envelope the brain and spinal cord for protection

4.1.4 A condition caused by paralysis of the facial nerve

4.1.5 A condition characterised by the over-secretion of sebum

4.1.6 The result of an action

4.1.7 A respiratory structure situated anterior to the esophagus

4.1.8 An organ that plays a role in both the digestive and digestive system

4.1.9 Situations in which somebody wants something that is regarded as necessary

4.1.10 A main artery that supplies oxygen-rich blood to the arm

(10 × 1) (10)

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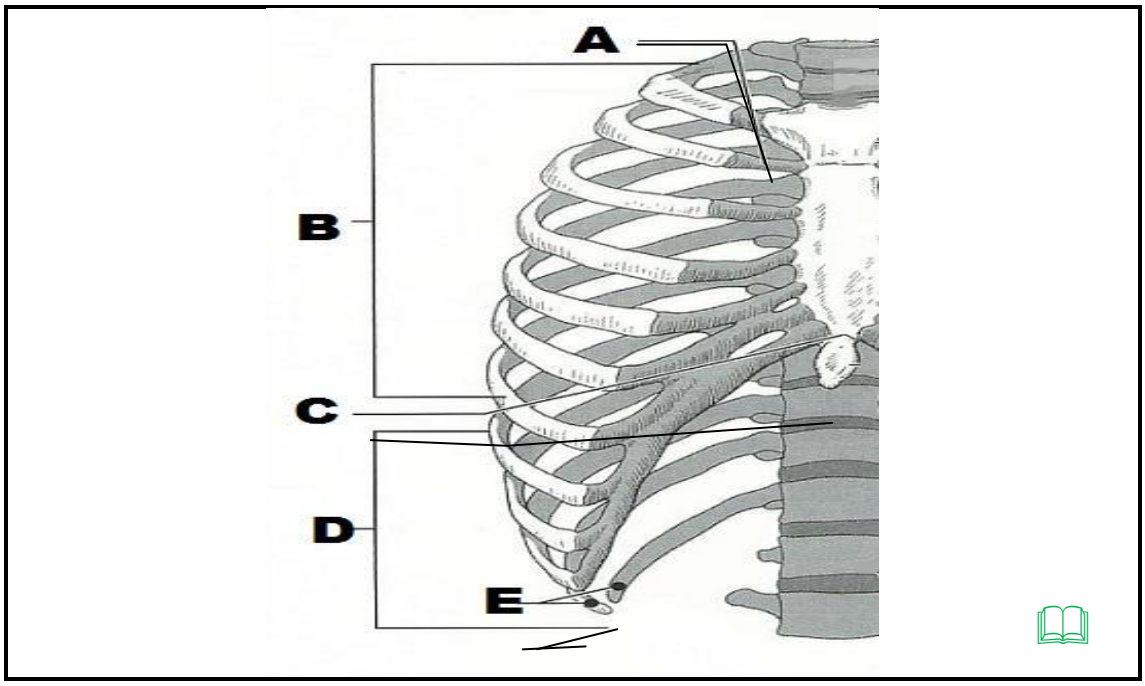
4.2 Study the image below and answer the questions.



RIBCAGE

4.2.1 Identify the parts of the ribcage labelled A–E. (5)

4.2.2 Identify the system illustrated in the image. (2)

4.2.3 Name FOUR organs that are protected by the ribcage. (4)

4.3 We might potentially die if the pancreas fails to perform its function.

Do you agree or disagree with this statement? Substantiate your answer. (5)

4.4 Discuss how a healthy lifestyle contributes to a healthy body. (2 × 2) (4)

[30]

QUESTION 5

5.1 Define the following terms/concepts:

5.1.1 Trigeminal neuralgia

5.1.2 Sebum

5.1.3 Immunity

5.1.4 Anaphylactic shock

5.1.5 Antihistamines

(5 × 2) (10)

5.2 Amina was excited because her friends invited her to go to the beach. They had a lot of fun in the sun but they did not know that it was important to protect their skins. That night they all had sunburn and suffered from dehydration.

Explain to Amina what she and her friends can do to protect their skins. (4)

5.3 Study the images below and answer the questions.

(a)



[Source: www.google.co.za/images]

(b)



[Source:www.google.co.za/images]

(c)



[Source:www.google.co.za/images]

(d)



[Source:www.google.co.za/images]

5.3.1 Discuss how each of the lifestyle choices in the images (a–d) can compromise the immune system. (4 × 2) (8)

5.3.2 Do you think the immune system plays an important role in the body? Substantiate your answer. (3)

5.4 Name FIVE different personality traits according to the Big Five model. (5)

[30]

QUESTION 6

6.1 Choose the correct word between brackets. Write only the answer next to the number (6.1.1–6.1.10) in the ANSWER BOOK.

6.1.1 (Fertilisation/Menstruation) is a process that takes place in the fallopian tubes.

6.1.2 (Sneezing/Fever) is a natural reflex of the body to get rid of unwanted substances.

6.1.3 The (zygomatic/masseter) muscles are found at the corners of the mouth.

6.1.4 The (diaphragm/peritoneum) plays an important role during inspiration and expiration.

6.1.5 The intercostal muscles are found between the (ribs/vertebrae).

6.1.6 The (renal/splenic) arteries supply blood to the kidneys.

6.1.7 The (pupils/iris) constrict/s or dilate/s to control the amount of light that enters the eye.

6.1.8 The (ureter/urethra) is much longer in males than in females.

6.1.9 The ovaries are situated in the left and right (iliac/lumbar) regions of the abdomen.

6.1.10 The (uterus/urethra) is situated between the bladder and the rectum.

(10 × 1) (10)

6.2 Name the muscles in the arm, buttock and leg that are used for intramuscular injections. (3 × 2) (6)

6.3 Explain the functions of the following heart valves:

6.3.1 Tricuspid valve

6.3.2 Bicuspid valve

(2 × 2) (4)

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6.4 Identify the correct personality trait for the statements in 6.4.1–6.4.10 from the list below. Write only the answer next to the number (6.4.1–6.4.10) in the ANSWER BOOK.

Introversion; agreeableness; extroversion; neuroticism; disagreeableness; conscientiousness; unconsciousness; low score on neuroticism; openness to experience; low openness to experience

6.4.1 I am always prepared and finish my tasks immediately.

6.4.2 I love to be surrounded by people.

6.4.3 I am adventurous and want to try new things.

6.4.4 I forget to put things back in their place.

6.4.5 I am quiet around strangers.

6.4.6 I am willing to put my feelings aside for the sake of others.

6.4.7 I am not willing to put my feelings aside for the sake of others.

6.4.8 I am not adventurous and do not have a good imagination.

6.4.9 I get upset easily and am much more anxious than other people.

6.4.10 I am not easily upset and am relaxed most of the time.

(10 × 1) (10)
[30]

TOTAL: 180

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