higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

THE HUMAN BODY AND MIND
NQF LEVEL 3

(9020083)

26 FEBRUARY 2018 (X-Paper)
09:00–12:00

This question paper consists of 9 pages.

NCV

TIME: 3 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. Write neatly and legibly.

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QUESTION 1

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

COLUMN A		COLUMN B	
1.1.1	Largest salivary glands	A	coronary arteries
1.1.2	Muscles of the chin	B	right hypochondriac region
1.1.3	Secretes calcitonin	C	gastrocnemius
1.1.4	Muscle that assists with breathing	D	ear
1.1.5	Consists of elastic cartilage	E	stomach
1.1.6	Supply oxygenated blood to the heart muscle	F	hepatic artery
1.1.7	Situated on the floor of the mouth	G	parotid glands
1.1.8	Muscles of the calf	H	diaphragm
1.1.9	An organ situated in the left hypochondriac region	I	thyroid gland
1.1.10	Supplies oxygenated blood to the liver	J	mentalis muscles
		K	nose
		L	sublingual glands
		M	carotid arteries

(10 × 1) (10)

1.2 Heart problems affect breathing and lung problems affect the heart's function.

Explain how the heart and lungs work together to ensure that every cell of the body receives oxygen. (2 × 2) (4)

1.3 Describe the position of the following organs:

1.3.1 Liver

1.3.2 Kidneys (2 × 3) (6)

1.4 Emma had an ectopic pregnancy in her right Fallopian tube. The affected tube and right ovary had to be surgically removed.

Give your opinion on whether Emma will be able to fall pregnant again. (4)

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1.5 Define the following terms:

1.5.1 Pap smear

1.5.2 Vasectomy

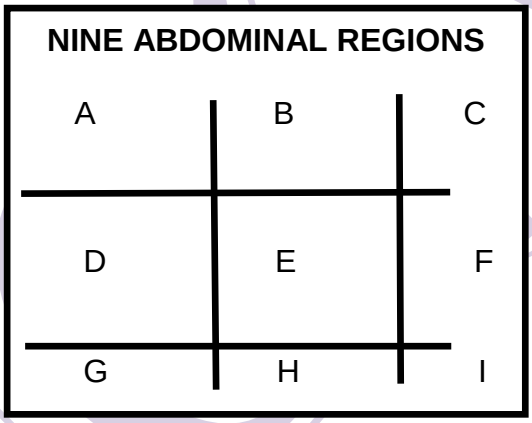
(2 × 2) (4)

1.6 The legs carry the weight of the upper body. People should use the bones and muscles of the legs when lifting heavy objects. Wearing high heels can cause problems.

Explain how wearing high heels can contribute to foot and back problems. (2)
[30]

QUESTION 2

2.1 Study the illustration below and answer the questions that follow. Write only the answer next to the number (2.1.1– 2.1.6) in the ANSWER BOOK.



2.1.1 Name the regions labelled A, E and I. (3)

2.1.2 Name the organ of the urinary system situated in the regions labeled D and F. (1)

2.1.3 Identify TWO possible problems if a person experiences pain in the region labelled G. (2)

2.1.4 Name the lymphatic organ situated in the region labeled C. (1)

2.1.5 Name the endocrine organ situated behind the stomach. (1)

2.1.6 Explain the endocrine functions of the organ mentioned in QUESTION 2.1.5 (4)

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2.2 Indicate whether the following statements are TRUE or FALSE. Write only 'True' or 'False next to the question number (2.2.1– 2.2.10) in the ANSWER BOOK.

2.2.1 The phrenic nerve controls the diaphragm.

2.2.2 The orbicularis oculi is a muscle of facial expression.

2.2.3 The external carotid arteries supply deoxygenated blood to the face.

2.2.4 The front part of the nose consists of elastic cartilage.

2.2.5 The skull consists of eight cranial bones.

2.2.6 The adrenal glands secrete the hormone adrenalin.

2.2.7 The cervical plexus supply nerve impulses to the thoracic structures.

2.2.8 The inguinal lymph nodes drain lymphatic structures of the arm.

2.2.9 The labia minora and labia majora are organs of the external female reproductive organs.

2.2.10 The prostate gland is part of the endocrine system.

(10 × 1) (10)

2.3 Name the two soft spots on the skull of a newborn baby and indicate at which age each one closes. (2 × 2) (4)

2.4 Identify the following muscles:

2.4.1 The muscles situated around the mouth

2.4.2 The muscle of the chin

(2 × 2) (4)

[30]

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QUESTION 3

3.1 Choose a word(s) from the list provided that best describes the statements below. Write only the answer next to the question number (3.1.1–3.1.10) in the ANSWER BOOK.

celiac veins; mesenteric veins; quadriceps muscle; appendicitis; ilium; ischium; ovulation; deep vein thrombosis; cardiac sphincter; aorta; tarsals; carpals; pyloric sphincter

3.1.1 The sphincter between the oesophagus and the stomach

3.1.2 Veins which drain blood from the intestines

3.1.3 Muscles of the buttocks

3.1.4 Inflammation of the appendix

3.1.5 The sphincter between the stomach and the duodenum

3.1.6 The largest of the hip bones

3.1.7 The production of a matured ovum

3.1.8 A blood clot in the lower legs

3.1.9 The main blood vessel of the body

3.1.10 Bones of the wrists

(10 × 1) (10)

3.2 People make contact with the environment through their senses. People who are blind or deaf experience challenges in their daily lives.

Explain how blind and deaf people manage to cope. (2 × 2) (4)

3.3 One of the functions of the skin is to control body temperature. The skin is exposed to heat and cold. The body must be protected so that it does not experience temperatures that are either too high or too low.

Explain how the skin controls the cooling and heating of the body. (6)

3.4 List the FIVE developmental stages of Sigmund Freud in the correct order. (5)

3.5

Your class is writing a weekly test. Your teacher has promised that those students who pass the test will each receive a lollipop. The students who fail will, however, not receive lollipops.

3.5.1 Identify the theory that is demonstrated in the text above. (1)

3.5.2 Refer to the text above study and explain the theory mentioned in QUESTION 3.5.1.

(2 × 2) (4)

[30]

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QUESTION 4

4.1 Name the systems to which the following structures belong. Write only the answers next to the question number (4.1.1 - 4.1.5) in the ANSWER BOOK.

4.1.1 Mammary glands

4.1.2 Tarsals

4.1.3 Dermis

4.1.4 Thymus

4.1.5 Rectus abdominus

(5 × 1) (5)

4.2 Describe how the following intra-ocular structures protect the eye:

4.2.1 Conjunctiva

4.2.2 Iris

4.2.3 Sclera

(3 × 2) (6)

4.3 The skin is the largest organ of the body. The skin is the sense organ of touch and also plays a major role in the immune system.

Name and explain the two functions of the skin mentioned in the sentence above. (2 × 2) (4)

4.4 Construct a mind map to show which parts of the skeleton protect the heart and lungs. (5 × 2) (10)

4.5 Mpho is 6 months old. He likes to crawl around and touches everything he sees.

Name the cognitive developmental stage at which Mpho is now according to Juan Piaget.

Substantiate your answer. (5)

[30]

QUESTION 5

5.1 Name the BIG FIVE personality traits. (5 × 2) (10)

5.2 You are eating a chip roll and drinking coke while discussing the latest fashions with your friend. After taking another bite, you suddenly start coughing. It feels as if the food is going down the wrong passage.

5.2.1 Identify the type of immunity which caused you to cough. (1)

5.2.2 Identify the structure (passage) into which the food should have passed. (1)

5.2.3 Which respiratory structure failed to do its function? Substantiate your answer. (5)

5.2.4 Explain how you are compromising your immune system. (2 × 1) (2)

5.2.5 Suggest a solution to the answer you have provided in QUESTION 5.2.4 (Explain what you should do not to compromise your immune system). (3)

5.3 Name THREE types of harmful microorganisms and give ONE example of each. (3 × 2) (6)

5.4 Explain Erik Erikson's 'Trust compared to Mistrust' developmental stage. (2)

[30]

QUESTION 6

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

6.1.1 (Antigens/antibodies) are able to recognise the invading organisms of specific illnesses.

6.1.2 (Anaphylactic shock/ autoimmunity) is a severe allergic reaction to some allergens.

6.1.3 A microscope is used to observe (microorganisms/food).

6.1.4 (Antibiotics/antihistamines) are medication used to relief the symptoms of an allergy.

6.1.5 (Asthma/hay fever) causes the airways of the lungs to swell.

6.1.6 An example of protection by the skin is (gooseflesh/moles).

6.1.7 (Phagocytosis/ cilia) is an example of the body's second-line defense.

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6.1.8 The scalp consists of (four/five) layers.

6.1.9 (Paraplegia/quadriplegia) is paralysis of the body from the neck down.

6.1.10 The spinal cord is protected by the (skull/vertebrae).

(10 × 1) (10)

6.2 According to Erik Erikson a young adult wants to be in a serious relationship or have an intimate partner.

6.2.1 Select the developmental stage referred to in the text. (1)

6.2.2 Suggest the possible consequences if a young person is not successful in finding an intimate partner. (2)

6.2.3 Name the last TWO stages of Erikson's theory. (2)

6.3 Decide whether the following statements refer to natural or acquired immunity. Write only 'Natural' or 'Acquired' next to the question number (6.3.1–6.3.5) in the ANSWER BOOK.

6.3.1 You are sneezing because of high pollen concentration in the air

6.3.2 Breastfeeding a baby

6.3.3 You are vomiting after you have eaten food that has expired

6.3.4 Antibodies due to chicken pox

6.3.5 Tears in your eyes when the wind blows dust in the eyes

(5 × 1) (5)

6.4 Explain how the female reproductive organs are protected. (4)

6.5 Complete the following sentences by using the words in the list below. Write only the word(s) next to the number (6.5.1 - 6.5.6) in the ANSWER BOOK.

introvert; interact; extrovert; alone; concentrate; reserved; sensing; conscientious

My personality type is (6.5.1 …) because I like to engage with the outside world and to spend lots of time with my friends. I find it very difficult to sit down and (6.5.2 …). My friend is very quiet and (6.5.3 …). She prefers to be (6.5.3 …). Her personality type is (6.5.4 …). My sister is hard-working, organised, trustworthy and responsible. Her personality type is (6.5.6 …).

(6 × 1) (6)

[30]

TOTAL: 180

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