higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

THE HUMAN BODY AND MIND
NQF LEVEL 2

10 November 2022

This marking guideline consists of 7 pages.

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QUESTION 1

1.1
1.1.1 C
1.1.2 L
1.1.3 I
1.1.4 D
1.1.5 F
1.1.6 B
1.1.7 E
1.1.8 H
1.1.9 J
1.1.10 G

(10 × 1) (10)

1.2 1.2.1
- Anatomy is the study of the structure of different parts of the body

1.2.2
- The cell is the basic structural and functional unit of the body.
- It is the smallest unit of living matter that can carry on all processes of life.
- Most cells can only be seen through a microscope. The largest cell is the ovum. (Any 2 × 1)

1.2.3
- Physiology is the study of how the body functions / anatomical structures work

(3 × 2) (6)

1.3
- Plasma membrane / Cell membrane
- Nucleus
- Cytoplasm
- Organelles (4)

1.4 1.4.1
A – Kidney
B – Ureter
C – Bladder
D – Urethra (4)

1.4.2 Kidney (1)

1.4.3 The male urethra extends through the length of the penis. (1)

1.4.4
- The body may retain water✓ and swell as extra fluid cannot be removed sufficiently.✓
- The blood pressure may rise✓ as the salt levels will not decrease.✓ (2 × 2) (4)

[30]

QUESTION 2

2.1
2.1.1 True
2.1.2 True
2.1.3 False
2.1.4 True
2.1.5 True
2.1.6 True
2.1.7 False
2.1.8 True
2.1.9 False
2.1.10 False

(10 × 1) (10)

2.2
2.2.1 Skin and integumentary system
2.2.2 Brain and nervous system
2.2.3 Respiratory system
2.2.4 Gastrointestinal/Digestive system
2.2.5 Skeletal/Musculoskeletal system

(5 × 1) (5)

2.3
- The outer layer✓ is called the pericardium✓
- The middle layer✓ is called the myocardium✓
- The innermost layer✓ is called the endocardium✓ (3 × 2) (6)

2.4 2.4.1
- Victoria has one fully functioning ovary✓ on the left side.✓
- She can ovulate✓ from the left side.✓
- It may take longer, but the chances are good that she can become pregnant. (Any 2 × 2) (4)

2.4.2
- No,✓ it will not affect her pregnancy.✓
- Eggs/ova are housed in the ovary and are needed for ovulation which occurs before fertilisation.✓
- The uterus is not affected and should be able to maintain pregnancy.✓ (5)

[30]

QUESTION 3

3.1
3.1.1 C
3.1.2 C
3.1.3 A
3.1.4 B
3.1.5 B

(5 × 1) (5)

3.2

OXYGENATED BLOOD	DE-OXYGENATED BLOOD
aorta	superior vena cava
four pulmonary veins	inferior vena cava
two coronary arteries	two pulmonary veins

(6 × 1) (6)

3.3 3.3.1 Respiratory system (1)

3.3.2
- Red
- Swollen
- Painful (3)

3.3.3
- Lymph nodes protect the body✓ by filtering the lymph.✓
- Lymph nodes produce white blood cells✓ which destroy micro-organisms.✓
- The nodes of the neck become swollen as this area is closest✓ to the area of infection.✓ (Any 3 × 1) (3)

3.3.4
- The larynx is part of the respiratory system.
- The larynx is responsible for voice production.
- The infection may have spread to the larynx affecting voice production. (Any 2 × 1) (2)

3.3.5
- Yes
- If the infection continues and is untreated.
- A fever is a sign of infection and that the body is trying to fight an infection. (3)

3.3.6 Brain (1)

3.3.7
- Taste
- Hearing
- Smell (3)

3.3.8
- Julia's sense of smell is affected and the food might not smell appealing.
- Julia's sense of taste is also affected and the food will not taste good.
- When she cannot smell or taste the food it may not seem to be appealing even if it is her favourite food.
- She would not want to eat if the food has no flavour. (Any 3 × 1) (3)

[30]

QUESTION 4

4.1
- Mouth
- Oropharynx
- Oesophagus
- Stomach
- Small intestines
- Large intestines
- Rectum
- Anus (5)

4.2 4.2.1 Skeletal muscle tissue
4.2.2 Attached to the skeleton
4.2.3 Spindle-shaped/no striations
4.2.4 Involuntary control
4.2.5 Cardiac muscle tissue
4.2.6 Involuntary control

(6 × 1) (6)

4.3

BODY SYSTEM	HEALTH PROBLELM
Digestive system	Destroying your body's ability to make insulin
Urinary system	Damage your kidneys and affect their ability to filter waste products. Repeated infections affecting the bladder
Cardiovascular system	Developing high blood pressure, which puts further strain on your heart
Brain and nervous system	Damage to the nerves, which can affect your perception of heat, cold, and pain
Skin and integumentary system	The skin on your feet to dry and crack
Reproductive system	Repeated infections affecting the vagina

(Any 5 × 2) (10)

4.4 4.4.1 Small intestine (1)

4.4.2
- Nutrients will not be transported through the bloodstream.
- Nutrients cannot be taken up into the cells.
- Cells will not be able to metabolise (anabolism and catabolism).
- Cells will not be able to grow, be maintained, or repaired.
- The body will become weak and will not be able to function.

(Any 4 × 1) (4)

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4.4.3
- Faeces is undigested food that is no longer needed in the body.
- The digestive system will become overextended with food that cannot pass through the system.
- The person will become constipated.
- Haemorrhoids can develop.
- It can cause abdominal pain.
- The organs of the digestive system may slow down.
- A build-up of toxins and bacteria can cause nausea and headaches.
- It is very important to remove faeces from the rectum.

(Any 4 × 1) (4)
[30]

QUESTION 5

5.1
- Describe
- Explain
- Predict
- Control
- Improve (5)

5.2
5.2.1 Self-awareness
5.2.2 An unfavourable
5.2.3 High
5.2.4 Trunk
5.2.5 Self-worth

(5 × 1) (5)

5.3
- Shock and denial
- Anger
- Bargaining
- Depression
- Acceptance (5)

5.4 5.4.1
- Bonding occurs during infancy - birth to 15 months.
- The bond is stronger with the mother because she is in close contact with the infant.
- Richard's father does not spend enough time with him to be able to bond.
- Richard's father does not visit often. (Any 2 × 1) (2)

5.4.2
- Richard trusts his mother because he bonded with her.
- She makes him feel safe and secure.
- His mother tends to his needs: love, food, safety. (3)

5.4.3
- His father can visit more often.
- His father can play with him.
- His father can spend more one-on-one time with him.
- His father should be more patient. (Any 2 × 1) (2)

5.5 5.5.1 No
- His mother should be more sensitive and patient to his needs.
- Communication is an important tool to teach a child acceptable and unacceptable behaviour.

Yes
- Parents should have firm boundaries.
- Children should learn what is acceptable behaviour and what is not acceptable behaviour.

(Any 3 × 1) (3)

5.5.2
- Sipho formed a negative connection towards drawing.
- The response of his mother was very negative.
- He was punished when he drew a picture and may associate drawing with punishment because his mother did not explain that drawing on the walls is not acceptable.
- He may not want to draw pictures because he did not understand the situation. (Any 2 × 1) (2)

5.5.3
- Sipho's mother can discuss with him why she reacted in that way and apologise for her harsh and impatient reaction.
- They can communicate openly and unthreatening regarding their behaviour.
- His mother can encourage him to draw with her.
- She can display his pictures on the wall or on the fridge.
- She can complement him on his drawings. (Any 3 × 1) (3)

[30]

TOTAL: 150

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