higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

THE HUMAN BODY AND MIND
NQF LEVEL 3

18 February 2025

This marking guideline consists of 8 pages.

Copyright reserved

QUESTION 1

1.1
1.1.1 C
1.1.2 A
1.1.3 D
1.1.4 A
1.1.5 C
1.1.6 A
1.1.7 B
1.1.8 D
1.1.9 B
1.1.10 D

(10 × 1) (10)

1.2

ENDOCRINE GLAND	HORMONE SECRETED	EFFECT/FUNCTION
Thyroid✓	• Calcitonin✓ • Thyroxin✓	• Controls blood calcium levels✓ • Regulates metabolism✓
Mammary glands✓	• Prolactin✓	• Milk production✓
Pancreas✓	• Glucagon✓ • Insulin✓	• Increase blood glucose levels✓ • Reduce blood glucose levels✓
Adrenal glands✓	• Adrenal✓	• Hormone of emergency✓ OR • Fight or flight response✓
Ovaries✓	• Progesterone✓ • Oestrogen✓	• Prepares the endometrium for a fertilized egg to implant✓ • Regulates menstruation✓ • Plays a role in the ovulation cycle✓ • Responsible for secondary female characteristics✓
Testis✓	• Testosterone✓	• Sperm production✓ • Responsible for secondary male characteristics✓

(6 × 3) (18)

1.3
- Children learn through their senses.
- Through their sense of sight, they learn different colours.
- Through their sense of touch, they learn different textures.
- Gross and fine motor skills develop as they play with the toys.

(Any relevant 2 × 1) (2)

[30]

QUESTION 2

2.1
2.1.1 I
2.1.2 G
2.1.3 J
2.1.4 L
2.1.5 A
2.1.6 C
2.1.7 B
2.1.8 D
2.1.9 E
2.1.10 F

(10 × 1) (10)

2.2
- When it is cold,✓ the hair on the skin stands upright in an attempt to preserve heat (gooseflesh).✓
- When it is hot✓ the sweat glands secrete sweat which reduces body temperature.✓

(Any relevant answer) (Any 2 × 2) (4)

2.3
- Prevent sunburn or skin cancer by avoiding sitting in the sun between 10:00 and 15:00 and/or apply sunscreen, wear a cap and sunglasses.✓✓
- Wash the skin twice a day✓ to remove sweat.✓
- Use mild soap and shampoo✓ to prevent the skin from drying out.✓
- Avoid injury and friction
  OR treat cuts and wounds✓ to help the skin to heal quickly/to keep the skin intact/to prevent microorganisms from entering through the skin.✓
- Inspect the skin regularly. Treat cuts and wounds and to detect moles that can indicate skin cancer.✓
- Eat a well-balanced diet and stay well-hydrated✓ to keep the skin healthy.✓

(Any relevant 6 × 2) (12)

2.4
- Sight✓ the driver can see the boy running across the street✓ and the boy can see the oncoming vehicle.✓
- Hearing✓ the boy can hear the oncoming vehicle.✓

(2 × 2) (4)
[30]

QUESTION 3

3.1
3.1.1 Skeletal
3.1.2 Skeletal/immune
3.1.3 Skin and integumentary
3.1.4 Cardiovascular
3.1.5 Respiratory
3.1.6 Nervous
3.1.7 Urinary
3.1.8 Male reproductive
3.1.9 Female reproductive
3.1.10 Digestive

(10 × 1) (10)

Copyright reserved

3.2
- Fungi:✓ fungi on stale bread, oral thrush, athlete's foot✓
- Parasites:✓ mosquitoes, worms inside the intestines✓
- Viruses:✓ flu,✓ corona✓ (Name + 1 example each) (Any relevant 3 × 2) (6)

3.3 3.3.1 Operant conditioning

When I wash the dishes, my mom rewards✓ me with a chocolate but when I do not wash the dishes, she punishes✓ me by not giving me a chocolate.

(**NOTE:** Allocate marks for demonstrating reward versus punishment in operant conditioning.)

3.3.2 Classical conditioning

I started taking my contraceptive pill at 18:00 when my favourite program starts. When I forget to take my pill and I hear the music of the program, it reminds me to take a pill immediately. I have been conditioned✓ to associate✓ the melody playing when the program starts with taking my contraceptive pill.

(NOTE: In classical conditioning, the student must make an association between 2 situations.)

(Any relevant 2 × 2) (4)

3.4 No (1)
- Introverts are quiet and reserved.
- They prefer to communicate with close friends or one or two people they know.
- They feel uncomfortable in group conversations.
- They are too shy to speak in groups.
- They are passive in group situations.
- They are not assertive.
- They will make no or little contribution to group work.
- They may feel that they are not given an opportunity to speak or to get their thoughts across. (Any relevant 4 × 1) (4)

OR

Yes (1)
- They listen more than talk and would easily pick up if the group members go off track.
- They will do their part of the task in their own space.
- They will create a sense of calmness when other members might argue.
- They will contribute to the task even if they are reserved.
- They will discuss their opinion about the task with one or two members who will share with the rest of the group. (Any relevant 4 × 1) (4)

3.5 A person with a conscientious personality:
- is usually very organised and will be able to prioritise work.
- is very dependable and will therefore meet deadlines.
- will study in advance as he/she aims at a goal to achieve.
- is always prepared because he/she is able to work according to a timetable.
- is self-disciplined and will prioritise studying above partying/other distractions. (Any relevant 5 × 1) (5)

[30]

QUESTION 4

4.1
4.1.1 Trachea
4.1.2 Cervical
4.1.3 External auditory meatus
4.1.4 Temporalis
4.1.5 Submandibular
4.1.6 Trigeminal
4.1.7 Diaphragm
4.1.8 Myometrium
4.1.9 Meniscus
4.1.10 Gangrene

(10 × 1) (10)

4.2
- Mucous
- Mucous membrane
- Cilia
- Cartilage (trachea and rib cage)
- Pleura
- Sternum
- Ribs
- Thoracic vertebrae
- Scapulae
- Diaphragm
- Intercostal muscles
- Pectoralis major muscles (Any relevant 5 × 1) (5)

4.3
- Cause and affect
- Consequences
- Conditioning
- Rewards
- Avoidance
- Social learning theory
- Shaping (Any relevant 5 × 1) (5)

4.4
- Alveoli are responsible for gas exchange.
- When the alveoli are inflamed and filled with fluid, they are unable to expand and allow gasses to diffuse over the semipermeable membrane.
- It will be difficult for O_2 to diffuse from the alveoli to the blood vessels.
- An inadequate amount of O_2 will reach the heart.
- It will be difficult for CO_2✓ to diffuse from the blood vessels to the alveoli to be exhaled.
- CO_2 will remain in the body, resulting in shortness of breath.

(Any relevant 5 × 1) (5)

4.5
- Babies must be immunised after birth according to the immunisation schedule, to boost their immune system against infectious diseases.
- They must be exclusively breastfed for 6 months to ingest all the nutrients and antibodies from the mother.
- If they are bottle-fed, the bottles must be washed with soap and water and the bottle must be sterilised to prevent the baby from ingesting bacteria.
- The formula must be mixed correctly according to instructions to ensure that the baby gets the necessary nutrients.
- The baby must be washed regularly to remove germs from the body.

(Any relevant 5 × 1) (5)
[30]

QUESTION 5

5.1
5.1.1 False
5.1.2 True
5.1.3 False
5.1.4 False
5.1.5 True
5.1.6 True
5.1.7 False
5.1.8 True
5.1.9 True
5.1.10 False

(10 × 1) (10)

5.2
a) Right pulmonary arteries
b) Aorta
c) Right ventricle
d) Inferior vena cava
e) Left atrium

(NOTE: Allocate marks if an answer is correct, even though left or right is not indicated.) (5 × 1) (5)

5.3
5.3.1
- Trust versus mistrust.
- The baby is neglected that leads to mistrust.

5.3.2
- Autonomy versus shame and doubt.
- The toddler is exploring the environment showing autonomy.

5.3.3
- Identity versus role confusion.
- Adolescents are experimenting with smoking.

5.3.4
- Integrity versus despair.
- The picture shows an old man looking happy/content with his life showing integrity.

5.3.5
- Industry compared to inferiority.
- The girl looks happy as she knows the answer to the sum experiencing industry. The boy looks unhappy and might feel inferior because he does not know the answer.

(Any relevant 5 × 2) (10)

5.4
- Missed immunisations - Due to not understanding the importance of vaccination or the clinic is too far.
- Poor sanitation - Due to not having flush toilets.
- Poor hygiene - Due to not having access to clean running water.
- Ingesting bacteria - via dirty bottles.
- Eating an unbalanced diet - Due to not having money to buy food from the different food groups.
- Lack of ventilation - Informal dwellings most often do not have cross-ventilation.
- Overcrowding - Infectious diseases easily spread from person to person. Dumping sites attract rats and flies. (Any relevant 5 × 1) (5)

[30]

QUESTION 6

6.1 6.1.1
- The liver is situated in the right hypochondriac region,✓
- overlapping into the epigastric region✓
- and a small part in the left hypochondriac region✓
- below the diaphragm.✓ (Any relevant answer) (4 × 1) (4)

6.1.2
- The large intestine lies in the right iliac region✓
- at or below the waist.✓
- It is joined to the small intestine at the caecum✓
- via the ileocecal valve. (Any relevant answer) (Any 3 × 1) (3)

6.1.3
- The kidneys are situated in the lumbar region✓
- in the posterior abdominal wall✓
- one on either side of the vertebral column,✓ below the diaphragm. (Any relevant answer) (3 × 1) (3)

6.2
- Epidermis
- Cilia
- Mucous/Mucus
- Mucous/Mucus membranes
- Tears
- Saliva
- Vaginal secretions
- Lysozymes
- Sebaceous glands
- Sweat glands
- Hydrochloric acid
- Coughing, sneezing and vomiting reflexes

(Any relevant answer) (Any 8 × 1) (8)

6.3
- When I pick up stationery in class, I look for the owner because it would be wrong to keep it.
- Sometimes when I cannot remember what I studied, I am tempted to put crib notes in my pocket but then I remember that I was not raised to be dishonest.
- I saw a student's money fell out of her pocket. Even though I was struggling with transport money, I picked up the money and gave it to the person because it would be unethical to keep it. (Any relevant answer) (3 × 1) (3)

6.4
- The testes needs to be kept at a temperature 2 degrees below body temperature.
- The hot baths John is taking has an effect on sperm production, resulting in a low sperm count.
- It is therefore difficult to fertilise a mature ovum of his wife, resulting in infertility.
- The problem might also be as a result of his wife not ovulating or due to blocked fallopian tubes.
- If there is no problem with the wife, she might still fall pregnant if John stops taking hot baths OR if they make use of a sperm donor.

(Any relevant 5 × 1) (5)

6.5
- Levator ani
- Coccygeus
- Attach the reproductive organs to the bones.
- Give support to the organs in the pelvic region.
- Contract and relax when passing urine and stools.
- Help with blood flow and vaginal contractions during sex and orgasm.
- Support vaginal delivery during childbirth.

(Any relevant answer) (Any 2 × 2) (4)

[30]

TOTAL: 180

Copyright reserved