higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

THE HUMAN BODY AND MIND
NQF LEVEL 4

21 November 2023

This marking guideline consists of 8 pages.

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QUESTION 1

1.1 1.1.1 trachea
1.1.2 hypodermis
1.1.3 kidney
1.1.4 vagina
1.1.5 right
1.1.6 anterior
1.1.7 stomach
1.1.8 small
1.1.9 liver
1.1.10 pancreas

(10 × 1) (10)

1.2 1.2.1 A – Coronal suture
B – Parietal bone
C – Anterior fontanelle
D – Sagittal suture (4)

1.2.2

	INFANT
Teeth	No teeth✓
Bones	Separate, soft and moveable✓
Fontanelles	Six fontanelles✓
Size	One-quarter of total body length✓

(4 × 1) (4)

1.2.3
- The circumference reflects the growth of the brain.
- It is an easy way to tell if there is a potential problem or if they need to be watched. (Any 1 × 2) (2)

1.2.4 The brain would not be able to grow optimally. (1)

1.2.5
- The facial area develops slower than the brain.
- No teeth in the maxilla and mandible.
- The palate is relatively small.
- The chin is not completely developed.
- The forehead is upright and rounded. (5)

1.2.6 At birth, sutures and fontanelles allow the skull bones to overlap✓ and can be compressed as the skull passes through the birth canal.✓

The bones of the skull are soft and sutures and fontanelles allow the skull to expand✓ as the brain grows.✓ (4) (2 × 2)

1.3 1.3.1 1 – Iliac crest
2 – Acetabulum
3 – Sacrum
4 – Coccyx (4)

1.4 1.4.1 Pituitary
1.4.2 Ovary
1.4.3 Adrenal
1.4.4 Thymus
1.4.5 Testis
1.4.6 Thyroid

(3 × 2) (6)
[40]

QUESTION 2

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

(10 × 1) (10)

2.2 The somatic nervous system regulates voluntary (anything that you can tell your brain to do) activities of skeletal muscles such as walking and smiling.✓
The somatic nervous system makes it possible for the body to receive and react to external stimuli through the senses (vision, hearing, taste, smell and touch).✓

Example:
- Running✓
- Brushing your hair
- Blowing your nose

The autonomic nervous system regulates involuntary or automatic activities.✓
A person is not in control of the vital processes in the body.✓

Example:
- Contraction of cardiac muscles that causes the heart to beat✓
- Digestion
- Regulation of respiratory function
- Maintenance of the size of pupils

(3 × 2) (6)

2.3 Awareness✓
- Babies need something interesting to look at and they follow it with their eyes. This helps neural pathways develop.✓

Coordination✓
- Babies try to grab their toys but most of the time they do not succeed. Coordination between hands and eyes must still develop.✓

Muscle strength✓
- Muscles develop and get stronger as they grow.✓

Normal sensation✓
- Babies need to feel the toys with their hands, so they grasp objects firmly in their hands.✓ (8)

2.4 2.4.1 Waste products are carried through tubular sweat glands to the surface of the epidermis✓ and are released though sweat pores.✓ Sweat evaporates when it reaches the surface of the skin.✓ (2 + 1) (3)

2.4.2
- Undigested food will produce toxins.✓
- The production of these toxins may lead to diseases.✓
- The person will feel bloated and experience discomfort.✓
- The person may become constipated.

(Any relevant 3 × 1) (3)

2.4.3
- Faeces are pushed towards the rectum,✓ this continues until the rectum is full.
- Walls of the rectum expand, which result in a stretch stimulus.✓
- Sensory nerve endings in the walls of the rectum conduct impulses to the spinal cord and brain.✓
- The message is translated in the brain and the person becomes aware of the need to defecate.✓
- Motor nerves takes the message to the muscles of the effector organ (anus) to relax.✓ (5)

2.5
- The respiratory system is responsible for efficient gas exchange between oxygen and carbon dioxide. This happens in the lungs.
- The heart is responsible for pumping blood throughout the body.
- The blood picks up oxygen from the lungs and the heart pumps it to the body.
- Then the blood picks up carbon dioxide from the body and transports it back to the heart, which pumps it to the lungs from where it can be exhaled.
- If one of these systems does not function the body will be depleted of oxygen and a person can die. (5)

[40]

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QUESTION 3

3.1
3.1.1 moral
3.1.2 separation anxiety
3.1.3 comfort
3.1.4 perception
3.1.5 receptors
3.1.6 Technology
3.1.7 Non-verbal
3.1.8 stimulus
3.1.9 Negative
3.1.10 Language

(10 × 1) (10)

3.2
3.2.1 Stage 1: Rules are obeyed to avoid punishment.

3.2.2 Stage 2: Rules are obeyed for personal interest.

3.2.3 Stage 3: Rules are obeyed for approval by other people.

3.2.4 Stage 4: Rules are obeyed to benefit society.

3.2.5 Stage 5: Rules are obeyed if they are impartial and do not interfere with the rights of others.

3.2.6 Stage 6: Rules are obeyed according to a set of personal ethical principles.

(6 × 1) (6)

3.3
3.3.1 Pre-operational stage
3.3.2 Concrete operations
3.3.3 Sensory-motor stage
3.3.4 Formal operations

(4 × 1) (4)

3.4
- Their friends use drugs and it is easy for them to find drugs.
- Children who do not have good role models and do not have a stable and secure home.
- Children imitate parents and older siblings who use drugs.
- Children who are going through difficult times where there is not enough food or a lack of parental care.
- Abused children want to escape the abuse and think drugs will make it go away.

(Any 5 relevant × 1) (5)

3.5
Charl: Identity versus role confusion
Ntombi: Intimacy versus isolation
Lenny: Integrity versus despair
Sandy: Generativity versus stagnation
Ben: Trust versus mistrust (5 × 2) (10)

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3.6
- Using foul language.
- Shouting at each other.
- Ignoring the person that talks to you.
- Interrupting the other person.
- Not listening to what the other person says.

(Any relevant 5 × 1) (5)
[40]

QUESTION 4

4.1
4.1.1 D
4.1.2 A
4.1.3 C
4.1.4 D
4.1.5 A
4.1.6 C
4.1.7 B
4.1.8 A
4.1.9 D
4.1.10 C

(10 × 1) (10)

4.2
1 – Pituitary gland
2 – Thyroid gland
3 – Parathyroid gland
4 – Thymus
5 – Adrenal gland
6 – Pancreas
7 – Ovary
8 – Testes
9 – Hypothalamus
10 – Pineal gland

(10 × 1) (10)

4.3
A – Nervous system
B – Respiratory system
C – Skeletal system
D – Cardiovascular system
E – Urinary system

(5 × 1) (5)

4.4 4.4.1
- Excretory function
- Excretion of waste

(Any 1 × 2) (2)

4.4.2
Sweat glands✓ – sweat✓
Anus✓ – faeces✓
Lungs✓ – CO_2✓
Bladder✓ – urine✓

(4 × 2) (8)

4.5
- The pelvic inlet and pelvic outlet are wider.✓
- The sacrum is shorter.✓
- The coccyx is able to move.✓
- Shortly before labour, hormones stimulate pelvic bones and joints to soften and loosen✓ slightly to create a wider birth canal.
- During labour the baby passes through the wider pelvic opening into the birth canal.✓ (5)

[40]

QUESTION 5

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

(10 × 1) (10)

5.2
- Some people ~~from Africa~~ believe in traditional healers.
- Traditional beliefs and practices concerning illness and health have been followed through different generations, particularly in rural areas in South Africa.
- It is easy for people to consult a traditional healer who comes from the same cultural group as they do.
- Some people trust traditional healers and think that they have been trained well.
- Modern medicine may not be affordable for poor and unemployed people.
- Accessing a clinic can be challenging in some communities.
- Religious affiliation may be another reason that people prefer using traditional medicine. (7 × 1) (7)

5.3
5.3.1 Skeletal system
5.3.2 Endocrine system
5.3.3 Immune system

(3 × 1) (3)

5.4 5.4.1 Sympathetic (1)

5.4.2 Parasympathetic (1)

5.4.3

	Sympathetic	Parasympathetic
Eyes	• Pupils dilate	• Pupils constrict
Digestion	• Slows down	• Increases
Breathing	• Faster and deeper	• Slower
Heart rate	• Faster	• Slower

(4 × 2) (8)

5.5

NERVOUS SYSTEM				
Central nervous system✓			Peripheral nervous system✓	
Brain✓	Spinal cord✓		Motor✓	Sensory✓

(6 × 1) (6)

5.6
- Emotional, mental, social, spiritual and behavioural factors can directly affect our health.✓
- When we are unable to express our feelings in words, our bodies express these unexpressed feelings in different ways.✓ These ways can include pain, tiredness and illness.
- Having a positive outlook can improve your quality of life, and this can improve your health.✓
- Stress and stress-related matters can affect a person physically.✓

(Any relevant 4 × 1) (4)

[40]

TOTAL: 200

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