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

XX FEBRUARY 2020

This marking guideline consists of 8 pages.

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QUESTION 1

1.1	1.1.1	D		
	1.1.2	Mucus		
	1.1.3	Alveoli		
	1.1.4	Renal		
	1.1.5	epiglottis		
	1.1.6	peristalsis		
	1.1.7	epidermis		
	1.1.8	phrenic		
	1.1.9	cardiac		
	1.1.10	hypoglossal		
			(10 × 1)	(10)

1.2	1.2.1	First part of the ascending colon of the large intestine		
	1.2.2	At the entrance of the stomach		
	1.2.3	First branches of aorta leading to the outer part of the heart muscle		
	1.2.4	Behind the stomach in the curve of the first part of the duodenum		
	1.2.5	muscle between the thoracic and abdominal cavities		
			(5 × 1)	(5)

1.3	1.3.1	Bile		
	1.3.2	Carbon dioxide		
	1.3.3	Urine		
	1.3.4	Adrenaline		
	1.3.5	Mucous		
	1.3.6	Sweat		
	1.3.7	Tears		
			(7 × 1)	(7)

1.4	1 – Brain			
	2 – Lung			
	3 – Liver			
	4 – Large intestines			
	5 – Heart			
	6 – Stomach			
	7 – Kidney			
	8 – Small intestines		(8 × 1)	(8)

1.5	• Zea – skin			
	• Imeraan – respiratory system			
	• Portia – cardiovascular system			
	• Mary – digestive system			
	• Fred – urinary system		(5 × 2)	(10)
				[40]

QUESTION 2

2.1	2.1.1	False		
	2.1.2	True		
	2.1.3	False		
	2.1.4	True		
	2.1.5	False		
	2.1.6	False		
	2.1.7	False		
	2.1.8	False		
	2.1.9	True		
	2.1.10	True		
			(10 × 1)	(10)
2.2	2.2.1	1 – Coronal suture 2 – Saggital suture 3 – Lambdoid suture 4 – Anterior fontanelle 5 – Posterior fontanelle	(5 × 2)	(10)
	2.2.2	• Labour will be painful and complicated because the skull bones will not be able to overlap as it passes through the birth canal. • The skull will not be able to expand to make room for the growing brain.		(2)
	2.2.3	During birth the bone plates overlap to allow baby to move through the birth canal.✓ This is why the head looks out of shape.✓ After a few days the bone plates will move back to normal and the head will be in shape.✓		(3)
2.3	2.3.1	Masseter		
	2.3.2	Renal arteries		
	2.3.3	Urethra		
	2.3.4	Trachea		
	2.3.5	Intercostal muscles	(5 × 1)	(5)
2.4	2.4.1	Pelvis		(1)
	2.4.2	Male – less than 90° Female – more than 90°	(2 × 2)	(4)
	2.4.3	1 – ilium 2 – sacrum 3 – coccyx 4 – acetabulum 5 – pubic symphesis		(5)
				[40]

QUESTION 3

3.1
3.1.1 A
3.1.2 A
3.1.3 C
3.1.4 C
3.1.5 B
3.1.6 B
3.1.7 A
3.1.8 B
3.1.9 A
3.1.10 D

(10 × 1) (10)

3.2 Awareness✓
- Babies need something interesting to look at.
- Babies are able to see toys and follow them with their eyes when they are moved (Any ONE)

Coordination✓
- To be able to pick up the toy, there must be interaction between the eyes and the hands.
- Between the age of two to four months, babies are beginning to coordinate their eye and hand muscles. (Any ONE)

Muscle strength✓
- At about four to six months of age their muscles are stronger and coordination also develop so it becomes possible for babies to grab a toy.✓

Normal sensation✓
- Babies need to feel a toy with their hands and so they grasp objects firmly in their hands✓ (4 × 2) (8)

3.3
- Babies are born with neural pathways that are made up of electrochemical messages between neurons in their brains.✓
- Pathways in brain are reinforced as child learns to associate symbols in the environment with specific stimuli.✓
- Neural pathways will develop more with regular use.✓
- Babies should be stimulated by everyday objects and activities.✓
- This repetitive message between the neurons becomes routine and with repeated use the correlation between the stimulus word 'mommy' and seeing their mother becomes a well-established neural pathway.✓
- More neural pathways are formed when messages are repeated over✓ and over particularly in the first year of life when these neural pathway connections develop at a fast pace.✓ (7)

3.4 3.4.1
- Endocrine
- Digestive/Gastrointestinal system (GIS) (2)

3.4.2
- Insulin
- Glucagon (2)

3.4.3
- Insulin – lowers blood sugar
- Glucagon – raises blood sugar level (2 × 2) (4)

3.4.4 A condition where the pancreas fails to produce enough insulin. (2)

3.5
- The undigested food will produce toxins.
- Toxins can cause many diseases.
- Person can feel bloated and discomfort.
- Person may experience constipation.
- Person can die. (Accept any relevant responses) (5)

[40]

QUESTION 4

4.1
4.1.1 D
4.1.2 E
4.1.3 A
4.1.4 B
4.1.5 C
4.1.6 F
4.1.7 G
4.1.8 H
4.1.9 J
4.1.10 I

(10 × 1) (10)

4.2

ORGAN	SYMPATHETIC	PARASYMPATHETIC
Heart	• Increases heart rate	• Decreases heart rate
Eyes	• Pupils dilate	• Pupils constrict
Stomach	• Decreases movements	• increases movements
Blood vessels	• Dilates blood vessels	• Constricts blood vessels
Bronchi of lungs	• Decrease secretion of saliva	• Increase secretion of saliva

(5 × 2) (10)

4.3 4.3.1
1 – Pineal gland
2 – Testes
3 – Ovary
4 – Pancreas
5 – Thyroid
6 – Thymus
7 – Adrenal gland
8 – Pituitary gland (8)

4.4 4.4.1
- Ovaries
- Testes (2)

4.4.2
- Progesterone
- Oestrogen
- Testosterone (3)

4.4.3
- Testosterone causes development and maintenance of male characteristics from puberty (pubic hair, enlargement of penis, growth of beard and a deepening of voice)
- Testosterone has an effect on muscles, bones, sex organs and hair follicles.
- Causes growth and it increases strength of bones and muscles.

(Any 2 × 1) (2)

4.5 4.5.1
- Most of these imbalances are corrected using a feedback mechanism through interaction of hypothalamus and pituitary gland.
- Feedback mechanism involves a series of corrective steps in which imbalances of hormones are picked up from blood and reported to pituitary gland
- Problem can be corrected by release or withdrawal of hormones. When hormone levels reach a normal or necessary amount, further secretion is controlled by important body mechanisms to maintain that level of hormone in blood. (3)

4.5.2
- Medication
- Surgery (2)

[40]

QUESTION 5

5.1
5.1.1 Conditioning
5.1.2 environment
5.1.3 Listening
5.1.4 Respondent
5.1.5 miscommunication
5.1.6 Closure
5.1.7 development
5.1.8 mind
5.1.9 Kohlberg
5.1.10 external

(10 × 1) (10)

5.2
- Trust versus mistrust✓
- The child will develop trust, confidence, and security if properly cared for and handled.✓✓
- If a child does not experience trust, he or she may develop insecurity, worthlessness, fear and general mistrust to the world.✓✓ (5)

5.3
5.3.1 Children initiate and enjoy their own activities

5.3.2 People have a lot of life experience and are able to guide and nurture their children

5.3.3 Teenagers who do not develop a sense of identity and do not know who they are and what they want in life

5.3.4 People look back on their lives to find meaning of their lives

(4 × 1) (4)

5.4
- They think they are bewitched
- Poverty
- Modern medicine is expensive
- Traditional healer is from the same cultural group
- They believe that the traditional healer is well trained
- Sometimes not easy to get to a clinic

(Accept any relevant answers 4 × 1) (4)

5.5
5.5.1 Possible answers:
He should keep the money✓ then he can pay for transport ✓

OR

He should tell the cashier that she gave him too much change because if he don't she will have to pay in the money that she is short on her till. (Accept any relevant responses) (2)

5.5.2
- Stage 1: Obedience and Punishment
- Rules are obeyed to avoid punishment
- Stage 2: Individual interest
- Rules are obeyed for personal gain (4)

5.6 5.6.1
- Siphiwe – auditory perception
- Loyiso – visual perception
- Busi – tactile perception (3)

5.6.2 Make sure to include all kinds of perceptions of learners by giving different experiences to learn like pictures,✓ concrete objects and verbal explanations.✓ (2)

5.7
- Our mind helps us interpret our mental state.
- The connection between the mind and body is strong.
- People can become sick as a result of the problems or challenges.
- In many cases these challenges affect people's minds and also their bodies.
- 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. (Accept any relevant answers 6 × 1) (6)

[40]

TOTAL: 200

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