higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

ANIMAL PRODUCTION
NQF LEVEL 3

6 December 2023

This marking guideline consists of 7 pages.

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SECTION A

QUESTION 1

1.1	1.1.1	B		
	1.1.2	D		
	1.1.3	C		
	1.1.4	B		
	1.1.5	B		
	1.1.6	C		
	1.1.7	C		
	1.1.8	A		
	1.1.9	B		
	1.1.10	A		
			(10 × 1)	(10)
1.2	1.2.1	True		
	1.2.2	True		
	1.2.3	True		
	1.2.4	True		
	1.2.5	False		
	1.2.6	True		
	1.2.7	True		
	1.2.8	True		
	1.2.9	True		
	1.2.10	True		
			(10 × 1)	(10)
1.3	1.3.1	H		
	1.3.2	J		
	1.3.3	F		
	1.3.4	C		
	1.3.5	I		
	1.3.6	D		
	1.3.7	B		
	1.3.8	A		
	1.3.9	E		
	1.3.10	G		
			(10 × 1)	(10)
				[30]

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QUESTION 2

2.1 If the concentration of salt in the body is too high, the following process occurs:✓

- When the hypothalamus detects the rise in salt levels, it sends messages to the pituitary gland.✓
- The pituitary gland secretes more anti-diuretic hormone (ADH) into the blood.✓
- The ADH causes the kidneys to reabsorb more water into the blood.✓
- The salt concentration of the blood drops back to the set point.✓

The following process occurs when the salt concentration of the blood becomes too low:✓

- The hypothalamus detects the drop in salt levels and sends nerve impulses to the pituitary gland.✓
- The pituitary gland reduces ADH secretion, so the level of ADH in the blood drops.✓
- The kidney reabsorbs less water back into the blood.✓
- The salt concentration of the blood rises back to the set point.✓ (10)

2.2

- The receptors send nerve impulses from the receptor in the sense organ✓ to the central nervous system (CNS).✓
- Motor or effector neurons send nerve impulses from the CNS✓ to the effector (muscle) in the body.✓
- Intermediate or relay neurons connect sensory✓ and motor neurons with each other.✓ (6)

2.3

- Kidney
- Bladder
- Ureter
- Urethra (4)

[20]

TOTAL SECTION A:

SECTION B

QUESTION 3

3.1 3.1.1 Sheep meat (lamb and mutton)✓ and wool✓

3.1.2 The two provinces have a favourable climate✓ and vegetation✓ for sheep farming.

(2 × 2) (4)

3.2
- Wool-bearing sheep breeds, e.g. merino sheep
- Mutton sheep breeds, e.g. round-ribbed Afrikaner, black-headed Persian
- Dual-purpose sheep breeds, e.g. Corriedale, Hamshire, Letelle, Dorset Horn, South African Meat Merino and Southdown

(ONE breed and ONE example) (3 × 2) (6)

3.3
- Purebred
- Vigorous
- Strong
- Well built with adequate size for age
- Shows no excessive development of folds (Any 4 × 1) (4)

3.4
- Summer and winter rainfall✓
- Semi-arid regions✓
- High temperatures and low rainfall✓
- Short shrubs✓ and thorn bushveld with low carrying capacity✓ (5)

3.5
- Breeding
- Production performance
- Type
- Size
- Conformation
- Fleece property
- Fertility (6)

[25]

QUESTION 4

4.1
- Ticks
- Mites
- Lice
- Flies (4)

4.2
- It causes detrimental effects caused by continuous grazing through all the growth stages of edible plants.
- It causes damage to early sprouting bushes and grasses.
- It causes damage to autumn grazing, especially bushes.
- It affects summer and winter grazing on mixed grass/bush communities.
- It causes soil erosion.
- It causes land degradation.
- It causes desertification. (Any 5 × 1) (5)

4.3
- Veld types with the same potential and palatability of grazing should be fenced together.
- Small portions of less palatable veld should be fenced in with larger portions of more palatable veld.
- Certain portions, such as watercourses and areas that tend to erode, must be separated.
- If vulnerable veld is fenced in with non-vulnerable veld, grazing should be as if the whole camp consists of vulnerable veld.
- The best veld with the highest percentage of highly palatable perennial grasses should be reserved for lactating sheep.
- The camps must not be too large.
- The different types of veld must be separated by camps.
- To eliminate nutritional deficiencies, camps grouped together should be representative of the variety of veld types on the farm. (8)

4.4 Husbandry (1)

4.5
- Saves feed and grazing
- Promotes better utilisation of feedstuffs by young, growing animals
- Is suitable for application during poor seasons
- Provides a longer recovery period for the ewe
- Prevents overgrazing where grazing is limited (5)

4.6 Artificial insemination is a procedure in which a fine catheter (tube)✓ is inserted through the cervix into the uterus to directly deposit a sperm sample.✓ (2)

[25]

TOTAL SECTION B: 50

SECTION C

QUESTION 5

5.1 The baby pigs should have a warm,✓ dry✓ and clean✓ environment and be protected from the sow.✓ (4)

5.2
- It can survive✓ and produce✓ under extensive conditions.
- It can be fed on kitchen waste and other throw-away foodstuffs.✓
- It is disease-resistant.✓
- It is relatively resistant to external parasites.✓
- It requires little space.✓
- It is well adapted to the South African environment.✓
- It can be used in cross-breeding with commercial varieties.✓ (8)

5.3
- The efficiency of feed conversion✓
- Growth rate✓ and carcass quality✓ in boars
- Fertility✓ and mothering ability✓ (5)

5.4
- It increases the degree to which the progeny is 'alike'.
- The progeny is more uniform in certain desirable characteristics.
- It maintains a close relationship between successive generations and a superior ancestor.
- Undesirable or poor characteristics are more easily exposed. (4)

5.5
- Great length
- Fine head
- Fine neck and shoulders
- Well-flashed full hams
- Evenly distributed fat
- High fertility, good mothering ability and economical food converters

(Any 4 × 1) (4)

[25]

QUESTION 6

6.1 The crate is provided in the pen to confine the sow✓ during and for a few days after farrowing.✓ (2)

6.2
- The sow should be in a good condition at the end of lactation.
- The sow should be fed 2 kg of a balanced ration per day, and between 0,5 and 0,7 kg per piglet above four piglets per litter.
- A lactating diet of 14% to 14,5% protein provides adequate protein during the lactation stage.
- Good ration formulation is required to stimulate milk production of large sows with high maintenance requirements.
- The change in live mass, which the sow undergoes, is the best criterion for determining the feed levels.
- The sow with an average litter should not receive less than 600 g of protein.

(Any 5 × 1) (5)

6.3 Piglets are born with limited supply of iron reserve,✓ which is rapidly used as they grow.✓ (2)

6.4
- It should be built in such a way that it is cool in summer.
- The floor must not be too slippery to avoid injury to the boar.
- It should be within easy reach when sows are served.
- Boars should be kept within sight, sound and smell of sows.
- The pen should also be big enough to allow the boars to exercise. (5)

6.5
- Swine erysipelas (diamond skin disease)
- Greasy pig disease
- Leptospirosis
- Parvovirus
- Anaemia (iron deficiency)
- Colibacillosis (Any 5 × 1) (5)

6.6
- Flies, midges and mosquitoes must be killed in their breeding places✓ one week before they reach the adult stage.✓
- Lice can be controlled through the use of registered tick dips.✓ New, very effective systematic substances that require a very small dose per animal are presently available.✓
- Tick control relies on the use of chemical pesticides, which are used as dips or sprays.✓ The average feeding period of a tick on a host is approximately one week for each stage.✓ (6)

[25]

TOTAL SECTION C: 50
GRAND TOTAL: 150

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