higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

ANIMAL PRODUCTION
NQF LEVEL 3

(1011023)

18 February 2025 (X-paper)
09:00–12:00

This question paper consists of 8 pages.

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)
ANIMAL PRODUCTION
NQF LEVEL 3
TIME: 3 HOURS
MARKS: 150

INSTRUCTIONS AND INFORMATION

1. Answer all the questions.
2. Read all the questions carefully.
3. Number the answers according to the numbering system used in this question paper.
4. Start each section on a new page.
5. Use only a black or blue pen.
6. Write neatly and legibly.

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SECTION A

QUESTION 1

1.1 Various options are given as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question number (1.1.1–1.1.10) in the ANSWER BOOK.

1.1.1 The microbial digestion that takes place in ruminants can be classified as …

A alcoholic fermentation.
B lactic acid fermentation.
C anaerobic respiration.
D aerobic respiration.

1.1.2 Which one of the following substances is responsible for breaking down glucose during aerobic respiration?

A Oxygen
B Hydrogen
C Enzyme
D Hormone

1.1.3 The state in which all important conditions inside the body of an animal are stable and in balance is called …

A homeostasis.
B puberty.
C glycogen.
D endocrine.

1.1.4 Which one of the following is NOT part of a mammalian skin?

A Hair
B Wool
C Fur
D Feather

1.1.5 Which of the following parts of the ear is responsible for body balance?

A Cochlea
B Utricles
C Pinna
D Ossicles

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1.1.6 Which of these products is obtained from Karakul sheep?

A Pelts
B Mohair
C Fleece
D Fabric

1.1.7 … secrete a fluid rich in proteins and other nutrients which are the source of energy for sperm cells.

A Testes
B Seminal vesicles
C Prostate gland
D Cowper's gland

1.1.8 The process of implantation in the animal reproductive system takes place in the …

A uterus.
B oviducts.
C ovaries.
D cervix.

1.1.9 The gland that controls metabolism, growth, sexual development, water and salt balance is known as the …

A prostate gland.
B salivary gland.
C thyroid gland.
D pituitary gland.

1.1.10 … sheep is a crossbreed between the Dorset Horn and Black-headed Persian.

A Dorper
B Letelle
C Hampshire
D Corriedale

(10 × 1) (10)

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1.2 Indicate whether the following statements are TRUE or FALSE by writing only 'True' or 'False' next to the question number (1.2.1–1.2.10) in the ANSWER BOOK.

1.2.1 An anaerobic respiration takes place as a result of the absence of oxygen in the cells.

1.2.2 The epidermis consists of the outer cornified layer, the middle granular layer and inner Malpighian layer.

1.2.3 Dorpers are the main wool-bearing sheep in South Africa.

1.2.4 An involuntary and unconscious action resulting from a particular stimulus is called a reflex action.

1.2.5 Progesterone stimulates the development of female reproductive organs and the repair of the uterine wall.

1.2.6 The Blackhead Persian does not thrive well in semi-arid areas with short thorny bushes and hardy grasses.

1.2.7 Glomerular filtration is a process by which substances are filtered out of the blood by the kidney.

1.2.8 The major function of the central nervous system is to control and coordinate bodily activities.

1.2.9 The iris contains muscles that control the size of the pupil in the eyes.

1.2.10 Respiration is a process in which complex food molecules are broken down into smaller particles for absorption.

(10 × 1) (10)

1.3 Choose a term from COLUMN B that matches a description in COLUMN A. Write only the letter (A–L) next to the question number (1.3.1–1.3.10) in the ANSWER BOOK.

COLUMN A		COLUMN B	
1.3.1	The primary female reproductive organ	A	ovary
1.3.2	The part of the eye that determines the amount of light entering the eye	B	Tamworth
1.3.3	The secondary male reproductive organ	C	luteinising
1.3.4	Hormone that stimulates the secretion of testosterone in the testes	D	pupil
1.3.5	A sheep production system which requires less labour and capital	E	accommodation
1.3.6	The network of small blood vessels which looks like a ball and is in the Bowman's capsule	F	Cowper's
1.3.7	A red to golden-haired pig with flesh-coloured skin and upright ears	G	cerebrum
1.3.8	Brain part which is the centre of intelligence, memory, learning, voluntary actions and emotions	H	pituitary
1.3.9	The adjustment of the shape of the lens to form a clear image on the retina	I	extensive farming
1.3.10	An endocrine organ that controls other glands and is sometimes called the master gland	J	glomerulus
		K	testes
		L	uterus

(10 × 1) (10)
[30]

QUESTION 2

2.1 Outline the importance of the ultra-filtration process during the production of urine by the kidneys. (11)

2.2 Justify the importance of tail feathers to birds. (2)

2.3 State TWO functions of the kidneys. (2)

2.4 List FIVE commercial products manufactured from animal hide and skin. (5)
[20]

TOTAL SECTION A: 50

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SECTION B

QUESTION 3

3.1 Define the term *carrying capacity.* (2)

3.2 Recommend the dorper sheep to farmers as the best sheep breed that is well suited to South African environment conditions. (6)

3.3 Outline TWO factors that sheep farmers should consider when designing handling pens. (2)

3.4 Describe the conformation of the merino breed with regard to their legs. (4)

3.5 Discuss SIX factors that affect the stocking intensity of the camp. (6)

3.6 List FIVE circumstances which requires a farmer to handle sheep. (5)
[25]

QUESTION 4

4.1 Identify FIVE types of external parasites that affect sheep. (5)

4.2 Justify the importance of rotational grazing on the veld. (10)

4.3 Outline the ways in which animals can be infected with a disease. (6)

4.4 List FOUR methods of marking lambs. (4)
[25]

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SECTION C

QUESTION 5

5.1 What is a gilt? (2)

5.2 Briefly outline the conditions that should be considered when constructing a house for weaners. (5)

5.3 Describe the traits that must be considered when selecting pigs for breeding. (5)

5.4 Indicate SEVEN qualities that are important to consider when selecting a breed of pigs that will provide a quality carcass. (7)

5.5 Name FOUR breeding methods of pigs. (4)

5.6 Justify the use of crates in a pig farrowing pen. (2)
[25]

QUESTION 6

6.1 Advise farmers on how different climatic conditions can promote pig diseases. (5 × 2) (10)

6.2 Outline FIVE aspects to consider when constructing a boar house. (10)

6.3 List FIVE diseases that affect pigs. (5)
[25]

TOTAL SECTION C: 50
GRAND TOTAL: 150

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