higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

ANIMAL PRODUCTION
NQF LEVEL 3

(7601034)

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09:00–12:00

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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. Use only a black or blue pen.
5. 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 Which ONE of the following terms correctly completes the basic formula for aerobic respiration?

Glucose + oxygen - carbon dioxide + water + ...

A amino acid.
B energy.
C fatty acid.
D chlorophyll.

1.1.2 The type of anaerobic respiration that takes place in bacteria is called …

A photosynthesis.
B osmoregulation.
C glycolysis.
D lactic acid fermentation.

1.1.3 The fineness of wool is determined by the size of the …

A hide.
B fur.
C crimp.
D bale.

1.1.4 Mohair is a product of …

A Boer goat.
B Angora goat.
C Kalahari Red.
D Saanen goat.

1.1.5 The fibrous protein that forms the main structural constituent of hair, feather, hoofs and horns is known as …

A hypodermis.
B keratin.
C lanolin.
D follicles.

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1.1.6 The continual change to keep the internal environment in a balanced state is called …

A negative feedback.
B dynamic equilibrium.
C homeostasis.
D thermoregulation.

1.1.7 Which ONE of the following glands secrete a fluid that nourishes and transports sperm?

A Vas deferens
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 corpus luteum.

1.1.9 Which ONE of the following is caused by oversecretion of thyroxine?

A Weight gain
B Weight loss
C Sluggishness
D Low metabolism

1.1.10 The part of the ear that is involved in maintaining body balance:

A Semi-circular canals
B Eustachian tube
C Inner ear
D Oval window

(10 × 1) (10)

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 Microbial digestion is an anaerobic process that produces an energy-rich by-product called biogas.

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

1.2.3 Sheep are natural grazers and require small shrubs for browsing.

1.2.4 The texture of wool is the actual measurement of the thickness of the wool fibre, which is measured in microns.

1.2.5 Progesterone stimulates the development of the 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 Tapeworm is an example of common internal parasites affecting sheep.

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

1.2.9 The sclera of an eye is made up of tough fibrous materials and it is opaque, except for a part in the front of the eye, where it is transparent.

1.2.10 The epididymis carries sperm to the urethra, which runs in the centre of the penis.

(10 × 1) (10)

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

COLUMN A		COLUMN B	
1.3.1	An anaerobic process that takes place in most plants	A	cerebral cortex
1.3.2	A commercial product that is made from ostrich skin	B	Landrace
1.3.3	The primary reproductive organ of the male genital system	C	luteinising
1.3.4	Hormone that stimulates the secretion of testosterone in the testes	D	glomerulus
1.3.5	The type of environment in which a bird or animal can survive	E	accommodation
1.3.6	The network of small blood vessels that looks like a ball and is located in Bowman's capsule	F	testes
1.3.7	A white-haired, pink-skinned pig with forward-pitched, drooping ears	G	pituitary gland
1.3.8	Brain part that is the centre of intelligence, memory, learning, voluntary actions and emotions	H	fermentation
1.3.9	The adjustment of the shape of the lens to form a clear image on the retina	I	habitat
3.10	An endocrine organ that controls other glands and is sometimes called the master gland	J	attaché case
		K	large white
		L	oxytocin
		M	hypothalamus

(10 × 1) (10)
[30]

QUESTION 2

2.1 Outline the process that occurs when the body of an animal homeostatically controls salt levels in the body. (10)

2.2 Describe the process whereby the central nervous system controls and coordinates impulses in the body of an animal. (6)

2.3 Name the FOUR main parts of the urinary system of mammals. (4)
[20]

TOTAL SECTION A: 50

SECTION B

QUESTION 3

3.1 Sheep farming is one of the most profitable businesses in South Africa.

3.1.1 Name the TWO primary products of sheep farming.

3.1.2 Justify why most sheep farming occurs in the Northern Cape and Eastern Cape in South Africa.
(2 × 2) (4)

3.2 Name the THREE types of breeds of sheep reared in South Africa and give ONE example of each. (3 × 2) (6)

3.3 Describe the conformation of an ideal merino breed. (4)

3.4 State the suitable environmental conditions for the Dorper. (5)

3.5 Identify SIX characteristics that must be considered in sheep breeding. (6)
[25]

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QUESTION 4

4.1	Identify FOUR types of external parasites that affect sheep.	(4)
4.2	Criticise overgrazing as a poor veld management practice.	(5)
4.3	Outline EIGHT principles that should be considered when demarcating a farm for good management and utilisation of veld.	(8)
4.4	What name is given to the practice of handling and managing farm animals?	(1)
4.5	Justify the importance of early weaning in sheep production.	(5)
4.6	What is *artificial insemination*?	(2)

[25]

TOTAL SECTION B: 50

SECTION C

QUESTION 5

5.1	What conditions are required for good farrowing?	(4)
5.2	Recommend the pot-bellied pig as a good choice for subsistence farming.	(8)
5.3	Outline the characteristics that should be considered when selecting pigs for breeding purposes.	(5)
5.4	Justify the importance of inbreeding in pig production.	(4)
5.5	Recommend the Landrace as the best breed for pig production in South Africa.	(4)

[25]

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QUESTION 6

6.1	Explain the importance of a crate in a pen.	(2)
6.2	Identify FIVE factors that should be considered when feeding pigs during the lactating stage.	(5)
6.3	Justify the importance of giving iron injections to piglets.	(2)
6.4	Outline FIVE aspects that should be considered when constructing a boar house.	(5)
6.5	List FIVE diseases found in pigs.	(5)
6.6	Identify THREE general controls of external parasites.	(6)
		[25]

TOTAL SECTION C: 50
GRAND TOTAL: 150

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