higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

ANIMAL PRODUCTION
NQF LEVEL 3

(1011023)

11 December 2020 (Y-paper)
13:00–16:00

This question paper consists of 9 pages.

537Q1N2011

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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. 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 Instrument used to administer oral medication to sheep suffering from internal parasites:

A Burdizzo
B Dosing gun
C Clipper
D Elastrator

1.1.2 The … converts visual stimuli into nerve impulses sent to the brain via the optic nerve.

A ear
B nose
C cornea
D eye

1.1.3 Endocrine glands secrete a chemical called …

A foetus.
B urine.
C hormone.
D amnion.

1.1.4 The …is responsible for balance and posture.

A medulla oblongata
B cerebellum
C cortex
D thalamus

1.1.5 During pregnancy the foetus develops in the …

A uterus.
B bladder.
C ovary.
D oviducts.

1.1.6 … is a hormone that stimulates the growth of mammary tissues and the secretion of milk.

A Oxytocin
B Growth hormone
C Insulin
D Prolactin

1.1.7 Process in which the blastocyst slowly becomes embedded in the endometrium:

A Fertilisation
B Ejection
C Implantation
D Birth

1.1.8 Pregnancy stage in which the heart starts to beat and body parts become discernible:

A Preparatory phase
B Foetal phase
C Ejection phase
D Embryonic phase

1.1.9 Process by which substances are filtered from the glomerulus to the Bowman's capsule:

A Reabsorption
B Loop of Henle
C Ultrafiltration
D Bloodstream

1.1.10 The main function of progesterone is to …

A stimulate growth of the placenta and maintain pregnancy.
B control blood pressure.
C stimulate the thyroid gland to secrete thyroxine.
D increase metabolic rate.

[×] (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 The pancreas secretes insulin which causes the liver to convert glucose to glycogen which is then stored in the liver.

1.2.2 A black-headed Persian is well adapted to semi-arid areas with short, thorny bushes and hardy grass.

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1.2.3 Fineness of wool refers to fibre thickness and is determined by the size of crimps.

1.2.4 Thermoreceptors are found in taste buds in the mouth for the sense of taste and in the nose for the sense of smell.

1.2.5 A boar house should be built in such a way that it is kept within sight, sound and smell of sows.

1.2.6 Kidneys are dark red, bean-shaped organs that produce a liquid called urine.

1.2.7 Gonads are the testes in females and the ovaries in males.

1.2.8 Tail feathers help in steering and breaking during flight.

1.2.9 Nerves play a role in receiving stimuli such as heat, pain or cold from the environment and sending messages to the brain.

1.2.10 The hypothalamus is responsible for detecting the rise and fall of salt levels and sending impulses to the pituitary gland.

(10 × 1) (10)

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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	Red to golden-haired pig with flesh-coloured skin and upright ears	A	cerebellum
1.3.2	Dense network of small blood vessels located in the Bowman's capsule	B	growth hormone
1.3.3	Outer part of skin 	C	placenta
1.3.4	Transparent membrane covering front part of the eye	D	Tamworth
1.3.5	Receives impulses from semi-circular canals in the ear	E	pituitary
1.3.6	Stimulates protein formation and growth tissues	F	germinal phase
1.3.7	Cutting of wool to remove fleece	G	endoderm
1.3.8	Pregnancy phase in which the zygote begins to divide by mitosis	H	shearing
1.3.9	Disc-shaped mass of finger-like extensions that contains many blood vessels	I	glomerulus
1.3.10	Gland that reduces ADH secretion so that the level of ADH in the blood drops	J	epidermis
		K	chorion
		L	conjunctiva
			

(10 × 1) (10)
[30]

QUESTION 2

2.1 Differentiate between *ultrafiltration* and *reabsorption*. (4)

2.2 Explain the importance of the liver in controlling the glucose level in the body. (10)

2.3 Outline the function of each of the following parts of the eye:

2.3.1 Conjunctiva

2.3.2 Pupil 

2.3.3 Eyelid

(3 × 2) (6)
[20]

TOTAL SECTION A: 50

SECTION B

QUESTION 3

3.1 The Dorset Horn is a dual-purpose breed with the earliest maturing of all sheep breeds. Both sexes have long horns and the face and legs are white.

3.1.1 Which environmental condition is best suited for this sheep breed? (3)

3.1.2 Outline FIVE outstanding qualities that have made the Dorset Horn a well-known, dual-purpose breed. (5)

3.1.3 Name THREE other dual-purpose sheep breeds commercially used in South Africa. (3)

3.2 Explain the disadvantages of crossbreeding in sheep farming.  (4)

3.3 State the advantages of tail tacking as an important practice in sheep farming.
(2 × 2) (4)

3.4 Discuss the factors to consider when loading sheep on a large truck. (4)

3.5 Why is it important to mark lambs? (2)
[25]

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QUESTION 4

4.1 Rotational grazing is a specialised grazing system that was introduced in the mid-20th century as an important tool to manage rangelands ecosystem to sustain productively improve animal management.

4.1.1 Define *rotational grazing*. (2)

4.1.2 Discuss rotational grazing as an important tool to manage the ecosystem of rangelands in sustaining and improving management of animal production. (10)



4.2 Rams of good quality are essential for the genetic improvement of the herd.

State FIVE traits that must be considered when selecting breeding rams. (5)

4.3 Name FIVE symptoms in sheep affected by liver fluke. (5)

4.4 Recommend THREE options to market mutton lambs. (3)
[25]

TOTAL SECTION B: 50

SECTION C

QUESTION 5

5.1 The Duroc breed originated in the north-eastern section of the United States of America from a few strains of red pigs. These red pigs were mated into one group to form the Duroc Jersey breed.

[Source: *www studbook.co.za*]

5.1.1 State FIVE advantages of farming with the breed named above. (5)

5.1.2 Give TWO disadvantages of the above pig breed. (2)

5.2 Name THREE economic parameters to consider when selecting breeding boars. (3)

5.3 Explain the feeding requirements of the following pigs.

5.3.1 Lactating sows (10)

5.3.2 Boars (5)



[25]

QUESTION 6

6.1 There is no justification for feeding kitchen waste to pigs due to the risk involved.

Support this statement. (8)

6.2 State the requirements for an effective and efficient boar house. (5)

6.3 Why is it necessary to have a farrowing crate in the farrowing house? (2)

6.4 What are the benefits of inbreeding to improve a herd? (5)

6.5 Explain how iron deficiency problems can be prevented in piglets. (2)

6.6 Identify THREE symptoms of a pig suffering from parvovirus. (3)
[25]

TOTAL SECTION C: 50
GRAND TOTAL: 150

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