higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

ANIMAL PRODUCTION
NQF LEVEL 4

(1101104)

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09:00–12:00

This question paper consists of 10 pages.

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)
ANIMAL PRODUCTION
NQF LEVEL 4
TIME: 3 HOURS
MARKS: 150

INSTRUCTIONS AND INFORMATION

1. Answer all the questions in SECTION A and SECTION B
2. Answer all the questions in either SECTION C or SECTION D.
3. Read all the questions carefully.
4. Number the answers according to the numbering system used in this question paper.
5. Start each question on a new page.
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 end product of carbohydrates digestion is …

A amino acids.
B glucose.
C fatty acids.
D glycerol.

1.1.2 Vitamin A is needed in the diet of animals for …

A absorption of water.
B energy production.
C good night vision.
D growth and egg production.

1.1.3 The process whereby muscles contract and relax to push food in the alimentary canal is called…

A vomiting.
B chewing.
C excretion.
D peristalsis.

1.1.4 Which of the following enzyme is found in the saliva?

A Rennin
B Pepsin
C Bile
D Amylase

1.1.5 Which of the following is a veld that is found in areas with low rainfall during the growing season?

A Mixed veld
B Sour veld
C Sweet veld
D Savanna veld

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1.1.6 The carbohydrates that are formed by two monosaccharide molecules are called …

A polysaccharides.
B polypeptides.
C disaccharides.
D dipeptides

1.1.7 Carbohydrates are a source of … in the body of an animal.

A fats
B vitamins
C glycogen
D proteins

1.1.8 Bile is an …

A alkaline.
B acid.
C organ.
D enzyme.

1.1.9 The pancreas secretes the pancreatic juice in the …

A oesophagus.
B ileum.
C duodenum.
D rectum.

1.1.10 The lack of … causes delayed puberty and diminished libido in mature bulls.

A vitamin D
B vitamin A
C vitamin K
D vitamin E

(10 × 1) (10)

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1.2 Choose an item from COLUMN A that matches a description in COLUMN B. Write only the letter (A–O) next to the question number (1.2.1–1.2.10) in the ANSWER BOOK.

COLUMN A		COLUMN B	
1.2.1	Hydrochloric acid	A	grows in coarse and well-drained soil
1.2.2	Villi	B	secreted by the corpus luteum
1.2.3	Progesterone	C	a digestive disorder that occurs when there is a shortage of carbohydrates in the ration
1.2.4	Ketosis	D	produced in the ileum
1.2.5	Balanced ration	E	reduces bruising and injuries in animals
1.2.6	Foot and mouth	F	supplementary feed given to young animals before they are weaned
1.2.7	Sour veld	G	assist in the absorption of food in the small intestines
1.2.8	Castration	H	supplies nutrients for maintenance and production
1.2.9	Shorthorn	I	breed of cattle found in Southern Africa
1.2.10	Dehorning	J	grasslands found in KwaZulu-Natal
		K	a breed of cattle kept for the production of milk
		L	kills bacteria swallowed together with food
		M	a disease that attacks cattle, sheep and goats
		N	is done to reduce unwanted breeding
		O	grows in areas with high rainfall over the growing season

(10 × 1) (10)
[20]

QUESTION 2

2.1 Ruminants are animals with four stomach chambers that chew cud.

2.1.1 Justify the importance of microorganisms found in the rumen. (4)

2.1.2 Outline the requirements needed by microorganisms in the rumen for them to function effectively. (6)

2.2 Dairy cows should be fed properly in order to get the best out of them.

Outline the good feeding principles that farmers should follow in order to get the best production from them. (5)

2.3 The pancreas is one of the important organs that helps during digestion.

2.3.1 What is digestion? (1)

2.3.2 Name the substance that is produced by the pancreas during digestion. (1)

2.3.3 Name and state the functions of each of the THREE enzymes that are found in the pancreas. (13)
[30]

TOTAL SECTION A : 50

SECTION B

Answer all the questions in SECTION B.

QUESTION 3

3.1 Recommend the following breeds of cattle as the best breeds to farm with in South African environmental conditions.

3.1.1 Nguni (6)

3.1.2 Hereford (5)

3.2 Justify the importance of the following methods of breeding:

3.2.1 Inbreeding (3)

3.2.2 Cross breeding (3)

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3.3 Good management of cows at calving is necessary to ensure that healthy and viable calves are obtained.

3.3.1 Outline the importance of colostrum to a new-born calf. (6)

3.3.2 Justify the importance of green hay to calves. (2)
[25]

QUESTION 4

4.1 Explain how the following cause diseases in livestock:

4.1.1 Infections

4.1.2 Poor nutrition

4.1.3 Poisonous substances

(3 × 2) (6)

4.2 Ticks are the most common external parasites that attack cattle, sheep and goats. For effective control the farmer should know their life cycle.

4.2.1 Identify the effects of ticks on livestock. (5)

4.2.2 Recommend and explain THREE methods which farmers can use to control ticks. (6)

4.2.3 Name THREE diseases that are caused by ticks. (3)

4.2.4 Outline the steps that farmers should follow to prevent diseases in cattle. (5)
[25]

TOTAL SECTION B 50

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Answer EITHER SECTION C or SECTION D.

SECTION C

QUESTION 5

5.1 Identify TWO types of muscles that support the udder of a cow. (2)

5.2 Justify the importance of the following parts of an udder:

5.2.1 Secretory tissue (1)

5.2.2 Gland cistern (1)

5.2.3 Teat (1)

5.2.4 Duct system (2)

5.3 Good treatment of the dairy cows before milking is vital for good milk production. Mistreated cows are reluctant to release their milk.

5.3.1 Name the hormone that is produced by cows if they are mistreated. (1)

5.3.2 Explain how the hormone produced by the unhappy cow affects the release of milk by the cow. (3)

5.4 There are various stimuli by which a cow becomes aware that it is time for it to be milked. Explain what happens to the udder when it hears these stimuli. (4)

5.5 A dairy farmer in your area has just bought a new milking machine for their dairy unit. Outline the importance of the following parts of the milking machine:

5.5.1 Vacuum pump (1)

5.5.2 Vacuum reserve tank (2)

5.5.3 Pulsator (1)

5.5.4 Receiver (1)

5.5.5 Cluster (1)

5.6 A cooling tank is used to cool milk. Name FOUR components of a cooling tank. (4)

[25]

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QUESTION 6

6.1 Outline FOUR factors that farmers should consider in order increase milk shelf life. (4)

6.2 Differentiate between *quantitative* and *qualitative milk testing.* (2 × 2) (4)

6.3 South African dairy industries are able to process milk into products that are suitable for human consumption.

Identify FOUR products of milk processing. (4)

6.4 Distinguish between *clinical* and *subclinical mastitis.* (2 × 2) (4)

6.5 Indicate THREE ways in which the causative agents of mastitis spread from one dairy cow to another. (3)

6.6 Justify the importance of record-keeping to farmers. (6)
[25]

TOTAL SECTION C: 50

SECTION D: OSTRICH FARMING

QUESTION 7

7.1 The ostrich is able to survive under harsh conditions. Explain how an ostrich may survive under the following conditions:

7.1.1 Hot conditions

7.1.2 Cold conditions

7.1.3 Desert conditions

(3 × 2) (6)

7.2 The Karoo and other surrounding areas are suitable for ostrich farming. Identify the food sources that the ostriches will eat in these habitats. (4)

7.3 Outline the factors that should be considered during ostrich breeding. (7)

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7.4 Ostriches can be kept in outdoor pens as well as indoor pens. Justify the importance of keeping ostriches under each of the following systems

7.4.1 Outdoor housing (3)

7.4.2 Indoor housing (3)

7.5 Give TWO reasons why ostrich meat is popular among consumers. (2)
[25]

QUESTION 8

8.1 Ostriches must be handled properly to avoid injuries.

8.1.1 Outline the circumstances that can require handling of ostriches. (5)

8.1.2 Recommend TWO effective methods that can be followed to catch an adult ostrich. (5)

8.2 What are the benefits of giving ostrich a well-balanced diet? (5)

8.3 Ostriches require large amounts of clean drinking water on daily bases.

8.3.1 Outline the effects of reduced water intake in the diet of ostriches. (2)

8.3.2 Identify TWO signs that show that ostriches are dehydrated and need more water in their diet. (2)

8.4 Vitamin E and selenium are micronutrients that ostriches need in small quantities for their good health.

8.4.1 Name ONE ostrich feed that is rich in vitamin E. (1)

8.4.2 Justify the importance of feeding ostriches pellets. (3)

8.4.3 Outline TWO factors that determine the amount of nutrients required by an ostrich every day. (2)
[25]

TOTAL SECTION D: 50
GRAND TOTAL: 150

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