



higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

ANIMAL PRODUCTION NQF LEVEL 4

(1011004)

**4 December 2020 (X-paper)
09:00–12:00**

This question paper consists of 9 pages.

283Q1N2004

TIME: 3 HOURS
MARKS: 150

NOTE: If you answer more than the required number of questions, only the required number will be marked. All work you do not want to be marked, must be clearly crossed out.

INSTRUCTIONS AND INFORMATION

1. SECTION A and SECTION B are compulsory.
 2. Answer only 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 section on a new page.
 6. Use only a black or blue pen.
 7. 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 feeds is rich in protein?

- A Maize meal
- B Bone meal
- C Sunflower cake
- D Wheat bran



1.1.2 During the day green plants use ... to manufacture food in the presence of sunlight.

- A oxygen and nitrogen
- B oxygen and carbon dioxide
- C water and oxygen
- D carbon dioxide and water

1.1.3 Implantation takes place when the fertilised egg is ...

- A released from the uterus.
- B embedded in the walls of the uterus.
- C removed from the uterus.
- D developing into an embryo.



1.1.4 The biuret test is used when testing for the presence of ... in food.

- A starch
- B fats
- C glucose
- D proteins

1.1.5 ... is the process where food is broken down into smaller particles that can be absorbed in the blood stream.

- A Digestion
- B Fermentation
- C Assimilation
- D Diffusion



1.1.6 The microorganisms found in the rumen assists the digestive process by ...




- A feeding the animal.
- B breaking down the cellulose.
- C causing a disease.
- D producing hormones.

1.1.7 Feeds that form the bulk of the ration for ruminant animals are the ...

- A roughage.
- B protein.
- C fats.
- D vitamins.


1.1.8 A condition in animals that occurs as a result of the accumulation of gases in the rumen is known as ...

- A frothy bloat.
- B ketosis. 
- C plant poisoning.
- D constipation.

1.1.9 Red water disease is caused by ...



- A mites.
- B blowflies.
- C ticks.
- D liver fluke.

1.1.10 A condition in milking cows where the udder is swollen and the cow refuses to be milked is a sign of ...

- A mastitis.
- B milk fever. 
- C oedema.
- D an injury.

(10 × 1) (10)

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

COLUMN A		COLUMN B	
1.2.1	Regurgitation	A	helps with digestion of proteins
1.2.2	Lactation 	B	caused by lowered blood calcium levels
1.2.3	Subcutaneous	C	mating of closely related animals
1.2.4	Milk fever	D	process that takes place during digestion in ruminant animals
1.2.5	Clinical mastitis	E	secretion of milk
1.2.6	Intensive rearing	F	visible abnormalities in milk
1.2.7	Inbreeding	G	fever in milk
1.2.8	Glycolysis	H	injection administered under the skin
1.2.9	Pepsinogen	I	production of energy 
1.2.10	Amylase	J	breaking down of starch
		K	feeding a calf with colostrum
		L	high cost of raising animals

(10 × 1)


(10)
[20]**QUESTION 2**

- 2.1 2.1.1 Relate how the fermentation process take place in the rumen. (2)
- 2.1.2 Justify the suitability of the rumen for the fermentation process. (5)
- 2.1.3 Outline the benefits of fermentation in ruminants. (4)

2.2 The pancreatic juice contains enzymes that assist in the digestion of food.

State the function of each of the following enzymes:

2.2.1 Ptyalin

2.2.2 Lipase 

2.2.3 Trypsin

(3 × 1) (3)

2.3 Describe the FOUR phases of the oestrus cycle that occurs in sexual mature cows.

(4 × 2) (8)

2.4 Outline the importance of following hormones in the oestrus cycle of animals:

2.4.1 Luteotrophic hormone

2.4.2 Oestrogen 

2.4.3 Follicle stimulating hormone

2.4.4 Luteinising hormone

(4 × 2) (8)

[30]

TOTAL SECTION A: 50

SECTION B


QUESTION 3

3.1 The Aberdeen Angus is one of the beef cattle breeds that is kept in South Africa.

3.1.1 State FIVE characteristics of this breed that make it suitable for production in South Africa. (5)

3.1.2 Describe FIVE breeding standards for beef cattle. (5)

3.1.3 Relate the use of inbreeding in livestock production. (4)



3.2 Calves need special care. 

3.2.1 Relate the importance of colostrum in cattle production. (6)

3.2.2 State FIVE advantages of feeding calves with creep feed. (5)


[25]

QUESTION 4


- 4.1 Rift Valley fever is one of the diseases that affect livestock in South Africa.
- 4.1.1 Name THREE main causes of diseases in livestock. (3)
- 4.1.2 Name the causative agent of Rift Valley fever. (1)
- 4.1.3 Lists FIVE symptoms of Rift Valley fever.  (5)
- 4.2 Outline the importance of biosecurity in animal production? (3)
- 4.3 Outline SIX ways in which farmers can generally control and prevent diseases in animals. (6)
- 4.4 Explain how the following practices may help farmers to control internal parasites in livestock production:
- 4.4.1 Biological control
- 4.4.2 Zero grazing
- 4.4.3 Grazing animals by age
- 4.4.4 Pasture rotation 
- 4.4.5 Multispecies grazing
- 4.4.6 Genetics of animals
- 4.4.7 Chemical control
- (7 × 1) (7)
[25]
- TOTAL SECTION B: 50**

Answer only SECTION C or SECTION D.



SECTION C**QUESTION 5**

- 5.1 Explain FIVE sources of milk contamination. (5 × 2) (10)
- 5.2 Outline the importance of effective pulsation in the process of milking cows (10)
- 5.3 Explain the process of distribution of milk when trying to milk a cow that is stressed. (4)
- 5.4 What is the meaning of *shelf life* in milk production?  (1)
[25]

QUESTION 6



- 6.1 The milking parlour should always be kept in a good hygienic condition to prevent contamination of milk.
- 6.1.1 Describe ways in which dairy farmers can keep the parlour in a clean condition.  (5)
- 6.1.2 Relate how a milking parlour should be built to facilitate good drainage. (2)
- 6.2 Indicate TWO ways that can be used in keeping records in dairy farming. (2)
- 6.3 Dairy farmers have should life.
Recommend FIVE procedures that can be followed to achieve milk shelve life. (10)
- 6.4 Describe the features that may be found in the dairy records. (4)
- 6.5 Explain the importance of the oxytocin hormone during milking. (2)

[25]**TOTAL SECTION C: 50****OR****SECTION D****QUESTION 7**

- 7.1 Newcastle disease can cause a high mortality rate and loss of profit in ostrich farming.
- 7.1.1 Describe SEVEN symptoms of Newcastle disease.  (7)
- 7.1.2 How can Newcastle disease be controlled? (3)
- 7.1.3 Describe the characteristics of good housing for day-old chicks. (5)
- 7.1.4 State TWO advantages of an indoor housing system for ostriches. (2)
- 7.2 The knowledge for diseases and parasites that attack ostriches is important for the farmer.
Differentiate between the following terms:
- 7.2.1 *Parasite and vector*  (2 × 2) (4)
- 7.2.2 *Contagious disease and zoonotic disease* (2 × 2) (4)

[25]

QUESTION 8

- 8.1 Ostrich farming is a very lucrative business in livestock farming.
Name THREE ostrich breeds that are kept in South Africa. (3)
- 8.2 Outline the importance of ostrich farming in the following industries:
- 8.2.1 Butcheries 
- 8.2.2 Vehicle industries
- 8.2.3 Clothing (3 × 1) (3)
- 8.3 Identify FIVE factors that must be considered during brooding (5 × 2) (10)
- 8.4 Outline FOUR reasons why consumers prefer ostrich meat compared to beef. (4)
- 8.5 Define the following terms:
- 8.5.1 Docile
- 8.5.2 Incubation 
- 8.5.3 Gregarious
- 8.5.4 Conformation
- 8.5.5 Gestation period (5 × 1) (5)
- [25]**
- TOTAL SECTION D: 50**
GRAND TOTAL: 150