higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

ANIMAL PRODUCTION
(First Paper)
NQF LEVEL 4

(1011004)

18 November 2019 (X-Paper)
9:00–12:00

This question paper consists of 9 pages.

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TIME: 3 HOURS
MARKS: 150

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

INSTRUCTIONS AND INFORMATION

1. Read ALL the questions carefully.
2. Number the answers according to the numbering system used in this question paper.
3. Answer either SECTION C or SECTION D. If both sections are answered, only the first SECTION you answered will be marked.
4. 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 creamy substance found in the small intestine of the digestive system is called …

A digestive juice.
B hydrochloric acid.
C chyme.
D gastric juice.

1.1.2 The disease heartwater is caused by a tick called the … tick.

A blue
B bont
C brown-ear
D red-legged

1.1.3 Regurgitation refers to the process where ruminants …

A chew the cud.
B digest food.
C belch the grass out.
D take the food back to the mouth for proper chewing.

1.1.4 The adrenalin hormone is also called the … hormone.

A freight
B antidiuretic
C pregnancy
D digestion

1.1.5 Bile is produced in the …

A liver.
B rumen.
C gizzard.
D muscles.

1.1.6 During digestion of food the saliva amylase acts on …

A protein.
B fats.
C carbohydrates.
D vitamins.

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1.1.7 Which ONE of the following is NOT an advantage of feeding calves with colostrum?

A It is easily digestible
B It is the first milk of the cow
C It is rich in Vitamin A
D It protects the calf from diseases

1.1.8 Selective breeding refers to a process …

A where animals are allowed to mate at random in the herd.
B where the farmer practices crossbreeding to improve the herd.
C whereby the farmer chooses animals with desirable characteristics to mate.
D where the farmer mates his animals according to their age.

1.1.9 The ability of an animal to transmit its characteristics to the young ONE is called …

A inheritance.
B prepotency.
C phenotype.
D genotype.

1.1.10 When the main host animal passes on a parasite to another host to complete its life cycle it is called a/an …

A vector.
B major host.
C secondary host.
D intermediate host.

(10 × 1) (10)

1.2 Choose a description from COLUMN B that matches a word or an item in COLUMN A. 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	Continuous grazing	A	calves that are developed enough to be born and live
1.2.2	Anaemia	B	mating animals that are closely related like brother and sister
1.2.3	Emulsion	C	a disease that attacks chickens
1.2.4	Ketosis	D	carries pathogens from one animal to the other
1.2.5	Viable	E	a farm where pigs are kept
1.2.6	Stud farming	F	the liquid part of blood from which all the cells have been removed
1.2.7	Line breeding	G	rearing animals for breeding purposes
1.2.8	Weaning	H	rearing animals for breeding purposes
1.2.9	Serum	I	shortage of red blood cells that carry oxygen in the blood
1.2.10	Vectors	J	separating the young one from its mother
		K	a digestive dysfunction that occurs when there is a shortage of carbohydrates in the ration
		L	a mixture of two substances such as water and acid that do not mix naturally
		M	allowing animals to feed on the same pastures without changing
		N	mating animals from two different breeds
		O	feeding the young ones

(10 × 1) (10)
[20]

QUESTION 2

2.1 Outline the importance of the following organs in the duodenum:

2.1.1 Bile (2)

2.1.2 Pancreas (3)

2.2 Justify why the rumen is conducive for fermentation in ruminants. (5)

2.3 Name FOUR factors that must be considered when developing animal ration. (4)

2.4 Describe THREE effects that a lack of vitamin A in the diet can have on a bull. (3)

2.5 Justify the importance of feeding animal with roughage. (6)

2.6 Outline SIX ways in which a farmer can modify the feed supply for his animals within the parameters of the natural resources around the farm. (6)

2.7 What is *creep feed*? (1)
[30]

TOTAL SECTION A: 50

SECTION B

QUESTION 3

3.1 Miss Thembi Nyathi has just acquired a 400-hectare farm in Ermelo where she intends to raise beef cattle on a commercial basis. She already has 200 cattle she is going to use as breeding stock.

Outline EIGHT aspects she should pay attention to when choosing breeding stock. (8)

3.2 Describe 15 characteristics good beef cattle should have. (15)

3.3 Describe the process of ovulation in female animals. (5)

3.4 What is *fertilisation*? (2)
[30]

QUESTION 4

4.1 Outline SEVEN advantages of artificial insemination in livestock farming. (7)

4.2 Name FOUR precautions farmers should take when feeding milk to calves. (4)

4.3 Name SIX factors farmers should consider when building calf sheds. (6)

4.4 State THREE precautionary measures that should be taken when feeding piglets creep feed. (3)
[20]

TOTAL SECTION B: 50

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ANSWER SECTION C OR SECTION D

SECTION C

QUESTION 5

5.1 Outline SIX ways in which dairy cows should be handled to ensure maximum milk production. (6)

5.2 Mrs Dhlamini is a dairy farmer who is struggling to keep breeding records for her dairy cows. She asked one of the Primary Agriculture Level 4 students to assist her in keeping good breeding records.

Name EIGHT essential information items she should include in the records for each cow. (8)

5.3 Outline SIX factors that should be considered when determining the size and type of cooling tank to be installed on the farm. (6)

5.4 Explain how bacteria enter the udder of milking cows. (2)

5.5 Describe THREE ways in which a farmer can control flies on their farms. (3)

[25]

QUESTION 6

6.1 Describe FIVE ways in which a cow becomes aware of milking time. (5)

6.2 Justify the importance of the following parts of a milking machine:

6.2.1 Vacuum reserve tank (2)

6.2.2 Pulsator (1)

6.2.3 Receiver (1)

6.2.4 Milk line (1)

6.3 Cheese is one of the milk products valuable to the Agro processing industries.

Outline FOUR steps that need to be followed when making cheese. (4 × 2) (8)

6.4 Describe FIVE steps that should be taken when cleaning the pipes of a milking machine. (5)

6.5 What is an *oestrus* in animals? (2 × 1) (2)

[25]

TOTAL SECTION C: 50

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SECTION D

QUESTION 7

7.1 Define the term '*biosecurity*'. (2)

7.2 Outline the hygienic measures that should be taken to ensure good quality water supply in the ostrich house. (5)

7.3 Why are young ostrich unable to digest food? (2)

7.4 How do young ostrich overcome the inability to digest food? (2)

7.5 How do female ostrich demonstrate their readiness to mate? (5)

7.6 Explain the disinfection of ostrich eggs. (3)

7.7 Outline SIX precautionary measures to consider when catching an ostrich. (6)

[25]

QUESTION 8

8.1 Thembi is an emerging ostrich farmer. She bought 20 day-old ostrich chicks. She kept them at her farm and before the end of the second week six of her chicks died.

8.1.1 Identify the disease that may have caused the death of Thembi's chicks. (1)

8.1.2 Explain how this disease can be prevented. (3)

8.1.3 Name the pathogen that causes this disease. (1)

8.2 Ostrich feed mainly on natural vegetation. Farmers should be very careful to avoid overgrazing on the pastures.

8.2.1 What is *overgrazing*? (1)

8.2.2 Explain FIVE ways in which an ostrich farmer who uses natural grazing, can supplement pastures. (5)

8.3 Identify FOUR brooding systems for keeping ostrich and explain the working of each system. (4 × 2) (8)

8.4 Outline SIX traits ostrich farmers should consider when selecting birds for breeding? (6)

[25]

TOTAL SECTION D: 50
GRAND TOTAL: 150

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