higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

ANIMAL PRODUCTION
NQF LEVEL 4

(1011004)

15 November 2024 (X-paper)
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 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. Use only a black or blue pen.
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 Glycogen is found in the … of an animal.

A veins
B small intestine
C reproductive system
D liver and muscles

1.1.2 Cellulose in the rumen is digested by …

A enzymes.
B microorganisms.
C saliva.
D digestive juices.

1.1.3 A translucent (see-through) fat stain on a filter paper shows the presence of …

A proteins.
B vitamins.
C lipids.
D carbohydrates.

1.1.4 The … liquid that is produced in the liver.

A gastric juice
B bile juice
C pancreatic juice
D intestinal juice

1.1.5 … are involved in all of the body's chemical reactions.

A Fats
B Protein
C Vitamins
D Minerals

1.1.6 Carnivorous animals use their … for tearing.

A canines
B incisors
C molars
D premolars

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1.1.7 … is/are emulsified by bile during digestion.

A Minerals
B Carbohydrates
C Fats
D Glycerol

1.1.8 The process whereby water is used to break down a substance is called …

A titration.
B condensation.
C hydrogenation.
D hydrolysis.

1.1.9 The … hormone that is needed for puberty, the menstrual cycle and pregnancy in female animals.

A Luteotropic.
B Luteinising.
C Follicle-stimulating.
D Oestrogen.

1.1.10 … diseases can be spread from one animal to another.

A contagious
B reportable
C deficiency
D nutritional

(10 × 1) (10)

1.2 Choose a description from COLUMN B that matches a term 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	Proteolytic enzyme	A	a condition where the animal has little blood in the body
1.2.2	Succus intericus	B	a close relationship between two different organisms benefiting from each other
1.2.3	Branding	C	given to young animals to prepare them for weaning
1.2.4	Heart water	D	accelerate the dissolution of minerals
1.2.5	Xerophytic plants	E	recurring repeatedly
1.2.6	Anaemia	F	increases bacteria swallowed together with food
1.2.7	Hydrochloric acid	G	digest proteins
1.2.8	Chronic disease	H	a method used to identify animals
1.2.9	Synchronisation	I	digest starch in the mouth
1.2.10	Creep feed	J	can adapt on dry areas
		K	connects the amino acids to form protein molecules
		L	produced by glands of Lieberkuhn
		M	used in the laboratory to form acid
		N	making cows to go on oestrus at the same time
		O	cause muscles and eye lids to twitch

(10 × 1) (10)

[20]

QUESTION 2

2.1 Briefly describe the steps that must be followed when testing for the presence of glucose in the feed using Fehling's solution. (7)

2.2 Why are lipids important in the diet of farm animals? (5)

2.3 Gastric juice helps during the digestion process.

2.3.1 Mention THREE components of gastric juice. (3)

2.3.2 Name the enzymes that make up the gastric juice. (2)

2.4 Fermentation is one of the processes that take place in the digestive system of ruminant animals.

2.4.1 In which part of the digestive system does fermentation take place? (1)

2.4.2 Name THREE microorganisms that assist during the fermentation process. (3)

2.4.3 Point out FIVE conditions that stimulate the process of fermentation in ruminant animals. (5)

2.4.4 Describe FOUR significance of fermentation in ruminant animals. (4)
[30]

TOTAL SECTION A: **50**

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SECTION B

QUESTION 3

3.1 Give an advice to farmers on the value of using Holstein-Friesland breed in dairy farming. (5)

3.2 Cross-breeding is one of the methods that most farmers recommend when breeding their livestock.

3.2.1 State FIVE advantages of using cross-breeding in animal production. (5)

3.2.2 Substantiate the importance of selection in livestock farming to cattle farmers. (5)

3.3 Recommend feeding of calves with colostrum to farmers. (6)

3.4 Advise farmers on the safety precautions that they should take when feeding calves with milk. (4)

[25]

QUESTION 4

4.1 4.1.1 Explain TWO factors that cause frothy bloat in livestock. (2 × 2) (4)

4.1.2 Indicate the effects of frothy bloat in cattle. (3)

4.1.3 Outline the measures that farmers can take to prevent frothy bloat. (2)

4.2 Explain how the following factors cause diseases in livestock:

4.2.1 Infections

4.2.2 Poor nutrition

4.2.3 Poisonous substances

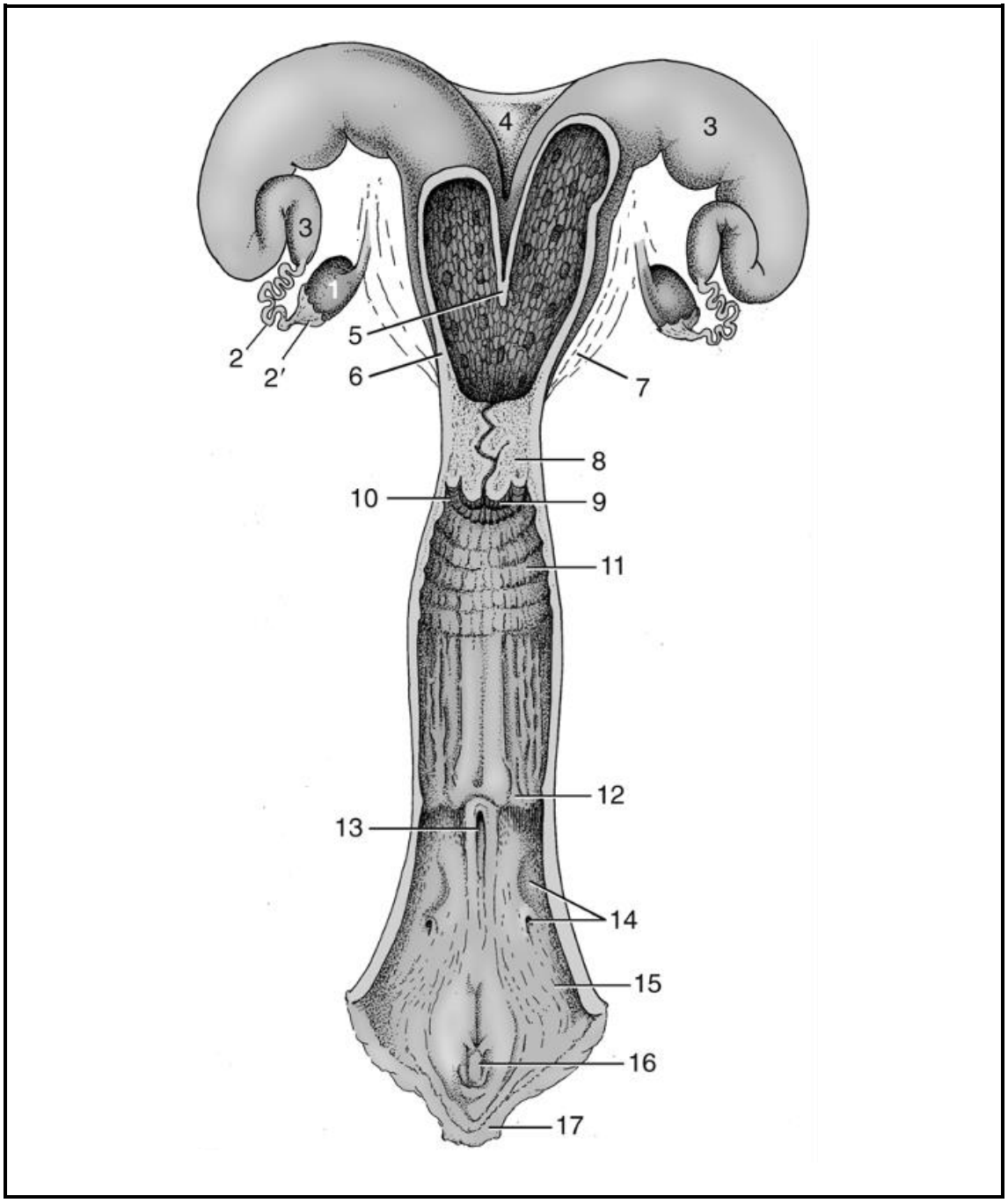
(3 × 1) (3)

4.3 Recommend the Nguni breed to livestock farmers. (6)

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4.4 The diagram below shows the reproductive system of a female animal.

Use the diagram to answer the following questions:



4.4.1 Name the parts marked 1, 3, 5 and 8 (4)

4.4.2 Outline the TWO functions of part 3. (2)

4.4.3 Indicate the effects of a blockage to part 3. (1)
[25]

TOTAL SECTION B: 50

Answer the questions of either SECTION C or SECTION D.

SECTION C

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QUESTION 5

5.1 The udder is the main organ that produces milk in cows.

5.1.1 Which ligaments form part of the udder support system? (2)

5.1.2 Briefly indicate FOUR quarters of the udder and outline their functions. (4 × 2) (8)

5.2 Outline FIVE symptoms of mastitis in milking cows. (5)

5.3 How can farmers prevent mastitis from occurring on the farm? (5)

5.4 Differentiate between clinical and Sub-clinical mastitis (2 × 2) (4)

5.5 Which organism causes mastitis in dairy cattle? (1)

[25]

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QUESTION 6

6.1 Milk is a perishable product that needs to be handled with great care and caution.

6.1.1 Name SIX materials that can taint milk. (6)

6.1.2 Outline measures that can be taken by farmers when taints are detected in milk. (5)

6.2 Define the following terms:

6.2.1 Pasteurisation

6.2.2 Sterilisation

6.2.3 Homogenisation

(3 × 2) (6)

6.3 Why is milk required to be pasteurised? (2 × 2) (4)

6.4 State FOUR uses of whey. (4)

[25]

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TOTAL SECTION C: 50

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SECTION D

QUESTION 7



7.1 Describe the characteristics of the following breeds:

7.1.1 The South African Black (3)

7.1.2 The Red Neck (2)

7.2 Identify SIX traits that should be considered by farmers when selecting ostriches for breeding. (6)

7.3 Explain the precautions that farmers should take during the following operations:

7.3.1 Handling eggs (2)

7.3.2 Incubation (4)

7.3.3 Hatching (2)

7.4 Justify the importance of feeding ostriches with pellets. (3)

7.5 Advise farmers on the value of raising ostriches using outdoor pens. (3)

[25]

QUESTION 8

8.1 Name THREE brooding systems that farmers may use when raising ostrich chicks on the farm. (3)

8.2 What are the effects of the following factors on ostrich production?

8.2.1 Overstocking



8.2.2 Shortage of water

8.2.3 Poor nutrition

(3 × 2) (6)

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8.3 Outline THREE aspects that should be considered by farmers when controlling and preventing diseases in ostriches. (3)

8.4 Ostrich farmers should be ready to deal with diseases and parasites that affect the birds when an outbreak occurs.

8.4.1 Which strategies can farmers use to control and prevent the outbreak of diseases in ostriches? (4)

8.4.2 State THREE aspects that the farmer should know to prevent and control diseases among the ostriches. (3)

8.4.3 List THREE viral diseases that attack ostriches. (3)

8.4.4 Name the parts through which disease-causing organisms enter the body of the ostrich. (3)
[25]

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TOTAL SECTION D: 50
GRAND TOTAL: 150

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