higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

ANIMAL PRODUCTION
NQF LEVEL 4

(1011004)

10 November 2022 (X-paper)
09:00–12:00

This question paper consists of 10 pages.

195Q1N2210

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TIME: 3 HOURS
MARKS: 150

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

INSTRUCTIONS AND INFORMATION

1. Answer ALL the questions in SECTION A.
2. Answer ALL the questions in SECTION B.
3. Answer EITHER SECTION C or SECTION D.
4. Read all the questions carefully.
5. Number the answers according to the numbering system used in this question paper.
6. Start each section on a new page.
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 … prevent(s) constipation in animals.

A Soya beans
B Clover
C Wheat bran
D Sunflower cake

1.1.2 … is/are a good source of fats and oils for animals on the farm.

A Maize meal
B Soya beans
C Green fodder
D Bone meal

1.1.3 Which ONE of the following atoms is part of carbohydrates?

A Nitrogen
B Oxygen
C Iodine
D Chlorine

1.1.4 … is the enzyme found in the gastric juice.

A Ptyalin
B Sucrase
C Pepsin
D Maltase

1.1.5 The contraction and relaxation of the muscles which push the contents down the alimentary canal is called …

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

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1.1.6 Glycogen is found in the following parts of animals:

A Muscles
B Blood
C Kidneys
D Veins

1.1.7 The process that breaks down glucose molecules anaerobically is called …

A glycolysis.
B fermentation.
C respiration.
D breathing.

1.1.8 Which ONE of the following is a lipid?

A Glycogen
B Glycerol
C Cellulose
D Vitamins

1.1.9 … is needed for the digestion of fats in farm animals.

A Ptyalin
B Saliva
C Bile
D Water

1.1.10 The dairy breed that produces milk with the highest butter fat content is the … breed.

A Friesland
B Jersey
C Bonsmara
D Guernsey

(10 × 1) (10)

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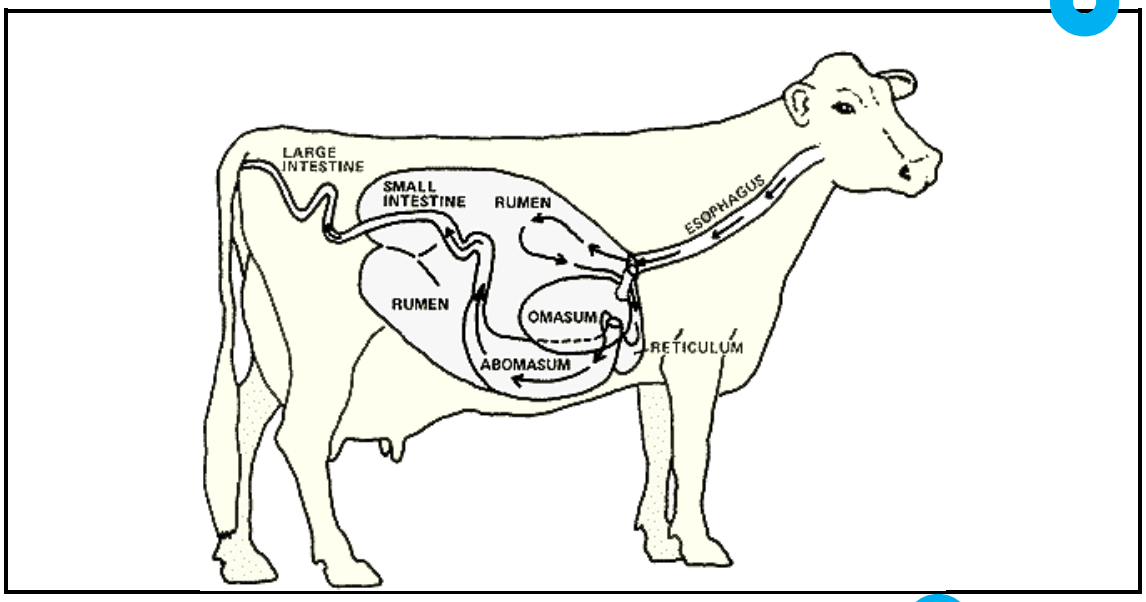
1.2 Choose an item from COLUMN B that matches a description in COLUMN A. Write only the letter (A–O) next to the question number (1.2.1–1.2.10) in the ANSWER BOOK.

COLUMN A		COLUMN B	
1.2.1	Nutrients are taken from the digestive system into the blood	A	extensive farming
1.2.2	Susceptible to being attacked or harmed physically or emotionally	B	oedema
1.2.3	Made of two sugars	C	absorption
1.2.4	Takes place in the absence of oxygen	D	hydrolysis
1.2.5	Part of mammary glands	E	vulnerable
1.2.6	Aerosol transmission	F	disaccharides
1.2.7	Swelling caused by fluid	G	alveoli
1.2.8	The use of small amount of labour and capital in relation to the area of land	H	concentrates
1.2.9	Chemical breakdown of a compound due to reaction with water	I	met-oestrus
1.2.10	The ability of an animal to transmit its characteristics to its offspring	J	anaerobic respiration
		K	prepotency
		L	oxytocin
		M	airborne
		N	micronutrients
		O	aerobic respiration

(10 × 1) (10)
[20]

QUESTION 2

2.1 Use the detail in the diagram of the digestive system of a farm animal to answer questions (2.1.1–2.1.3).



2.1.1 Name the part in which fermentation takes place. (1)

2.1.2 Outline FIVE conditions of the ruminant stomach that make it conducive for the process of fermentation. (5)

2.1.3 Justify the importance of fermentation as a process that benefits ruminant animals. (4)

2.2 Distinguish between the following terms as they are used in agricultural business:

2.2.1 *Gross margin* and *gross profit*

2.2.2 *Total Liabilities* and *Current Liabilities*

2.2.3 *Fixed costs* and *variable costs*

. (3 × 4) (12)

2.3 Urea is one of the nutrients needed by farm animals in small quantities and farmers should be careful when they are giving this type of feed to the animals.

2.3.1 Justify the importance of using urea in the diet of animals. (3)

2.3.2 Outline the measures that are used to prevent urea poisoning in animals. (3)

2.3.3 Indicate the symptoms of animals that are affected by urea poisoning. (2)

[30]

TOTAL SECTION A: 50

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SECTION B

QUESTION 3

3.1 Recommend the following breeds to South African farmers as cattle breeds that are well adapted to South African environment conditions.

3.1.1 Afrikaner (5)

3.1.2 Bonsmara (6)

3.2 Animal selection is a good practice in animal breeding.

3.2.1 Explain the meaning of culling in animal production. (1)

3.2.2 Outline SEVEN factors that farmers should consider when selecting breeding stock. (7)

3.3 Veld management is important to livestock farmers in order to make sure that their animals have grazing pastures throughout the year.

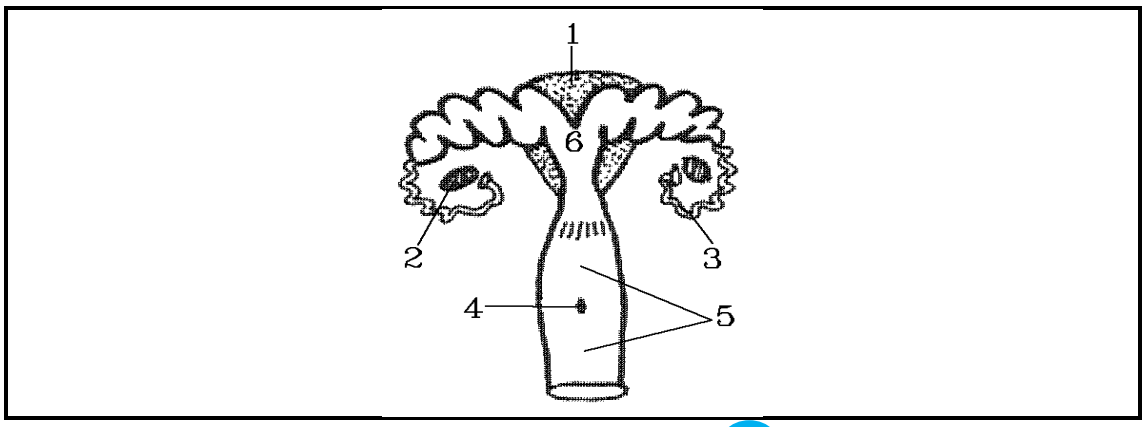
3.3.1 State FOUR factors that influences the three different veld types. (4)

3.3.2 Criticize poor veld management. (2 × 1) (2)

[25]

QUESTION 4

4.1 The diagram below shows the reproductive system of a female farm animal. Answer the questions with regard to the diagram.



4.1.1 Name the parts labelled 2, 3 and 6. (3)

4.1.2 Justify the importance of the part labelled 3. (2)

4.1.3 Outline THREE functions of the part labelled 2. (3)

4.1.4 Identify TWO functions of the part labelled 6. (2)

4.2 Both external and internal parasites may weaken an animal's immune system and create conditions favorable to bacterial disease.

4.2.1 Identify SIX signs that show an animal is infected with parasites. (6)

4.2.2 Name TWO weather conditions in which parasites thrive. (2)

4.3 Outline the control measures for each of the following types of parasites:

4.3.1 Internal parasites (3)

4.3.2 External parasites (4)
[25]

TOTAL SECTION B: 50

Answer SECTION C or SECTION D.

SECTION C

QUESTION 5

5.1 The milking parlour is an important component for dairy farmers. The structure is needed to make milk extraction easy on the farm.

5.1.1 Justify the importance of constructing the milking parlour with a gentle sloping floor. (1)

5.1.2 Recommend FOUR hygienic procedures that should be followed to increase the milk shelf life. (4)

5.1.3 Outline THREE factors that are essential for cleaning the milking parlour. (3)

5.1.4 Justify the importance of cooling milk very quickly to 4 degrees Celsius. (2)

5.2 Farmers should be able to identify a cow that has udder cracks. State FIVE causes of udder cracks. (5)

5.3 Record keeping is a necessary element of good livestock business management. Advise farmers on the importance of keeping the following records:

5.3.1 Animal history (3)

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5.3.2 Calving register (3)

5.4 Differentiate between *clinical and subclinical mastitis*. (4)
[25]

QUESTION 6

6.1 The bulk tank is an asset that is found on most dairy farms in the Republic of South Africa. Farmers should always make sure that it is in good working condition.

6.1.1 Justify the importance of the bulk tank in the milking process. (2)

6.1.2 Name FIVE parts of the bulk tank. (5)

6.1.3 Why is it important to locate the bulk tank on a southern facing slope? (1)

6.2 It is important that farmers avoid sources that taint milk as customers will reject tainted milk and will not buy it.

6.2.1 Indicate SIX sources that cause milk tainting. (6)

6.2.2 Outline FIVE precautionary measures that should be taken when farmers detect taints in milk. (5)

6.3 Mastitis is a disease that is very common in dairy cows. It lowers the quality of milk and is painful for cows.

6.3.1 Mention TWO causes of mastitis in dairy cows. (2)

6.3.2 State FOUR sources of infection that cause mastitis in dairy cows. (4)
[25]

TOTAL SECTION C: 50

OR

SECTION D

QUESTION 7

7.1 The South African Ostrich industry is an important supplier of a wide range of ostrich products for both local and international markets.

7.1.1 Name THREE diseases that affect ostriches. (3)

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7.1.2 Outline THREE ways in which diseases can spread among ostriches. (3)

7.1.3 Identify FOUR measures that should be taken to prevent the spread of diseases among ostriches. (4)

7.1.4 Recommend FIVE ways in which chicks should be housed to avoid high mortality. (5)

7.2 Ostrich feeding is the key to increased meat and hide production.

7.2.1 Identify the factors that affect the amount of nutrients required by an ostrich. (5)

7.2.2 Outline the factors that must be considered when culling ostriches. (5)
[25]

QUESTION 8

8.1 The South African Black is one of the ostrich breeds that is kept in South Africa because of its characteristics.

8.1.1 Outline FIVE desirable characteristics that should be considered when selecting ostriches for breeding. (5 × 1) (5)

8.1.2 Identify FIVE reasons that make consumers prefer ostrich meat to other meat. (5 × 1) (5)

8.1.3 Outline FIVE situations which require the handling of ostriches by farmers. (5 × 1) (5)

8.2 Distinguish between *Live weight and carcass weight* in ostrich production. (2 × 2) (4)

8.3 Outline FIVE problems that are caused by exceeding the carrying capacity of an area. (5)

8.4 Name ONE parasite that attacks ostriches. (1)
[25]

TOTAL SECTION D: 50
GRAND TOTAL: 150

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