higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

ANIMAL PRODUCTION
NQF LEVEL 4

(1011004)

27 February 2018 (Y-Paper)
13:00–16:00

This question paper consists of 9 pages.

NCOT

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. Answer ALL the questions in SECTION A and SECTION B.
2. Answer either SECTION C or SECTION D. If both sections are answered, only the first SECTION you answered will be marked.
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. 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 carbohydrates is a disaccharide?

A Glucose
B Maltose
C Starch
D Lignin

1.1.2 … is used to test for starch.

A Fehling's solution
B Copper oxide
C Sulphuric acid
D Iodine solution

1.1.3 Protein is a nutrient that is needed in the diet of animals as it is important for …

A the production of bones and teeth.
B the repairing of growth tissues.
C protecting their internal organs.
D blood formation.

1.1.4 The enzyme that curdles milk in the young ones of mammals is called …

A trypsin.
B renin.
C salivary amylase.
D pepsin.

1.1.5 The stomach of a pig has a capacity of 8 litres and consists of three parts namely the…

A duodenum, abomasum and cardiac.
B reticulum, rumen and ileum.
C rumen, fundus and abomasum.
D cardiac, fundus and pyloric parts.

1.1.6 The digestive juices in chickens are secreted in the …

A crop.
B gizzard.
C ileum.
D cloaca.

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1.1.7 The fermentation process in ruminants involves the breaking down of fibrous plant material by microbes. This process of fermentation takes place in the …

A reticulum.
B duodenum.
C rumen.
D oesophagus.

1.1.8 Maintenance ration is given to animals to …

A improve production and growth.
B keep the animals' original weight without gaining or loosing.
C prevent parasites and diseases.
D improve their appetite.

1.1.9 The correct time to mate heifers is when they are about … months old.

A 24
B 18
C 16
D 12

1.1.10 Creep feed is needed for young animals that are …

A weaned so that they survive.
B malnourished.
C not yet weaned.
D lacking colostrum from their mothers.

(10 × 1) (10)

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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	Intramuscularly	A	tick-borne disease
1.2.2	Acidosis	B	the appearance of an animal
1.2.3	Stocking rate	C	digests fats
1.2.4	Red water	D	an instrument that can test for bacteria
1.2.5	Sourveld	E	water molecule is added
1.2.6	Luteinising hormone	F	number of animals in an area that can be supported
1.2.7	Caustic stick	G	stops digestion in the rumen
1.2.8	Phenotype	H	controls ovulation in animals
1.2.9	Intermediate host	I	used for controlling diseases
1.2.10	Bactoscan	J	used for dehorning when they are 10 days old
		K	harbours the parasite only for a short period
		L	used for castration
		M	administered in the muscle of an animal
		N	palatable when the grass is still young
		O	good for lactating cows

(10 × 1) (10)
[20]

QUESTION 2

2.1 Differentiate between the following:

2.1.1 Essential amino acids and nonessential amino acids

2.1.2 Regurgitation and digestion

2.1.3 Sourveld and sweetveld

(3 × 4) (12)

2.2 Describe the steps followed when conducting a test for starch in a laboratory. (4)

2.3 Explain how the process of fermentation benefits ruminant animals during digestion. (4)

2.4 Name THREE enzymes that are produced by the pancreas and state ONE function of each of them. (3 × 2) (6)

2.5 Explain FOUR principles that should be considered by a farmer when feeding cows. (4)

[30]

TOTAL SECTION A: 50

SECTION B

QUESTION 3

3.1 The Drakensberger is a breed that is kept for meat production in South Africa.

State the characteristics of this breed which makes it suitable for the Eastern mountains of Mpumalanga and the Free State. (4)

3.2 Explain what happens in each of the FOUR phases of the oestrus cycle.

(4 × 2) (8)

3.3 Explain the importance of colostrum in calves. (5)

3.4 Give FIVE factors that a farmer must pay attention to when selection is done. (5)

3.5 Describe the factors that contribute to the birth mass of a calf. (8)

[30]

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QUESTION 4

4.1 Diseases cause losses to farmers. Farmers should prevent rather than cure diseases.

What measures can be taken to prevent the incidence of diseases on the farm? (10)

4.2 Farmers must ensure that their animals are free from parasites to improve production.

4.2.1 What is an internal parasite? (1)

4.2.2 Name TWO internal parasites in livestock. (2)

4.2.3 Name ways in which farmers can control external parasites. (3)

4.3 Justify why farmers dehorn animals? (4)
[20]

TOTAL SECTION B: 50

ANSWER EITHER SECTION C OR SECTION D.

SECTION C

QUESTION 5

5.1 Name the FOUR parts of the teat and state ONE function of each part. (8)

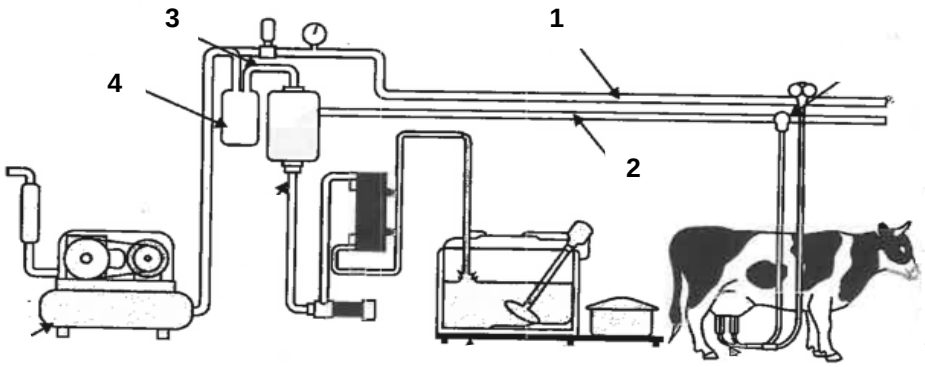
5.2 Adrenalin is an important hormone in animals. If a dairy cow is subjected to pain, noise and irritation the adrenalin may inhibit the milk let-down in the cow.

5.2.1 Name the hormone that will be inhibited by adrenalin and that will prevent milk let-down in the cow. (1)

5.2.2 Explain the relationship between adrenalin and milk let-down inhibition. (3)

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5.3 Name the parts of the milking machine indicated on the sketch below by writing the answer next to the number (1–4) in the ANSWER BOOK. Also state the function of each part.



[Source: *Animal Production NQF Level 4* (W. Burger, H. Swatson & I. Nsahlai)] (8)

5.4 Outline the hygiene measures that farmers have to take to improve the shelf life of milk. (5)
[25]

QUESTION 6

6.1 Bacteria reduces milk quality, therefore the bacterial load in the milk should always be checked or monitored.

6.1.1 What is the difference between the quantitative test and the qualitative test of bacteria load in the milk? (2)

6.1.2 Name TWO sources of bacteria that are found in raw milk. (2)

6.1.3 Outline the steps that are followed when cleaning the pipeline of a milking machine after milking? (5)

6.2 Mastitis is a common disease that affects milking cows. If it is not controlled it can cause financial loss to the farmer.

6.2.1 Give TWO signs that show a cow has mastitis. (2)

6.2.2 Explain how mastitis can spread within the milking herd. (3)

6.2.3 State the type of information that should be recorded when managing mastitis. (7)

6.2.4 Name TWO types of mastitis that can affect the udder and discuss the symptoms regarding each type of mastitis. (4)
[25]

TOTAL SECTION C: 50

OR

SECTION D

QUESTION 7

7.1 Newcastle disease can attack ostriches when they are young.

7.1.1 What causes Newcastle disease? (1)

7.1.2 What are the symptoms of the disease? (5)

7.1.3 How can it be prevented or treated? (4)

7.2 Differentiate between an infectious disease and a contagious disease. (4)

7.3 Explain the practices that need to be considered for controlling and preventing diseases in ostriches. (6)

7.4 How would you advise a farmer who wants to construct a house for day-old chicks to avoid mortality? (5)

[25]

QUESTION 8

8.1 Ostriches are animals that are able to adapt to both hot and cold conditions.

Describe how an ostrich can control its heat loss during cold weather. (4)

8.2 State the characteristics that ostrich farmers should consider when choosing a desirable breed to improve production. (6)

8.3 State the advantages and disadvantages of using plastic matting cover or rubber coatings. (8)

8.4 Name FIVE conditions that an ostrich farmer should provide during brooding time. (5)

8.5 Name TWO types of feed that can be used to feed ostriches. (2)

[25]

TOTAL SECTION D: 50
GRAND TOTAL: 150

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