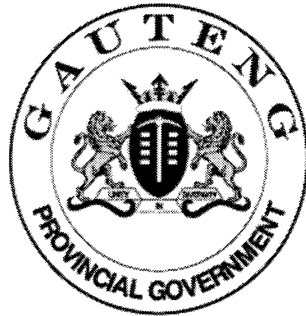


**SENIOR CERTIFICATE EXAMINATION
SENIORSERTIFIKAAT-EKSAMEN**



**OCTOBER / NOVEMBER
OKTOBER / NOVEMBER**

2004

ANIMAL HUSBANDRY

VEEKUNDE

SG

803-2/0

ANIMAL HUSBANDRY SG



**12 pages + answer sheet
12 bladsye + antwoordblad**

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**GAUTENGSE DEPARTEMENT VAN ONDERWYS
SENIORSERTIFIKAAT-EKSAMEN**

**VEEKUNDE SG
TYD: 3 UUR
TOTAAL: 200**

INSTRUKSIES AAN DIE KANDIDATE:

1. Hierdie vraestel bestaan uit **TWEE** afdelings.
2. **AFDELING A** is **VERPLIGTEND**. Beantwoord vrae 1.1 tot 1.24 op die **antwoordblad**. Let op die instruksies wat in Afdeling A verskaf word.
3. Plaas die antwoordblad na voltooiing in u eksamenskrif.
4. Maak seker dat u **EKSAMENNOMMER** op die antwoordblad geskryf is.
5. **AFDELING B**: Beantwoord **ENIGE VYF** van die **SES** vrae so volledig as moontlik.
6. Gee asseblief aandag aan die netheid van jou vraestel en leesbaarheid van jou handskrif.
7. Hierdie vraestel het twaalf bladsye.

**GAUTENG DEPARTMENT OF EDUCATION
SENIOR CERTIFICATE EXAMINATION**

**ANIMAL HUSBANDRY
TIME: 3 HOURS
MARKS: 200**

INSTRUCTIONS TO CANDIDATES:

1. This examination paper consists of **TWO** sections.
2. **SECTION A** is **COMPULSORY**. Answer question 1.1 to 1.24 on the answer sheet in accordance with the instruction that precede this section.
3. Place the complete answer sheet inside the front cover of your examination script.
4. Make sure that you have written your **EXAMINATION NUMBER** on the answer sheet.
5. **SECTION B:** Answer **ANY FIVE** of the **SIX** questions from this section.
6. It is in your own interest to pay attention to the legibility of your handwriting and the neat appearance of your work.
7. This paper consists of twelve pages.

AFDELING A

VRAAG 1

HIERDIE AFDELING IS VERPLIGTEND

Vir elk van die vrae 1.1 tot 1.24 word verskeie antwoorde verskaf waarvan slegs **EEN** korrek is. Dui die korrekte antwoord aan deur 'n kruisie (**X**) oor die toepaslike letter langs die vraagnommer op die **ANTWOORDBLAD** te maak.

BYVOORBEELD:

1.14	A	B	C	D
------	---	---	--------------	---

- 1.1 Die boerderyvertakking wat die potensiaal besit om die mees effektiewe produseerder van dierlike proteïen te word is:
- A. varkboerdery.
 - B. pluimvee.
 - C. varswatervisboerdery.
 - D. wildboerdery. (2)
- 1.2 Koolstof beskik oor ...polêre elektrone.
- A. 2
 - B. 4
 - C. 8
 - D. 3 (2)
- 1.3 Die aromatiese verbindings bestaan uit:
- A. versadigde strukture.
 - B. versadigde ringstrukture.
 - C. onversadigde strukture.
 - D. onversadigde ringstrukture. (2)
- 1.4 Watter gas wat vrygestel word tydens fermentasie kan vir kookdoeleindes gebruik word?
- A. Metaangas.
 - B. Propaangas.
 - C. Butaangas.
 - D. Asetileen. (2)

SECTION A

QUESTION 1

THIS SECTION IS COMPULSORY.

To each of questions 1.1 to 1.24 various answers are given to which only **ONE** is correct. Indicate the correct answer of your choice by making a cross (**X**) over the appropriate letter next to the relevant question number on the **ANSWER SHEET**.

FOR EXAMPLE:

1.14	A	B	C	D
------	---	---	--------------	---

- 1.1 The farming enterprise with the best possibility of becoming the most effective production of animal protein, is:
- A. pig farming.
 - B. poultry.
 - C. inland fish-farming.
 - D. game-farming. (2)
- 1.2 Carbon possesses ... valency electrons:
- A. 2
 - B. 4
 - C. 8
 - D. 3 (2)
- 1.3 The aromatic compounds are made up of:
- A. saturated structures.
 - B. saturated ring structures.
 - C. unsaturated structures.
 - D. unsaturated ring structures. (2)
- 1.4 Which gas liberated by fermentation can be used for cooking purpose?
- A. Methane.
 - B. Propane.
 - C. Butane.
 - D. Acetylene. (2)

- 1.5 Watter koolstofverbinding kan gebruik word om mens en dier te ontworm?
- A. Penicillin.
 - B. Sulfonamide.
 - C. Streptomycin.
 - D. Dichlorophen. (2)
- 1.6 Die metaboliese reaksies in die liggaam vind plaas:
- A. in vitro.
 - B. in vivo.
 - C. deur middel van 'n kataliseerder.
 - D. as gevolg van bakteriese aktiwiteit. (2)
- 1.7 Watter een van die volgende is **NIE** 'n funksie van droë ruvoer nie?
- A. Dit verskaf volume aan die rantsoen.
 - B. Dit voorkom oormatige suurvorming.
 - C. Dit verhoog die tempo van vertering.
 - D. Dit bevorder peristalse in die verteringstelsel. (2)
- 1.8 Watter eienskap pas **NIE** by sappige ruvoer nie?
- A. Dit is meestal jong plantmateriaal.
 - B. Dit bevat min ruvesel.
 - C. Dit sluit volwasse natuurlike weidings in.
 - D. Die verteerbaarheid is beter as dié van droë ruvoere. (2)
- 1.9 Watter eienskap is **NIE** 'n eienskap van mielies nie?
- A. Mielies is ryk aan lisien.
 - B. Mielies is ryk aan karoteen.
 - C. Die kalsium inhoud is laag.
 - D. Mielies is baie ryk aan koolhidrate. (2)
- 1.10 Die biologiese waarde van vismeel se proteïen is ongeveer:
- A. 55%.
 - B. 65%.
 - C. 75%.
 - D. 45%. (2)

- 1.5 Which carbon compound can be used to deworm man and animals?
- A. Penicillin.
 - B. Sulphonamide.
 - C. Streptomycin.
 - D. Dichlorophen. (2)
- 1.6 The metabolic reactions in the body take place:
- A. in vitro.
 - B. in vivo.
 - C. due to a catalyst.
 - D. due to bacterial activity. (2)
- 1.7 Which one of the following is **NOT** a function of dry roughage?
- A. It provides body to the ration.
 - B. It prevents the forming of excess acids.
 - C. It speeds up the process of digestion.
 - D. It promotes peristalsis in the digestive canal. (2)
- 1.8 Which one of the following is **NOT** a characteristic of succulent roughage?
- A. It is mostly young plant material.
 - B. It contains little roughage.
 - C. It includes mature natural grazing.
 - D. The digestibility is better than dry roughage. (2)
- 1.9 One of the following is **NOT** a characteristic of maize. Which one?
- A. Maize is rich in lysine.
 - B. Maize is rich in carotene.
 - C. The calcium content is low.
 - D. Maize is very rich in carbohydrates. (2)
- 1.10 The biological value of fish meal's protein is approximately:
- A. 55%.
 - B. 65%.
 - C. 75%.
 - D. 45%. (2)

- 1.11 Kies die eienskap wat **NIE** op soetveld van toepassing is nie.
- A. Dit kom voor in die laerliggende dele van die land.
 - B. Dit behou smaaklikheid en voedingswaarde reg deur die somer.
 - C. Dit kan reg deur die jaar benut word.
 - D. Dit kom voor in die rypvrye gebiede van die land. (2)
- 1.12 Watter van die volgende is **NIE** 'n vorm van selektiewe beweiding **NIE**?
- A. Seleksie van sekere dele van die plant.
 - B. Seleksie van sekere tipe gras.
 - C. Area seleksie.
 - D. Seleksie van sekere kleur gras. (2)
- 1.13 Beheerde brand kan nuttig gebruik word in weidingsbestuur om die volgende redes:
- (i) Om die onaanneemlike plantmateriaal te verwyder.
 - (ii) Om groei te stimuleer buite die groeiseisoen.
 - (iii) Om bosindringing te bekamp.
 - (iv) Om wisselweiding aan te moedig.
- A. Almal is reg.
 - B. (i) en (ii) is reg.
 - C. (i), (iii) en (iv) is reg.
 - D. Slegs (i). (2)
- 1.14 Goeie gehalte kuilvoer word verseker as die volgende teenwoordig is of gedoen word. Kies die een wat **NIE** pas nie.
- A. Voldoende oplosbare koolhidrate.
 - B. Uitsluiting van suurstof.
 - C. Voggehalte van 60 – 70%.
 - D. Koolhidrate moet verander word in bottersuur. (2)

- 1.11 Which one of the following is **NOT** a characteristic of sweet veld?
- A. It occurs in the lower-lying parts of the country.
 - B. It keeps its tastiness, palatability and food value throughout the summer.
 - C. It can be utilized throughout the year.
 - D. It occurs in the frost free areas of the country. (2)
- 1.12 Which one of the following is **NOT** a type of selective grazing?
- A. Selection of certain parts of plants.
 - B. Selection of certain types of grass.
 - C. Spot selection.
 - D. Selection of certain colour of grass. (2)
- 1.13 Controlled burning is useful in pasture management for the following reasons:
- (i) To remove old, unacceptable plant material.
 - (ii) To stimulate growth in pasture out of season.
 - (iii) To combat bush encroachment.
 - (iv) To encourage pasture rotation.
- A. All of them.
 - B. (i) and (ii).
 - C. (i), (iii) and (iv).
 - D. Only (i). (2)
- 1.14 Good quality silage is ensured if the following is present or done. Select the one that does **NOT** fit:
- A. Enough soluble carbohydrates.
 - B. The exclusion of oxygen.
 - C. Moisture content of 60 – 70%.
 - D. Carbohydrates must be converted into butyric acid. (2)

1.15 Goeie kwaliteit hooi kan slegs gemaak word as:

- (i) dit op die regte stadium gesny word.
- (ii) dit goed gedroog is in die son.
- (iii) dit gebaal word onmiddellik na sny.
- (iv) dit onder dak gestoor word.

- A. (i) en (iv)
- B. (i), (ii) en (iv)
- C. Slegs (iii)
- D. Almal van hulle.

(2)

1.16 Bevore semen moet ontdooi word teen:

- A. 38°C.
- B. 35°C.
- C. 35 - 38°C.
- D. 40°C.

(2)

1.17 Hoe lank is die bronstighedsperiode van 'n skaapooi?

- A. 10 – 20 uur.
- B. 10 – 15 uur.
- C. 20 – 40 uur.
- D. 20 – 30 uur.

(2)

1.18 Die metode wat gebruik word om skape met bevore semen te insemineer, is:

- A. Spekulummetode.
- B. Laproskopiemetode.
- C. Rektaal-vaginale metode.
- D. Inovulasie.

(2)

1.19 Die skenker koei vir embrio oorplasing moet:
(Kies die een wat **NIE** pas nie)

- A. 'n dier wees met hoë genetiese waarde (teelwaarde).
- B. 'n geregistreerde koei wees.
- C. haarself al bewys het ten opsigte van prestasie.
- D. hoogs vrugbaar wees.

(2)

1.15 Good quality hay can be made if:

- (i) it is cut at the correct stage.
- (ii) it was well dried in the sun.
- (iii) baled immediately after cutting.
- (iv) it is stored under cover.

- A. (i) and (iv)
- B. (i), (ii) and (iv)
- C. Only (iii)
- D. All of them

(2)

1.16 Frozen semen must be thawed at:

- A. 38°C.
- B. 35°C.
- C. 35 - 38°C.
- D. 40°C.

(2)

1.17 How long is the oestrus period in the case of an ewe?

- A. 10 – 20 hours.
- B. 10 – 15 hours.
- C. 20 – 40 hours.
- D. 20 – 30 hours.

(2)

1.18 Which method is used when sheep are inseminated with frozen semen?

- A. Speculum method.
- B. Intra-uterine method.
- C. Recto-vaginal method.
- D. In vitro method.

(2)

1.19 A donor cow for embryo transfer must ...
Select the one that does **NOT** fit.

- A. be an animal of high genetic value.
- B. be a registered cow.
- C. have already proven herself.
- D. be highly fertile.

(2)

1.20 Omgewingsvariasies verwys na:

- A. verskeie eksterne of omgewingsfaktore wat die fenotipe van die dier beïnvloed.
- B. verskeie eksterne en omgewingsfaktore wat die genotipe van die dier beïnvloed.
- C. verskeie eksterne en omgewingsfaktore wat die klimaat beïnvloed waar die diere hul bevind.
- D. verskeie eksterne en omgewingsfaktore wat die omgewing beïnvloed waar die diere hul bevind. (2)

1.21 Watter een van die volgende is **NIE** 'n voordeel van kruisteling **NIE**?

- A. Weens heterose is die kuisgeteelde dier meer vrugbaar.
- B. Die nageslag van die kuisgeteelde moeder ontwikkel vinniger.
- C. Kruisgeteelde bulle moet behou word vir die verdere teling.
- D. Kruisgeteelde diere pas beter aan by moeilike omgewingstoestande. (2)

1.22 Watter een van die volgende is **NIE** 'n simptome van haarwurmbesmetting nie?

- A. Die dier ontwikkel anemie.
- B. Die slymvliese van die oë en mond word bleek.
- C. Waterige swelling onder die keel.
- D. Rooi verkleuring van die uitwerpsels. (2)

1.23 Die bruinoorbosluis is 'n:

- A. eengasheer-bosluis.
- B. tweegasheer-bosluis.
- C. driebenige-bosluis.
- D. driegasheer-bosluis. (3)

1.24 Rooiwater word oorgedra deur die:

- A. bruinbosluis.
- B. rooibosluis.
- C. rooipootbosluis.
- D. bontbosluis. (3)

TOTAAL AFDELING A: [50]

1.20 Environmental variation refers to:

- A. various external or environmental factors influencing the phenotype of the animal.
 - B. various external and environmental factors influencing the genotype of the animal.
 - C. various external or environmental factors influencing the climate where animals live.
 - D. various external and environmental factors influencing the environment where the animals live.
- (2)

1.21 Which one of the following is **NOT** an advantage of cross breeding?

- A. Due to heterosis the cross breed animal is more fertile.
 - B. The offspring of the crossbred mother develops faster.
 - C. Crossbred bulls must be retained for further breeding.
 - D. Crossbred animals adapt better to difficult environmental conditions.
- (2)

1.22 Which one of the following is **NOT** a symptom of an infested animal with wireworm?

- A. Animals develop anaemia.
 - B. Mucus membranes of the eye and mouth are pale.
 - C. Watery swelling under the jaw.
 - D. Red discolouring of the faeces.
- (2)

1.23 The brown ear tick is a:

- A. one host tick.
 - B. two host tick.
 - C. three legged tick.
 - D. three host tick.
- (3)

1.24 Red water fever is transmitted by the:

- A. brown tick.
 - B. red tick.
 - C. red legged tick.
 - D. bont tick.
- (3)

TOTAL – SECTION A: [50]

P.T.O.

- 3.3 Beantwoord die volgende vrae ten opsigte van kunsmatige inseminasie:
- 3.3.1 Verduidelik **TWEE** metodes om semen te verkry. (5)
 - 3.3.2 Wat is die vereistes vir goeie kwaliteit semen? (3)
 - 3.3.3 Hoe word semen bewaar vir 'n lang tydperk? (6)
- 3.4 Vergelyk kortliks aktiewe en passiewe immuniteit. (Skematies) (6)
- 3.5 Noem **TWEE** diereproduksieplanne. (2)
- [30]**

VRAAG 4

- 4.1 Beantwoord die volgende vrae oor koolhidrate:
- 4.1.1 Noem **DRIE** belangrike monosakkarides. (3)
 - 4.1.2 Noem **DRIE** disakkariedes. (3)
- 4.2 Noem die verskillende tipes Savanne. (5)
- 4.3 Beantwoord die volgende oor oestrus-sinchronisering:
- 4.3.1 Noem die voordele wat oestrus-sinchronisering vir die suiwelboer kan inhou. (3)
 - 4.3.2 Bespreek hoe oestrus-sinchronisering by skape bewerkstellig word. (5)
 - 4.3.3 Noem **TWEE** nadele van oestrus-sinchronisering. (2)
- 4.4 Noem die witbloedselle in die immuniteits-sisteem van diere. (5)
- 4.5 Noem **VIER** vereistes vir 'n goeie mark. (4)
- [30]**

- 3.3 Answer the following questions on artificial insemination:
- 3.3.1 Describe the **TWO** methods to collect semen. (5)
- 3.3.2 What are the requirements of good quality semen to be used in AI? (3)
- 3.3.3 How is semen preserved and stored for long periods? (6)
- 3.4 Briefly compare active and passive immunity. (Schematic) (6)
- 3.5 Name **TWO** animal production plans. (2) [30]

QUESTION 4

- 4.1 Answer the following questions on carbohydrates:
- 4.1.1 Name **THREE** important disaccharides. (3)
- 4.1.2 Name **THREE** polysaccharides. (3)
- 4.2 Name the different types of Savanne. (5)
- 4.3 Answer the following questions on oestrus synchronization:
- 4.3.1 What advantages will oestrus synchronization have to the dairy farmer? (3)
- 4.3.2 Explain how oestrus synchronization is done on sheep. (5)
- 4.3.3 Name **TWO** disadvantages of oestrus synchronization. (2)
- 4.4 Name the white blood cells in the defence of the body against diseases. (5)
- 4.5 Name **FOUR** requirements of a good market. (4) [30]

VRAAG 5

- 5.1 Teken die Lewisstruktuur van Koolstof. (2)
- 5.2 Beantwoord die volgende vrae ten opsigte van natuurlike weidings:
- 5.2.1 Noem die **DRIE** verskillende veldtipes. (3)
- 5.2.2 Noem **SES** verskillende tipes selektiewe beweidings wat ons natuurlike weiveld laat agteruitgaan. (6)
- 5.3 Noem die bronne van omgewingsvariasie. (5)
- 5.4 Onderskei tussen 'n entstof en 'n anti-serum. (4)
- 5.5 Noem **VYF** oorsake van siektes onder lewende hawe. (5)
- 5.6 Noem die onderskeie bestuursaktiwiteite van 'n plaasbestuurder. (5)
- [30]

VRAAG 6

- 6.1 Identifiseer die volgende funksionele groepe:

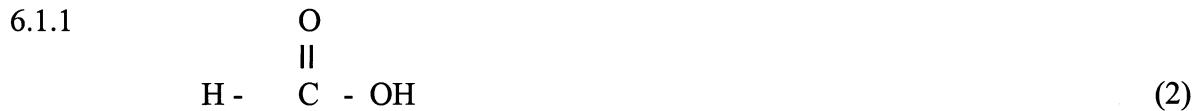


QUESTION 5

- 5.1 Draw the Lewis structure of Carbon. (2)
- 5.2 Answer the following questions on natural Pastures:
- 5.2.1 Name the **THREE** different veld types. (3)
- 5.2.2 Name **SIX** different types of selective grazing that cause natural pastures to deteriorate. (6)
- 5.3 State the sources of environmental variation. (5)
- 5.4 Differentiate between a vaccine and an antiserum. (4)
- 5.5 Name **FIVE** causes of illness in livestock. (5)
- 5.6 Name the various management activities of the farm manager. (5)
- [30]

QUESTION 6

- 6.1 Identify the following functional groups:



- 6.2 Beantwoord die volgende vrae oor verteerbaarheid:
- 6.2.1 Noem **VYF** faktore wat die verteerbaarheid van 'n voer kan beïnvloed. (5)
- 6.2.2 Gee 'n definisie van verteerbaarheid. (3)
- 6.2.3 'n Jong os word gevoer op lusernhooi. Hy vreet 10 kg per dag en die voggehalte van die voer is 12%. Hy skei 4 kg mis uit met 'n voggehalte van 4%. Bepaal die verteerbaarheidskoeffisiënt. Toon alle bewerkings. (6)
- 6.3 Verduidelik die volgende terme:
- 6.3.1 Seleksie. (2)
- 6.3.2 Generasie-interval. (2)
- 6.4 Noem **TWEE** bosluise en die siektes wat hul oordra. (4)
- [30]**

6.2 Answer the following on digestibility:

6.2.1 Name **FIVE** factors that can influence the digestibility of a feed. (5)

6.2.2 Give a definition of digestibility. (3)

6.2.3 A young ox is fed lucerne hay. It consumes 10 kg per day and the moisture content of the hay is 12%. The ox excretes 4 kg of dung with a moisture content of 4%. Determine the digestibility co-efficient. Show all calculations. (6)

6.3 Explain the following concepts:

6.3.1 Selection. (2)

6.3.2 Generation interval. (2)

6.4 Name **TWO** ticks and the diseases they transmit. (4)

[30]

VRAAG 7

- 7.1 Gee 'n skematiese voorstelling van die verskillende koolwaterstowwe. (8)
- 7.2 Watter voordele hou kruisteling in vir die suiwelboer? (3)
- 7.3 Onderskei kortliks tussen natuurlike en kunsmatige seleksie. (6)
- 7.4 Antwoord die volgende ten opsigte van bosluise.
- 7.4.1 Beskryf kortliks die lewensiklus van die driegasheer-bosluis. (4)
- 7.4.2 Behalwe die oordrag van siektes en vergiftiging het bosluise ook ander nadele. Noem hulle. (5)
- 7.5 Noem **VIJF** van die belangrikste basiese elemente van 'n begroting. (4)

[30]

TOTAAL VAN AFDELING B: [150]

GROOTTOTAAL: [200]

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ANIMAL HUSBANDRY SG (First Paper)	803-2/0	12
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QUESTION 7

- 7.1 Give a schematic representation of the different hydrocarbons. (8)
- 7.2 What advantages are there for the dairy farmer in using cross-breeding? (3)
- 7.3 Briefly differentiate between natural and artificial selection. (6)
- 7.4 Answer the following questions on ticks:
- 7.4.1 Briefly explain the life cycle of the three host tick. (4)
- 7.4.2 Apart from transferring diseases and poisoning, ticks also have other disadvantages. Name them. (5)
- 7.5 Name the **FOUR** most important basic elements of a budget. (4)
- [30]**

TOTAL FOR SECTION B: [150]

TOTAL: [200]

END

**ANIMAL HUSBANDRY / VEEKUNDE
STANDARD GRADE / STANDAARDGRAAD**

SUBJECT CODE / VAKKODE: 803-2/0

NOVEMBER 2004

ANSWER SHEET / ANTWOORDBLAD

EXAMINATION NUMBER / EKSAMENNUMMER																				
CENTRE NUMBER / SENTRUMNUMMER																				

**SECTION A / AFDELING A
QUESTION 1 / VRAAG 1**

1.1	A	B	C	D
1.2	A	B	C	D
1.3	A	B	C	D
1.4	A	B	C	D
1.5	A	B	C	D
1.6	A	B	C	D
1.7	A	B	C	D
1.8	A	B	C	D
1.9	A	B	C	D
1.10	A	B	C	D
1.11	A	B	C	D
1.12	A	B	C	D
1.13	A	B	C	D
1.14	A	B	C	D
1.15	A	B	C	D
1.16	A	B	C	D
1.17	A	B	C	D
1.18	A	B	C	D
1.19	A	B	C	D
1.20	A	B	C	D
1.21	A	B	C	D
1.22	A	B	C	D
1.23	A	B	C	D
1.24	A	B	C	D

**TOTAL SECTION: A
TOTAAL AFDELING: A**

50