



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

FACULTY OF NATURAL RESOURCES AND SPATIAL SCIENCES

DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES SCIENCES

QUALIFICATION: BACHELOR OF AGRICULTURE	
QUALIFICATION CODE: 07BAGR	LEVEL: 6
COURSE: Animal Health	COURSE CODE: ANH620S
DATE: January 2019	SESSION: To be determined
DURATION: 3 Hours	MARKS: 100

SECOND OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S)	Dr. Theo WASSENAAR
MODERATOR	Dr. Alaster SAMKANGE

THIS QUESTION PAPER CONSISTS OF 3 PAGES
(Excluding this front page)

INSTRUCTIONS

1. Answer ALL the questions.
2. Write clearly and neatly.
3. Number the answers clearly.

PERMISSIBLE MATERIALS

1. Examination paper.
2. Examination script.

QUESTION 1

QUESTION 1	Basic knowledge about diseases and their etiology, distribution and spread	30 marks
1.1	Apart from the infectious diseases caused by microbes, list four other causes of diseases in animals.	4 marks
1.2	Draw a diagram illustrating the natural history of a disease timeline.	8 marks
1.3	Explain the basic mechanism of how a vaccine functions.	4 marks
1.4	Complete the following sentences about animal disease reservoirs by writing the five missing words: (1)_____ reservoirs (animals), are carriers, which are individuals that inconspicuously shelter a (2)_____ and spread it to other individuals. There are two types of carriers: --(3)_____ carrier, with three categories: 1) incubation carrier, 2) convalescent carrier, (4)_____ carrier --Passive carrier, like an animal worker that carries the pathogen to other animals B) (5)_____ reservoir: plant soil and water can also be reservoirs of fungi.	5 marks
1.5	Name three of the main mechanisms protecting the gastrointestinal tract of an animal against disease.	3 marks
1.6	(i) What are leukocytes (white blood cells)? (ii) What is their main function? (iii) Where are they produced?	3 marks
1.7	Lymphocytes are a specific type of white blood cell associated with the lymphatic system. Name the three major types of lymphocytes.	3 marks

QUESTION 2

QUESTION 2	Infectious diseases	26 marks
2.1	Answer the following short questions on African Swine Fever (ASF) and African Horse Sickness (AHS): 1) What is the most important characteristic, from an animal disease management perspective, that ASF and AHS have in common? (1 mark) 2) And what is the most important way in which they differ? (1 mark) 3) What are the two main symptoms that would make you suspect a horse has AHS? (2 marks) 4) What are the two main lesions (post-mortem findings) and/or symptoms that would make you suspect a flock of pigs has ASF? (2 marks)	6 marks
2.2	Which four diseases of beef cattle are commonly vaccinated against in Namibia?	4 marks
2.3	Name the three most important risk factors for the transmission of African Horse Sickness in horses	3 marks
2.4	Answer the following short questions about Newcastle disease: 1) What is the main method of transmission within a flock? (1 mark)	11 marks

- 2) What is the main method of transmission between flocks? (1 mark)
- 3) Which group of symptoms would make you strongly suspect that a chicken has Newcastle Disease? (4 marks)
- 4) Which group of farmers/chicken owners is particularly affected by Newcastle Disease? (1 mark)
- 5) What are the two main methods of vaccine application called and how are they applied? (4 marks)

- 2.5 We visited an experimental farm this year. Recall from your visit there: 2 marks
- i) Which notifiable disease caused deaths among their pigs last year?
 - ii) What is the main risk factor related to how it is transmitted, that probably caused the infection to spread to the farm's pigs?

QUESTION 3

QUESTION 3 Non-infectious diseases 22 marks

- 3.1 The following relates to poisoning by the plant gifblaar/otjikuryoma/munkuguru: 10 marks
- 1) On the included map, show where in Namibia the plant that causes gifblaar poisoning occurs (it can be very approximate) (2 marks)
 - 2) Name two prominent symptoms of gifblaar poisoning (2 marks)
 - 3) What is the most typical thing that happens to cattle that have consumed the plant in lethal doses and then drink water or do exercise? (1 mark)
 - 4) Name three "treatments" that can be done to lessen the effect of poisoning (3 marks)
 - 5) Name two ways of controlling the occurrence of the poisonings (2 marks)
- 3.2 The following questions are about bloat in cattle: 10 marks
- 1) Name two types of bloat and how each type occurs (4 marks)
 - 2) Name two of the main clinical findings (2 marks)
 - 3) What type of pasture is prone to cause bloat? (1 mark)
 - 4) How is bloat treated? (1 mark)
 - 5) Name two ways in which the risks of bloat can be minimised (2 marks)
- 3.3 Is the following statement true or false: "Metabolic diseases are mostly caused by extensive animal production practices (such as extensive beef farming in Namibia) when the body reserves of calcium, magnesium or energy cannot meet the metabolic needs". 1 marks
- 3.4 Name one production-related Metabolic Disorder 1 marks

QUESTION 4

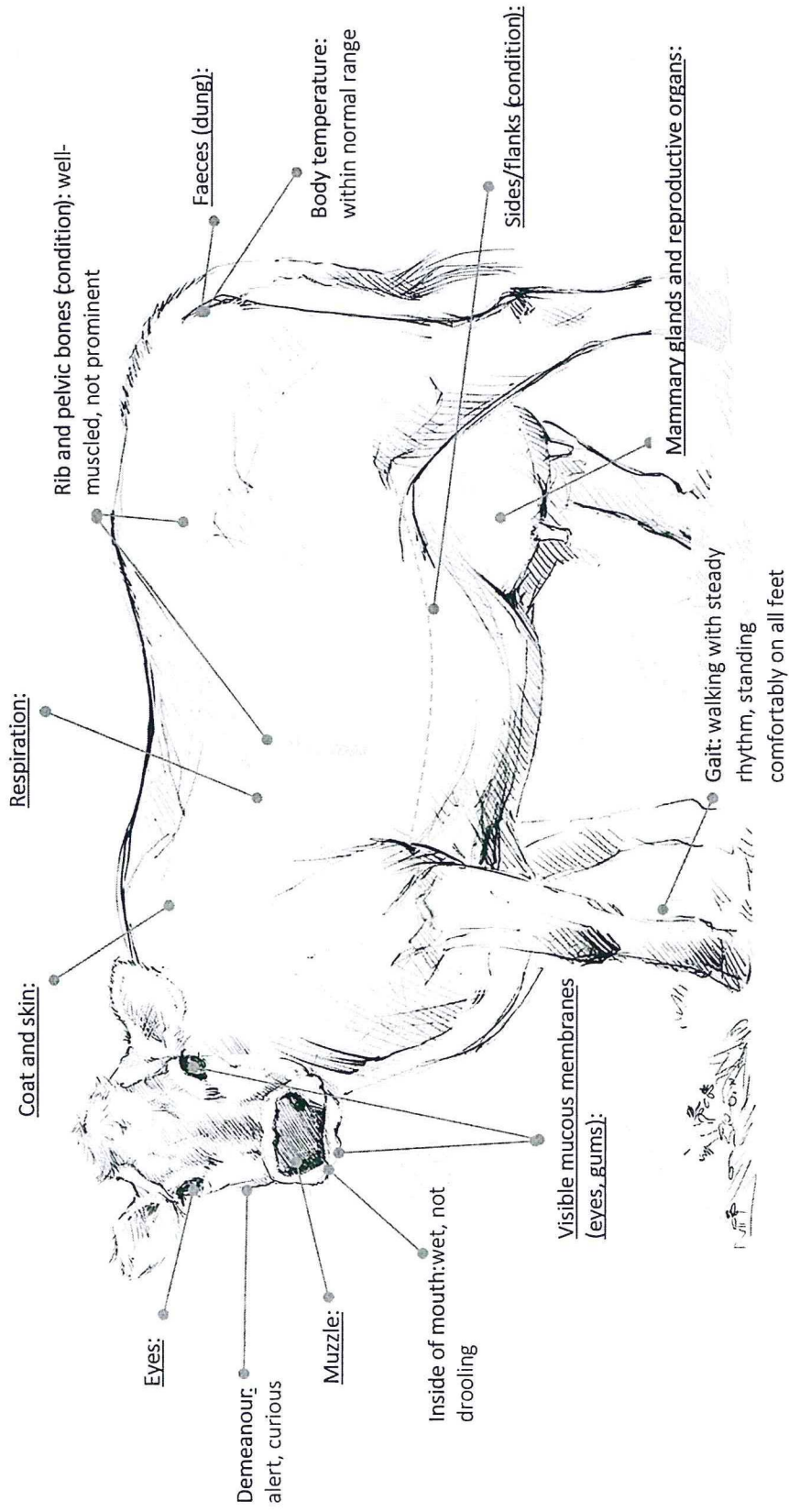
QUESTION 4 Animal Health Management, Animal Welfare 26 marks

- 4.1 A sketch of a cow is added to this question paper. On this sketch is indicated several aspects that are indicators of a healthy animal. Some of these indicators have been filled in (e.g. rib and pelvic bones, body temperature, demeanour, inside of mouth). All the rest have been underlined. Write in, next to each underlined factor, the characteristic of a healthy animal that applies to that specific factor. 8 marks
- 4.2 If you are the farm manager for a large commercial dairy farm, explain what your biosecurity policy will comprise (3 marks). Give some examples from a working dairy farm that you have visited (2 marks) 5 marks
- 4.3 What are the two main principles of prevention and control of disease? 2 marks
- 4.4 Give one definition of biosecurity. 2 marks
- 4.5 i) List three important animal welfare issues in Namibia (3 marks) 5 marks
ii) Name two characteristics of "sentience" as applied to animals (2 marks)

QUESTION 3.1



QUESTION 4.1



Eyes:

Demeanour:
alert, curious

Muzzle:

Inside of mouth: wet, not
drooling

Coat and skin:

Respiration:

Rib and pelvic bones (condition): well-
muscled, not prominent

Faeces (dung):

Body temperature:
within normal range

Sides/flanks (condition):

Mammary glands and reproductive organs:

Gait: walking with steady
rhythm, standing
comfortably on all feet

Visible mucous membranes
(eyes, gums):