



# TECHNICAL UNIVERSITY OF MOMBASA

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FACULTY OF APPLIED AND HEALTH SCIENCES  
DEPARTMENT OF PURE AND APPLIED SCIENCES

## UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY IN FOOD SCIENCE AND QUALITY ASSURANCE (BSFQA)

13S & BSFQA 14S2

AFS 4102: PRINCIPLES OF ANIMAL PRODUCTION

## END OF SEMESTER EXAMINATION

**SERIES:** APRIL 2016

**TIME:** 2 hours HOURS

**DATE:** Pick Date 05-2016

### Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of Choose No questions. Attempt Choose instruction.

**Do not write on the question paper.**

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### **Question one.**

a) Introduction to animal science and Breeds of livestock:

- i) Define Animal Science 1pt
- ii) Name four domestic animals and two breeds of each 4pt

b) Animal Products and Animal Nutrition:

- i) List four major components in Cow Milk and state two important nutrients that are absent 2pt
- ii) Differentiate between monosaccharide and amino acid 2pt
- iii) Define feedstuff in relations to animal nutrition 1pt

c) Animal Reproduction

- i) Differentiate between the cowper's gland and the seminal vesicle 2pt
- ii) Name two hormones in female reproduction and define their roles 2pt
- iii) Define Gestation and state the value for Goats 1pt

d) Animal Breeding

- i) Define the terms below
    - 1) Traits 1pt
    - 2) Genotype 1pt
    - 3) Phenotype 1pt
  - ii) Differentiate between diploid and haploid 1pt
  - (iii) Define Heritability 1pt
- e) Animal Health
- i) Name two Zoonotic diseases 1pt
  - ii) Suggest two ways of managing animal diseases 1pt
  - iii) Name the pathogen and the transmitter of Rift-Valley fever 1pt
  - iv) Give two non-Zoonotic diseases of livestock 1pt
  - v) Define Quarantine with respect to disease control 1pt
- f) General questions
- i) Give two symptoms associated with Rift valley fever 1pt
  - ii) What is missing in this Ration - Protein, Carbohydrates, Fats, Vitamins, Minerals 1pt
  - iii) Differentiate between breeding and reproduction 1pt
  - iv) Differentiate between a Ruminant and a non-ruminant 1pt
  - (v) What is docking and why is it important. 1pt

**Question two.**

Animal Breeding

- a) Briefly discuss three advantages of crossbreeding in dairy cattle 5pt
- b) You have been tasked with choosing between two Bulls in a crossbreeding programme for Meat production below.
  - i) System one: Bull A = 500kgs and Cow A is 400kgs
  - ii) System two: Bull B =470kgs and Cow B is 450kgs

If the average weight in this herd is 400kgs and heritability is 0.4, which system is more beneficial? 15pt

**Question three.**

Animal Reproduction

- a) You noticed that one of your animals in the farm is not ovulating, what would be the possible reasons? Give an explanation by highlighting the role of the two main hormones involved. 5pt
- b) In the University farm, it has been reported that there are too many deaths of calves, you have been called in to give advise, describe your opinion 5pt

c) You have been called to the animal farm of the company you work for to advise because a cow is unable to give birth, the calf seems to be stuck. Describe this condition and its causes 5pt

d) Discuss the chicken reproductive system 5pt

**Question four.**

Animal Health

a) Match correctly the animal reservoir to the zoonotic disease it carries

<b>Animal Reservoir</b>	<b>Disease</b>	
Bats	Rift valley Fever	1/2pt
Rodents	SIV, HIV	1/2pt
Wild Pigs	Nipah Virus	1/2pt
Monkeys	Rabies	1/2pt
Dogs	Hepatitis	1/2pt
	Ebola	

b) Illustrate with a diagram, the transmission cycle of the west Nile virus 6pt

c) Discuss three ways that predispose humans to Zoonotic diseases and differentiate between Brucellosis and Anthrax 8pt

d) In 2014 a zoonotic disease affected Liberia and west Africa and killed thousands of people, Name the disease and the mode of transmission 4pt

**Question five.**

Animal Nutrition and products

a) Explain the importance of Removable top Bar hives, Bee space in Hive construction giving the main products from the Hive 10pt

b) Name the labelled parts of the figure below and discuss the function of each part, including the role intestines in digestion 10pt

