



UNIVERSITY OF EMBU

2016/2017 ACADEMIC YEAR

SECOND SEMESTER EXAMINATION

**SECOND YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF
BACHELOR OF SCIENCE IN AGRICULTURE AND RANGE MANAGEMENT**

AAS 202: ANIMAL GENETIC RESOURCES

DATE: APRIL 10, 2017

TIME: 11:00AM-1:00PM

INSTRUCTIONS:

Answer Question ONE and ANY other TWO Questions

QUESTION ONE:

- a) Describe the following terms;
- i. Domestication of animals (1 Mark)
 - ii. Animal genetic diversity (1 Mark)
- b) Differentiate between
- i. Local breeds and trans boundary breeds (2 Marks)
 - ii. Extinct breeds and critical breeds (2 Marks)
- c) State the various ways by which archaeologists and animal geneticists employ to unravel the history of domestication. (4 Marks)
- d) Describe at least two examples of livestock diseases to which the animals have developed resistance due to selection over time. (2 Marks)
- e) Discuss the effect of services for breed improvement in pastoral production in relationship to animal genetic resources. (4 Marks)
- f) Describe the drivers of change in animal production and clearly show the strategies livestock producers may adopt in response to the changing conditions. (4 Marks)

g) Suppose you are to design a breeding programme for the livestock farmers in the county, what would you consider as important functions and requirements of that programme?

(4 Marks)

h) State some national and international stakeholders in Animal genetic resources.

(2 Marks)

i) Explain the following terms as used in descriptive measure of genetic parameters.

(4 Marks)

- i. Heritability
- ii. Repeatability
- iii. Phenotypic correlation
- iv. Genetic correlation
- v. Environmental correlation

QUESTION TWO:

Briefly discuss how molecular characterization is used as a tool to understand livestock origin and diversity clearly showing the merits and demerits of the various methods. (20 Marks)

QUESTION THREE:

Describe the factors that determine and influence gene flow in the history of Africa.

(20 Marks)

QUESTION FOUR:

Discuss the driving forces of animal genetic erosion and clearly give measures that can be put in place to lessen their effect on animal genetic diversity. (20 Marks)

QUESTION FIVE:

Discuss with illustrations ecosystem services provided by animal genetic diversity in Kenya.

(20 Marks)

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