JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF AGRICULTURAL AND FOOD SCIENCES

UNIVERSITY EXAMINATION FOR DEGREE OF BACHELOR OF SCIENCE IN FOOD SECURITY

SECOND YEAR SECOND SEMESTER 2013/2014 ACADEMIC YEAR

REGULAR

COURSE CODE: AAS 3223

COURSE TITLE:Animal Genetic Resources

EXAM VENUE:LR 3 **STREAM: BSc (Food Security)**

DATE:11/12/14 **EXAM SESSION: 9.00 – 11.00 AM**

TIME: 2.00 HOURS

Instructions:

1. **Answer ALL question in Section A (compulsory) and ANY TWO questions in Section B.**
2. **Candidates are advised not to write on the question paper.**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room.**

SECTION A [30 MARKS]

Answer ALL questions from this Section

1(a) Define the following terms:

i. Biological diversity. [1 mark]

ii. Agricultural biodiversity. [1 mark]

iii. Animal genetic resources. [1 mark]

(b) State and explain any three roles of livestock. [3 marks]

(c) i. Is Kenya a signatory to the UN Convention on Biological Diversity? [1 mark]

ii. If (c) 1. above is yes, indicate the year it became a signatory. [1 mark]

iii. When did the UN Convention on Biological Diversity come into effect? [1 mark]

(d) Explain the following terms in the context of management of animal genetic resources(AnGR):

i. Inventory; [1 mark]

ii. Characterization; and [1 mark]

iii. Monitoring of population trends. [1 mark]

(e) Agricultural biodiversity is a critical component of biodiversity? Explain. [3 marks]

(f) Outline the types of information used to construct phylogenetic scheme. [5 marks]

(g) Differentiate between *ex situin vivo*and *ex situin vitro* conservation methods. [2 marks]

(h) State six factors responsible for loss of animal genetic resources. [3 marks]

(i) How are the following livestock species classified in Kenya?

i. Cattle; and [3 marks]

ii. Sheep. [2 marks]

SECTION B[40 MARKS]

Answer ANY TWO questions from this Section.

2. (a) Discuss how the risk of extinction is determined in animal genetic resources. [13 marks]

(b)Risk status can be categorized into various classes. Outline the classes. [10 marks]

3. (a) Animal genetic resources are important multiple roles in many countries. Discuss the social, economic and cultural importance of livestock. [10 marks]

(b) Discuss the relationship between sustainable use and conservation of a breed. [10 marks]

1. (a) Explain the following terms in the context the context of AnGR.

i. A breed. [2 marks]

ii. Cryopreservation. [2 marks]

iii. Monitoring of population trends. [2 marks]

iv. Sustainable use and development of animal genetic resources. [2 marks]

v. Levels of diversity. [2 marks]

(b) Identify and discuss objectives of conservation. [10 marks]