



KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS 2015/2016 ACADEMIC YEAR FIRST YEAR SECOND SEMESTER MAIN EXAMINATION

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIORESOURCES
MANAGEMENT AND CONSERVATION**

COURSE CODE: SBC 122

**COURSE TITLE: PRINCIPLES OF RANGE AND FOREST
ECOLOGY**

DATE: 9TH MAY 2016

TIME: 9 – 11 AM

INSTRUCTIONS TO CANDIDATES

Answer Question one (1) and any other two (2) Questions. Question one is compulsory and carries 30 marks, the other Questions carry 20 marks each.

TIME: 2 Hours

This paper consists of 2 printed pages. Please Turn Over

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QUESTION ONE

- a) Define the following terms as used in range ecology
 - i) Carrying capacity(1 mark)
 - ii) Limiting factor(1 mark)
 - iii) Diversity(1 mark)
 - iv) Succession(1 mark)
 - v) range land(1 mark)
- b) State **three** main divisions of the Earth's habitable zones (3 marks)
- c) State **five** possible outcomes that occur when carrying capacity of a habitat is approached, reached or exceeded (5 marks)
- d) Explain how a forest stand can be improved (4marks)
- e) Describe **three** characteristics of a forest ecosystem (6 marks)
- f) (i) Define an ecological site (2 marks)

(ii) State five important ecological processes and environmental components of an ecological site description. (5 marks)

QUESTION TWO

- a) Describe grazing management systems (12 marks)
- b) State **four** reasons for fencing ranges (8 marks)

QUESTION THREE

Hardin's "tragedy of the commons" paradigm (Hardin 1968) has been extremely influential both in analysis and communal rangelands in Africa and the design of programs and projects attempting to improve levels of livestock production of the range

- a) Explain the tragedy of the commons (6 marks)
- b) Differentiate between common property and open access regimes (14 marks)

QUESTION FOUR

Discuss **four** natural laws or principles of operation that apply on range land management

(20 marks)

QUESTION FIVE

- a) State **five** terrestrial biomes **(5 marks)**
- b) Explain **five** factors affecting the distribution of organisms **(15 marks)**