



*(Knowledge for Development)*

# **KIBABII UNIVERSITY**

## **UNIVERSITY EXAMINATIONS 2017/2018 ACADEMIC YEAR**

### **FIRST YEAR SECOND SEMESTER SPECIAL/SUPPLEMENTARY EXAMINATIONS**

**FOR THE DEGREE OF BACHELOR OF SCIENCE BIOLOGY,  
BACHELOR OF SCIENCE BIORESOURCE MANGEMENT AND  
CONSERVATION, BACHELOR OF EDUCATION SCIENCE AND  
BACHELOR OF AGRICULTURAL BIOTECHNOLOGY**

**COURSE CODE:** SZL 123

**COURSE TITLE:** FUNDAMENTALS OF ECOLOGY

**DATE:** 5<sup>th</sup> October, 2018

**TIME:** 11:30 – 1:30 p.m.

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#### **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



KIBU observes ZERO tolerance to examination cheating

1.
  - a) Explain your understanding of the following terms i) Ecology ii) Ecosystem iii) Biome (3 marks)
  - b) Briefly describe how edaphic factors affect plant community distribution. (3 marks)
  - c) Explain why trees in Kakamega forest never invests more resources in below ground biomass. (2 marks)
  - d) Differentiate between allelopathy and symbiotic interactions. (2 marks)
  - e) Explain the 2<sup>nd</sup> law of thermodynamics in relation to trophic levels. (3 marks)
  - f) State the effects of herbivores on Nitrogen cycling in an ecosystem (3 marks)
  - g) Differentiate between fundamental niche and realized niche. (3 marks)
  - h) List demographic factors that influence population size. (4 marks)
  - i) State the ways by which man affects plant communities. (4 marks)
  - j) Explain why tundra biome remains waterlogged despite the low levels of precipitation. (3 marks)
2. Using illustrations, briefly describe hydrological and Nitrogen cycles. (20 marks)
3. Write an essay on east African terrestrial ecosystems. (20 marks).
4.
  - a) Briefly explain why tropical regions have high species diversity compared to temperate regions. (6 marks)
  - b) Giving examples, discuss three abiotic factors that determine distribution and abundance of plant communities. (14 marks)
5. Discuss species conservation in management in Kenya. (20 marks)