



MACHAKOS UNIVERSITY

University Examinations 2018/2019

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

FOURTH YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF EDUCATION (SCIENCE)

SZL 412: APPLIED ECOLOGY

DATE: 7/5/2019

TIME: 2.00-4.00 PM

INSTRUCTIONS

1. Answer Question 1 (compulsory) and **any two** questions in Section B.
2. Use clean well labelled diagrams wherever appropriate.

SECTION A

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Distinguish between bio-accumulation and bio-concentration (3 marks)
- b) Describe delineation of an agro-ecological zone (3 marks)
- c) Outline the effects of light pollution on aquatic life (3 marks)
- d) Describe *in-situ* conservation operations (3 marks)
- e) Illustrate the Push-Pull strategy in conservation agriculture (3 marks)
- f) Describe the formation of acid rain (3 marks)
- g) Describe how noise pollution can affect the reproductive potential of birds (3 marks)
- h) Outline the process of bio-magnification (3 marks)
- i) Describe how the use of DDT and Veterinary Diclophenac affect the birds of prey.
- j) Explain the advantages of zero tillage

SECTION B

QUESTIONS TWO (20 MARKS)

Describe the agro-ecological zones in Kenya

QUESTIONS THREE (20 MARKS)

Discuss the application of ecological principles in the control of stem borers and striga weed in western Kenya

QUESTIONS FOUR (20 MARKS)

Describe

- a) the process of desert formation (10 marks)
- b) mitigation measures against desert formation (10 marks)

QUESTIONS FIVE (20 MARKS)

Discuss

- a) five major environmental issues in Kenya (10 marks)
- b) possible solutions to these environmental issues (10 marks)