



BONDO UNIVERSITY COLLEGE
UNIVERSITY EXAMINATION 2012/2013
1ST YEAR 2ND SEMESTER EXAMINATION FOR THE
DEGREE OF BACHELOR OF EDUCATION SCIENCE
WITH IT (REGULAR)

COURSE CODE: SBT 104

TITLE: FUNDAMENTALS OF ECOLOGY

DATE: 29/11/2012

TIME: 12.00-14.00PM

DURATION: 2HOURS

INSTRUCTIONS:

- 1) Answer ALL questions in section A
- 2) Answer any TWO questions in section
- 3) Use illustrations where appropriate

Section A: 30 marks

Question 1

- a) Explain the relevance of allelopathy in ecosystem 3 marks
- b) Explain the significance of denitrification in agriculture and sewage treatments 2 marks
- c) Describe population density and distribution giving one advantage of each one of them 2 marks
- d) Briefly explain the influence of relative humidity on distribution of organisms 3 marks
- e) Explain the term biomagnification and give relevant examples 2 marks
- f) Differentiate the following terms; biome, ecosystem and community 3 marks
- g) Explain the ecological significance of eutrophication 2 marks
- h) Explain any one major disadvantage of asexual reproduction and an adaptation of a given species 2 marks
- i) Describe the role of carbon cycle and nitrogen cycle on greenhouse effect 5 marks
- j) Comment on the effect of light on plant species adaptation and distribution in terrestrial ecosystems 3 marks
- k) Describe the application of the two laws of thermodynamics in ecosystem concept 3 marks

Section B: 40 Marks

Question 2

- (a) Discuss ex-situ conservation highlighting its major shortcomings 10 marks
- (b) Explain logistic population growth model and exponential growth model giving relevance of each 10 marks

Question 3

- (a) Citing any three relevant examples explain the concept of mutualism 5 marks
- (b) As an ecology student discuss the criteria you can use to determine what to include in your conservation program 10 marks
- (c) Using well labeled diagrams, explain the concept of survivorship curves and life tables 5 marks

Question 4

Discuss the role of biological variations in species adaptation to different ecosystems
20 marks