



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF SPATIAL PLANNING AND NATURAL RESOURCE MANAGEMENT
UNIVERSITY EXAMINATION FOR DEGREE OF BACHELOR OF ARTS IN
SPATIAL PLANNING**

2ND YEAR 1ST SEMESTER 2013/2014 ACADEMIC YEAR

REGULAR

COURSE CODE: PES 3215

COURSE TITLE: ELEMENTS & PRINCIPLES OF BIOLOGICAL ENVIRONMENT

EXAM VENUE: LR 6

STREAM: Spatial Planning)

DATE: 17/04/14

EXAM SESSION: 9.00 – 11.00 AM

TIME: 2.00 HOURS

Instructions:

- 1. Answer question 1(Compulsory) and ANY other 2 questions**
- 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.**

Question One

- a) Discuss with relevant examples ways of controlling environmental pollution (9 marks)
- b) By way of examples, illustrate the uses to which environmental indicators can be put (10 marks)
- c) Elaborate on the concept of double dividends of eco-taxes (4 marks)
- d) Distinguish between ecological disturbance and habitat fragmentation (4 marks)
- e) Elaborate on the characteristics of an environmental permit (3 marks)

Question Two

- a) Discuss the various types of biodiversity (8 marks)
- b) Explain the ways in which we lose biodiversity? (8 marks)
- c) Discuss with relevant examples the consequences of biodiversity loss (4 marks)

Question Three

- a) Discuss any four interactions between species and populations (8 marks)
- b) For each of the interaction you have discussed above, illustrate how the concept can be used in planning (8 marks)
- c) Elaborate on the factors that promote species co-existence (4 marks)

Question Four

- a) Explain what you understand by sustainable development? (2 marks)
- b) With the help of a schematic diagram, discuss the concept of sustainable development (14 marks)
- c) Discuss the ways in which a sustainable environment can be achieved. (4 marks)

Question Five

- a) The amount levied as ecotaxes can sometimes be unfair to the tax payers. Discuss (6 marks)
- b) Discuss what you understand by ecosystem services (8 marks)
- c) Discuss the approaches through which environmental sustainability can be achieved. (6 marks)