JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY

SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES

UNIVERSITY EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE IN PLANT ECOLOGY

1ST YEAR 2nd SEMESTER 2016/2017 ACADEMIC YEAR

MAIN CAMPUS - REGULAR

COURSE CODE: **SBT 804**

COURSE TITLE: **APPLIED ECOLOGY**

EXAM VENUE: **STREAM: (MSC)**

DATE: **EXAM SESSION:**

TIME: 3 HOURS

Instructions:

1. **Attempt ALL questions in Section A and Any two questions in Section B**
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**

SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)

1. a) Explain the differences between integrated and individualistic hypothesis of community structure. (4 marks)
   b) Give an account of food chain and food web in a named ecosystem. (6 marks)
   c) Citing relevant examples, explain why species richness generally declines along an equatorial-polar gradient. (4 marks)
   d) Describe the driving forces in island population density. (6 marks)

   e) Explain evolution of modern plants. (10 marks)

SECTION B: ANSWER ANY TWO QUESTIONS (30 MARKS)

2. Ecosystem function defines the biological, geochemical and physical processes and components that take place or occur within an ecosystem. Discuss. (15 marks)
3. Write an essay on plant succession. (15 marks)
4. "Energy flows while nutrient cycles in ecosystems". Using diagrams, discuss this statement. (15 marks)
5. Write an essay on population growth, regulation and dispersion patterns. (15 marks)