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 FIRST SEMESTER 2016/2017 ACADEMIC YEAR

MAIN CAMPUS - REGULAR

COURSE CODE:	**SBT 817**
COURSE TITLE:	**LIMNOLOGY**
EXAM VENUE:	**STREAM: (MSC)**
DATE:	**EXAM SESSION:**
TIME: 3 HOURS	

Instructions:

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

2. **Candidates are advised not to write on 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)

Q1
a) State the importance of hypoxia and anoxia in a Lake. (1 mark)
b) Describe processes that are responsible for the diffusion of dissolved substances in lakes?
(5 marks)
c) Discuss the biogeochemical cycling of nitrogen in a lake. (5 marks)

d) Discuss the factors control the concentration of oxygen at various depths in a lake.

(4 marks)

e) Using diagrams, describe processes involved in Oxygen depth curves. (6 marks)

f) Describe three biological features that make planktons successful organisms (3 marks)
a) Briefly describe aquatic environment based on the nature of habitat (4 marks)
b) Explain the factors that that determine the nature of Lake bottom. (2 marks)

SECTION B: ESSAY (30 MARKS)

Q2. Discuss how the mode of Lakes origin influences their ecological characteristics.
(15 marks)

Q3. Describe the annual cycle of temperature stratification in a deep lake located in a continental temperate climate. 15 marks)

Q4. A)Discuss Trophic relationship in fresh water organisms. (9 marks)

B) Compare the net primary productivity at various depth between morning, noon, and afternoon in a shallow, eutrophic lake. (6 points)

Q5. A)Describe two density dependent and two density independent controls on stream organisms. (10 marks)
B)Give an example of how you would test to see which type of control (density dependent versus density independent) was most important. (5 marks)