



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY**

**SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES**

**UNIVERSITY SPECIAL EXAMINATION FOR THE DEGREE OF BACHELOR  
SCIENCE IN BIOLOGICAL SCIENCES**

**4<sup>th</sup> YEAR 2<sup>nd</sup> SEMESTER 2017/2018 ACADEMIC YEAR**

**MAIN CAMPUS - REGULAR**

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**COURSE CODE: SBI 3428**  
**COURSE TITLE: Limnology and Marine Biology**  
**EXAM VENUE: STREAM: (BSC BIO)**  
**DATE: EXAM SESSION:**  
**TIME: 2 HOURS**

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**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**
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**SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)**

1. Using a diagram, explain waves in a lake. (3 marks)
2. Explain Lindemans trophic dynamics of energy flow. (3 marks)
3. Explain three types of thermal stratification in a lake. (3 marks)
4. List three reasons to explain the importance of studying marine biology. (3 marks)
5. Explain why coral reefs are mainly found in the Indian and Pacific oceans. (3 marks).
6. List three pressing issues in marine conservation. (3 marks)
7. Using examples, explain how animals are adapted to survive in Lake Nakuru.(3 marks)
8. Describe thermal properties of rivers. (3 marks)
9. List the three major factors that determine the nature of lake bottom
10. Based on morphology, explain three types of streams. (3 marks)

**SECTION B: ESSAY QUESTIONS (40 MARKS)**

11. Write an essay on phytoplanktons and littoral zone communities in a lake. (20 marks)
12. (a)Discuss human impacts on marine ecosystems (10 marks)  
(b) Discuss climate change and how it affects marine organisms (10 marks)
13. Write an essay on marine biota. (20 marks)
14. Using relevant examples, describe origin and distribution of lake basins. (20 marks)