



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY
SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES
DEPARTMENT OF BIOLOGICAL SCIENCES
4th YEAR SECOND SEMESTER 2016/2017 ACADEMIC YEAR UNIVERSITY
EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCATION (SCIENCE)
WITH IT
REGULAR

COURSE CODE: SZL 404
COURSE TITLE: MARINE BIOLOGY AND OCEANOGRAPHY
EXAM VENUE: STREAM: (BED. SC.)
DATE: EXAM SESSION:
TIME: 2 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**
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SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)

1. List three reasons to explain the importance studying marine biology course for all fourth year Bachelor of Education (Science) students at JOOUST. (3 marks)
2. Briefly describe salt cycle in the ocean (3 marks)
3. Briefly explain how organisms in photic zone obtain oxygen yet cold water is denser and hold more oxygen. (3 marks)
4. Describe your understanding of global conveyor belt. (3 marks)
5. Explain the importance of geology in the study of oceanography (3 marks)
6. Oceans cover 71% of the earth, and affect climate and weather patterns. Briefly explain this statement. (3 marks)
7. Briefly explain why coral reefs are mainly found in the Indian and Pacific oceans (2 marks).
8. Using diagram categorize estuaries based on water circulation modes. (4 marks)
9. Briefly describe marine heat budget (3 marks)
10. Briefly explain the formation of the following oceanic features: a)Beaches b)Trenches c) Ridges. (3 marks)

SECTION B: ESSAY (40 MARKS)

11. (A) Discuss the origin of oceans. (10 marks)
(B) Citing relevant examples, discuss adaptation of organisms in deep ocean. (10 marks)
12. Classify and describe marine habitat biota. (20 marks).
13. (A) Using a well labeled diagram, describe vertical and horizontal Zonation in oceans (10 marks)
(B) Describe physical and chemical properties of the ocean (10 marks)
14. (A)Describe human impacts on marine ecosystems (10 marks)
(B) Oceans are the major carbon sink and influence global weather patterns. Discuss. (10 marks)