



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND
TECHNOLOGY
SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF
EDUCATION (SCIENCE)
1ST YEAR 2ND SEMESTER 2013/2014 ACADEMIC YEAR
REGULAR**

COURSE CODE: SZL 102/SBI 3122

COURSE TITLE: CELVERTEBRATE ZOOLOGYL

EXAM VENUE:LAB 1

STREAM: (BSc. Science)

DATE: 12/8/14

EXAM SESSION: 9.00 – 11.00AM

TIME: 2 HOURS

Instructions:

- 1. Answer question 1 (compulsory) in Section A and any other 2 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 (30 marks)

1. List any six characteristics of primates. (3 marks)
2. Using frogs as an example, describe reproduction among amphibians. (3 marks)
3. Hagfishes are classified as craniates, but not as vertebrates, explain. (3 marks)
4. Explain the different aspects and strategies of respiration in the salamanders. (3 marks)
5. State any three characteristics that distinguish urochordatas from cephalochordates?
(3 marks)
6. With specific examples, explain three anatomical modifications that enhance flight among birds.
(3 marks)
7. Explain the two embryonic fates of the notochord among chordates. (3 marks)
8. Two students from JOOUST were arguing about dinosaurs, with the first student claiming that they were endothermic while the second student claimed that this argument must be inaccurate. With supporting evidence, whom do you believe between the two students? (3 marks)
9. Explain the two theories that describe the origin of *Homo sapiens*. (3 marks)
10. State three functions of eccrine sweat glands among chordates. (3 marks)

SECTION B (40 marks)

11. Fully discuss the adaptations seen in fish that are active swimmers in an open ocean.
(20 marks)
12. Describe vertebrate body plan and tissues. (20 marks)
13. Giving specific examples, discuss the adaptations that took place in the transition from aquatic fish to terrestrial tetrapod. (20 marks)
14. With specific examples, describe any five theories that explain evolution of chordates.
(20 marks)