



# KENYATTA UNIVERSITY

## UNIVERSITY EXAMINATIONS 2011/2012

### SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE

#### SZH 201: COMPARATIVE VERTEBRATE PHYSIOLOGY

**DATE:** Tuesday 27<sup>th</sup> March, 2012

**TIME:** 4.30 p.m. – 6.30 p.m.

---

#### INSTRUCTIONS

*Answer ALL questions from Section A and ONE question from Section B. Within a section all questions carry equal marks. Illustrate your answers with diagrams and give examples whenever appropriate.*

#### SECTION A

*Answer ALL questions (40 marks)*

1. Describe briefly adaptive hypothermia in birds.
2. Outline the roles of rumen microorganisms.
3. State the respiratory adaptations of mammals to high altitude.
4. Outline factors that lead to migration in fish.
5. Describe briefly feeding rhythms in vertebrates.
6. Explain the cardiovascular changes that occur during diving in mammals.
7. Outline the functions of the head gut of vertebrates.
8. Explain the significance of diapause in fish.

#### SECTION B (30 MARKS)

*Answer any ONE question.*

9. Discuss the mechanisms of temperature regulation in domestic vertebrates.
10. Describe in detail gaseous exchange in fish.
11. Give a comparative account of osmoregulation in freshwater and marine bony fish.

.....