



KENYATTA UNIVERSITY
UNIVERSITY EXAMINATIONS 2011/2012

**IBP DECEMBER 2011 SESSION EXAMINATION FOR THE DEGREE OF
BACHELOR OF EDUCATION**

SZL 202: COMPARATIVE PHYSIOLOGY

DATE: Thursday 3rd May 2012

TIME: 8.00 a.m. – 10.00 a.m.

INSTRUCTIONS:

Answer all questions in Section A and any ONE question in Section B.

Within a section all questions carry equal marks.

Illustrate your answers with diagrams and give examples where appropriate

SECTION A

Answer ALL questions (40 marks)

1. Draw a well labeled diagram of the structure of a multipolar neuron.
2. Describe briefly the mechanism of sexual reproduction in birds.
3. Outline the differences between cephalopod mollusc and vertebrate eyes.
4. Describe briefly protein digestion in the stomach of vertebrates.
5. Compare the mechanisms of gaseous exchange in tortoises and crocodiles.

5. The following data was recorded by a student after carrying out an experiment on respiration in fish.

Temperature ($^{\circ}\text{C}$)	Average opercular movements/minute
10	21
20	79
25	90
30	94
35	90

- (a) State one objective for the investigation.
 - (b) Plot a respiration-temperature graph.
 - (c) Interpret the results of the investigation.
7. State the functions of five mechanoreceptors of invertebrates.
8. Describe briefly behavioural mechanisms of thermoregulation in mammals under cold environmental conditions.

SECTION B: (30 MARKS)

Answer any ONE question.

9. Describe in detail feeding mechanisms of microphagous invertebrates.
10. Discuss the regulation of the cardiovascular system in mammals.
11. Give a detailed account of osmoregulation in terrestrial animals.

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