



BONDO UNIVERSITY COLLEGE
UNIVERSITY EXAMINATION 2012/2013

3RD YEAR 2ND SEMESTER EXAMINATION FOR THE
DEGREE OF BACHELOR OF EDUCATION SCIENCE WITH IT
(REGULAR)

COURSE CODE: SZL 304

TITLE: COMPARATIVE PHYSIOLOGY

DATE: 30/11/2012

TIME: 11.00-14.00PM

DURATION: 2HOURS

INSTRUCTIONS

- 1) This paper contains sections.**
- 2) Answer ALL questions in section A and ANY other TWO [2] questions in section B .**
- 3) Write ALL answers in the booklet provided.**

SECTION A: Each question is three marks

1. Differentiate between the following terms
 - a) Catabolism and anabolism
 - b) Endotherms and ectotherms
 - c) Eosinophils and basophils
2. Illustrate schematically how the principle of negative feedback mechanism works in mammals.
3. Give a detailed breakdown and functions of the carbohydrates required by the mammalian body.
4.
 - a) List the three formed elements of the blood, giving examples of each.
 - b) Explain the basal metabolic rate (BMR)
5. List and briefly describe the factors affecting cardiac output.
6. Present a schematic outline of the components of mammalian nervous coordinating system.
7. List and briefly describe the three (3) categories of neurons.
8. Explain any three (3) adaptations of desert mammals to water scarcity.
9. Identify and briefly describe the three tissue layers of the skin.
10. Explain the meaning of the following terms:
 - a) Myofibrils
 - b) Smooth muscles
 - c) Striated muscles
 - d) Nephron
 - e) Neuron
 - f) Fibrinogen

SECTION B: (40 Marks).

11. The digestive system is organized to perform certain processes. Discuss these processes in detail and give their functions. (20 marks)

12. What are the special senses in mammals? Discuss the functional mode of any two (2) special senses in mammals. (20 marks)

13. How is carbon dioxide transported in the mammalian body? State the role(s) of haemoglobin in material transport. (20 marks)

14. Discuss in detail the three stages of the process of urine formation. (20 marks)