



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

COURSE CODE: SBI 3212

COURSE TITLE: INTRODUCTION TO ANIMAL PHYSIOLOGY

EXAM VENUE: CR

STREAM: (Biological Sciences)

DATE: 22/04/14

EXAM SESSION: 9.00 – 11.00 AM

TIME: 2.00 HOURS

Instructions:

- 1. Answer ALL Questions 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 – Answer All Questions

1. Define homeostasis, and mention any three components of body fluids which must be maintained in a relatively constant state. (3 marks)
2. Differentiate between a tissue and a system (3 marks)
3. Skeletal and cardiac muscle cells when viewed under light microscope show cross striations in the form of alternating light and dark bands. Give the components of these bands. (3 marks)
4. Explain the role of lungs in acid-base balance. (3 marks)
5. Outline three functions of proteins in mammalian body. (3 marks)
6. Describe briefly the defecation reflex. (3 marks)
7. Define the following
 - a. Tidal volume (3 marks)
 - b. Minute ventilation.
 - c. Respiratory frequency. (3 marks)
8. Distinguish between luminal phase digestion and membranous phase digestion, and give examples. (3 marks)
9. Carbohydrates fall into two major groups: sugars and non-sugars. Differentiate between the two, and give examples. (3 marks)
10. Give three functions of minerals in the animal's body. (3 marks)

Section B – Choose 2 Questions

11. Describe the general functions of blood. (20 marks)
12. Give an account of the process of contraction in skeletal muscle. (20 marks)
13.
 - a. Outline four ways in which animals increase heat production in their bodies.(4 marks)
 - b. Name four secretions produced along the digestive tract of mammals. (4 marks)
 - c. Discuss the digestion of protein in the simple stomach and small intestine.(12 marks)
14.
 - a. Describe the process of gaseous exchange between alveoli and blood. (10 marks)
 - b. Explain in detail the processes of inhalation and exhalation. (10 marks)