



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2010/2011

FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF
SCIENCE

SZH 103: ANIMAL PHYSIOLOGY

DATE: Thursday, 25th November, 2010

TIME: 11.00 a.m. – 1.00 p.m.

INSTRUCTIONS:

Answer ALL questions from Section A and any 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: 40 MARKS

Answer ALL the questions.

1. Explain the difference between passive and active transport through the cell membrane.
2. Explain how the three possible tonicity states of extracellular fluid (ECF) affect intracellular fluid (ICF).
3. Define homeostasis and state why it is important for the life of an animal.
4. Explain the difference between ruminants and rabbits as regards their digestive symbiotic relationship with microorganisms.

5. Define pleural pressure, alveolar pressure and trans-pulmonary pressure and state how they relate to enhance breathing in animals.
6. With the help of a labeled diagram, explain laminar and turbulent blood flow through arteries of a vertebrate.
7. Glomerular filtrate is modified as it passes through the renal tubules. What processes are involved in this modification and what is the importance of this modification?
8. What is the role of follicle stimulating hormone (FSH), luteinizing hormone (LH) and gonadotroin releasing hormone (GnRH) in the ovarian cycle of the female mammal?

SECTION B: 30 MARKS

9. Write a detailed account on sodium-potassium pump and generation of nerve “action potential” for transmission of nervous impulses in animals.
10. Discuss how the lymphatic system is associated with microcirculation, interstitial fluid, blood circulation, digested fats and vitamins in animals.
11. Explain in details the unique factors that ensure adequate blood flow through the lungs for adequate blood oxygenation and efficient transport of oxygen to the tissue cells.