

**UNIVERSITY OF BUEA  
FACULTY OF SCIENCE**

**FIRST SEMESTER EXAMINATIONS FOR 2008/2008 SESSION**

**DEPARTMENT:** PAS

**COURSE INSTRUCTORS:** Salah, Fokam Sumbele

**MONTH:** JULY 2010

**COURSE CODE:** ZOO 308

**DATE:** 01/07/10

**COURSE TITLE:** Comparative Vertebrate Physiology

**TIME ALLOWED:** 3 Hourse

**DURATION:** 15-18hrs

**INSTRUCTIONS:** Answer all the two Questions

**SECTION A**

- (1) Sketch a curve representing an action potential of a nerve cell. **(5 marks)**
  - (2) Describe the mechanism of action of hormones. **(5 marks)**
  - (3) Using graphs only, indicates the hormonal variation during the menstrual cycle. **(5 marks)**
  - (4) Describe the auditory transduction in the organ of corti and vestibular transduction in angular acceleration. **(5 marks)**
- (Total: 20 Marks)**

**SECTION B**

**INSTRUCTIONS: GIVE CONCISE ANSWERS TO ALL QUESTIONS**

1. Briefly propose a comparison (tabular manner) in the constitution of blood, plasma and serum. **(4 marks)**
2. In a diagrammatic manner (flow chart), outline haematopoeisis from a single stem cell. (Be precise on maturation pathways). **(4 marks)**
3. Define the following terms in relation to the heart: **(2 marks)**
  - i. Systole:
  - ii. Diastole:
4. Using labels on structures concerned, explain how mammalian prevent back flow of blood in: **(3 marks)**
  - i. The heart:
  - ii. Major Arteries:
  - iii. Veins
5. On a mammalian heart, show the pacemaker, and explain how the arrangement allows the contraction of the heart to begin at the apex. **(4 marks)**
6. Explain the exchange of gases in the lungs and in the tissues respectively. **(4 marks)**
7. How is transport of oxygen in the blood different from that of carbon dioxide? **(5 marks)**

**(Total: 25 Marks)**

**SECTION C**

- (a) With examples, clearly distinguish between:
  - (1) Intracellular and extracellular digestion **(2 Marks)**
  - (ii) Ruminantion and coprophagy **(2 Marks)**
- (b) How is food intake regulated in vertebrates? **(3 Marks)**
- (c) Give the importance of iodine and fluorine as trace elements **(3 Marks)**
- (d) Using an annotated diagram of the functional unit of the kidney only, give the functions of the different structures and the processes that occur in them **(7 Marks)**
- (e) Outline the factors responsible for urine concentration in birds and mammals **(3 Marks)**

**(Total 25 Marks)**

**Grand Total: 70 Marks**

.....**Good Luck**.....