

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

THIRD YEAR EXAMINATION FOR THE AWARD OF DEGREE
OF BACHELOR OF SCIENCE IN WILDLIFE AND ENTERPRISE
MANAGEMENT

WIEM 312: COMPARATIVE VERTEBRATE PHYSIOLOGY

STREAMS: BSC (WIEM) Y3S1

TIME: 2 HOURS

DAY/DATE: TUESDAY 05/12/2017

11.30 A.M. – 1.30 P.M.

INSTRUCTIONS:

SECTION A: ANSWER ALL QUESTIONS (30 MARKS)

- Q1. (a) With the use of a diagram, show the distribution of water in the body fluid compartment. [3 marks]
- (b) Briefly discuss the 2 types of homeostatic regulatory mechanisms. [4 marks]
- Q2. (a) State the four (4) basic cell functions. [2 marks]
- (b) List three types of muscular tissue. [3 marks]
- Q3. (a) Using relevant examples, explain the difference between exocrine and endocrine glands. [4 marks]
- (b) Explain the role of endocrine communication in vertebrates. [4 marks]
- Q4. (a) Explain the term bioenergetics. [2 marks]
- (b) Describe the conditions and biological process that transform chemicals to energy in an vertebrate organism. [4 marks]
- Q5. Describe the role of electrolyte in organisms physiology. [4 marks]

SECTION B: ANSWER TWO (2) QUESTIONS ONLY (40 MARKS)

- Q6. Discuss the physiological and functional adaptations in the circulatory systems of mammals. [20 marks]
- Q7. Discuss in details the water and salt regulation in mammals. [20 marks]
- Q8. Discuss the influence of environmental factors on the physiology of vertebrates. [20 marks]