



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

P.O. Box 62157
00200 Nairobi - KENYA
Telephone: 891601-6
Fax: 254-20-891084
E-mail: academics@cuea.edu

MAIN EXAMINATION

JANUARY – APRIL 2017 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF BIOLOGY

REGULAR PROGRAMME

BIO 204: ANIMAL ANATOMY AND PHYSIOLOGY

Date: April 2017

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any other TWO Questions

- Q1. a) Define the following terms and give one importance in each
- i) Homeostasis (2 marks)
 - ii) Osmoregulation (2 marks)
- b) Describe conduction system of the heart (5 marks)
- c) Explain the role played by each of these effectors in regulating core body temperature.
- i) dermal blood vessels (2 marks)
 - ii) endocrine glands (2 marks)
 - iii) sweat glands (2 marks)
- d) Demonstrate the importance of hormones in female reproductive cycle. (6 marks)
- e) Briefly explain the role of rennin-angiotensin system in regulating blood pressure and volume (9 marks)
- Q2. a) Describe the physiology of skeletal muscle contraction (12marks)
- b) Relate the anatomy of the digestive system of a chicken to its physiology (8 marks)

- Q3. Describe the processes involved in urine formation, where each occurs and the substances involved **(20 marks)**
- Q4. Discuss the factors that affect the sperm's potential for successfully fertilizing the egg **(20 marks)**
- Q5. Explain how each of the following factors influence the cardiac cycle
- i. Parasympathetic nerves
 - ii. Sympathetic nerves
 - iii. Cardiac control center
 - iv. Body temperature
 - v. Potassium ions and Calcium ions
- (20 marks)**

END