



(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS 2017/2018 ACADEMIC YEAR

SECOND YEAR SECOND SEMESTER SPECIAL/SUPPLEMENTARY EXAMINATION

**FOR THE DEGREE OF BACHELOR OF SCIENCE BIORESOURCE
MANAGEMENT AND CONSERVATION**

COURSE CODE: SZL 416

COURSE TITLE: ENVIRONMENTAL PHYSIOLOGY

DATE: 3/10/2018

TIME: 8:00 – 10:00 A.M.

INSTRUCTIONS TO CANDIDATES

Answer Question one (1) and any other two (2) Questions. Question one is compulsory and carries 30 marks, the other Questions carry 20 marks each.

TIME: 2 Hours

This paper consists of 2 printed pages. Please Turn Over 
KIBU observes ZERO tolerance to examination cheating

1. a) State THREE possible causes of limits to aerobic metabolism. (3 marks)
- b) Explain two mechanisms for concentrating exudate among birds. (4 marks)
- c) Outline THREE aspects of integrative physiology. (3 marks)
- d) List THREE major nitrogenous waste products existing among vertebrates. (3 marks)
- e) Explain how adaptation may lead to speciation. (5 marks)
- f) Explain the osmoregulatory problems faced by animals in freshwater environments. (4 marks)
- g) Explain briefly how rapid changes in precipitation patterns affect wildlife physiology. (5 marks)
- h) Outline THREE heat dissipating mechanism among terrestrial vertebrates. (3 marks)
2. a) Describe how desert animals are adapted to conserve water in their bodies. (10 marks)
- b) Explain FOUR mechanisms of ventilation in amphibians. (10 marks)
3. a) Discuss the mechanisms through which freezing damages tissues and causes cell death. (10 marks)
- b) Write an essay on how polar animals are adapted to survive in extreme cold conditions. (10 marks)
4. a) Describe the respiratory changes that occur with increase in altitude among human beings. (10 marks)
- b) Discuss the reasons behind the seasonal migrations of wildebeests between the Maasai Mara and Serengeti ecosystems. (10 marks)
5. a) Describe FOUR types of respiratory pigments. (10 marks)
- b) Write an essay on human activities affect physiology of boreal animals, citing specific examples. (10 marks)