



(Knowledge for Development)

KIBABII UNIVERSITY
UNIVERSITY EXAMINATIONS
2015/2016 ACADEMIC YEAR

SECOND YEAR FIRST SEMESTER
SPECIAL/SUPPLEMENTARY EXAMINATION

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

COURSE CODE: SZL 314
COURSE TITLE: EVOLUTIONARY BIOLOGY

DATE: 14/09/2017

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

QUESTION 1

- a) Define each of the following: (3 marks)
 - I. Organic evolution
 - II. Speciation
 - III. Genetic drift
 - b) Explain the main differences between metamorphosis and evolution. (3 marks)
 - c) Differentiate parapatric and sympatric speciation mechanisms. (3 marks)
 - d) Explain the role of evolution in criminal and forensic science. (3 marks)
 - e) Archaeopteryx, a fossil found in Germany had both reptilian and avian characteristics. State three reptilian and three avian characteristics that were observed. (3 marks)
 - f) Why is evolution sometimes slow and sometimes fast? (3 marks)
 - g) Discuss evolutionary constraints and the role they play in evolution. (3 marks)
 - h) Briefly describe how inbreeding affects genetic diversity and fitness of animals in captivity (3 marks)
 - i) Explain any three factors that affect the process of host-pathogen co-evolution. (3 marks)
 - j) Explain any three principles that govern evolution of genes at the molecular level. (3 marks)
2. Write a brief essay on the role of each of the following in developing evolutionary ideas: (20 marks)
- a) Gregor Mendel
 - b) Charles Darwin
 - c) Carolus Linnaeus
3. Discuss any five evidences of organic evolution. (20 marks)
4. Describe characteristics in human evolution that enable them occupy the highest branch in evolution. (20 marks)
5. Using relevant examples discuss natural selection in action. (20 marks)