



KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS

2017/2018 ACADEMIC YEAR

THIRD YEAR FIRST SEMESTER

SPECIAL/SUPPLEMENTARY EXAMINATION

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

COURSE CODE: SZL 314

COURSE TITLE: EVOLUTIONARY BIOLOGY

DATE: 5th October, 2018

TIME: 3:00 -5:00 p.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) Differentiate between: (3 marks)
 - I. Gene and allele
 - II. Homozygous and heterozygous
 - III. Population and community
 - b) Explain briefly the application of evolution in conservation of biodiversity. (3 marks)
 - c) Discuss three tenets/principles of modern evolutionary theory. (3 marks)
 - d) Discuss three significant roles of evolution in public health and diagnostics. (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) Discuss evolutionary constraints and the role they play in evolution. (3 marks)
 - g) Differentiate parapatric and sympatric mechanisms of evolution. (3 marks)
 - h) Discuss insights offered by fossil records in Evolutionary Biology. (3 marks)
 - i) Explain the main differences between metamorphosis and evolution. (3 marks)
 - j) Explain the difference between evolution of biological entities and evolution of human culture. (3 marks)
2. Discuss main similarities and differences between Lamarckian and Darwinian mechanisms of evolution. (20 marks)
3. Discuss theories explaining the origin of life on earth. (20 marks)
4. a) Describe the evolution of human being to the present. (10 marks)
b) Discuss ways/methods humans have employed to conserve animal species. (10 marks)
5. Using relevant examples discuss natural selection in action. (20 marks)