



(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS 2017/2018 ACADEMIC YEAR

THIRD YEAR FIRST SEMESTER SPECIAL/SUPPLEMENTARY EXAMINATION

**FOR THE DEGREE OF BACHELOR OF SCIENCE AGRICULTURE,
EDUCATION SCIENCE, BIO AND BBC**

COURSE CODE: SZL 313

COURSE TITLE: ANIMAL GENETICS AND EVOLUTION

DATE: 4/10/2018

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. Define the following terminologies (30 marks)
 - i) Natural Selection
 - ii) Gene pool
 - iii) Mendelism
 - iv) Evolution
 - v) Founder Effect
2. Describe the processes of speciation. Include in your discussion the factors that may contribute to the maintenance of genetic isolation. (20 marks)
3. Discuss Mendel's laws of segregation and independent assortment. Explain how the events of meiosis I account for the observations that led Mendel to formulate these laws. (20 marks)
4. Evolution is one of the major unifying concepts of modern biology. (20 marks)
 - a) Explain the mechanisms that lead to evolutionary change.
 - b) Describe how scientists use each of the following as evidence for evolution.
 - i) Bacterial resistance to antibiotics
 - ii) Comparative biochemistry
 - iii) The fossil record
5. Genetic variation is the raw material for evolution; (20 marks)
 - a) Describe three mechanisms that introduce variation into the gene pool of animal population.
 - b) Explain the evolutionary mechanisms that can change the composition of the gene pool.