



MACHAKOS UNIVERSITY

University Examinations 2016/2017

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

**THIRD YEAR FIRST SEMESTER EXAMINATION FOR BACHELOR OF SCIENCE
(BIOLOGY)**

SZL 304 EVOLUTIONARY BIOLOGY

DATE: 28/8/2017

TIME:

INSTRUCTIONS

Answer Question One and Any Other Two Questions

SECTION A –COMPULSORY: (30 MARKS)

1.
 - a) Briefly explain how speciation occurs (3 marks)
 - b) Explain the meaning of co-evolution (3 marks)
 - c) List 3 factors that influence a population's gene pool (3 marks)
 - d) Explain how migration results in evolution (3 marks)
 - e) Briefly explain the term artificial selection (3 marks)
 - f) Discuss the following phrase "giraffes' necks became longer from stretching to reach higher heights for food." (3 marks)
 - g) Outline the limitations of fossils as evidence of evolution (3 marks)
 - h) Using a suitable example explain the term homologous structures (3 marks)
 - i) Outline 3 features of the special creation theory (3 marks)
 - j) Explain the term population genetics (3 marks)

SECTION B: (40 MARKS) ANSWER ANY TWO QUESTIONS

2. Describe the Hardy Weinberge assumptions in relation to the features of a natural Population. (20 marks)
3.
 - a) Discuss the main elements of natural selection according to Charles Darwin (10 marks)
 - b) Using appropriate examples explain stabilizing and disruptive selection (10 marks)
4.
 - a) Explain the theory of chemical evolution (16 marks)
 - b) Describe microevolution (4 marks)
5.
 - a) Discuss the study of the peppered moth in evolution (10 marks)
 - b) Discuss the evidence of evolution (10 marks)