KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2007/2008

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE

SZL 413: POPULATION GENETICS

DATE: Friday, 20th June, 2008 TIME: 11.00 a.m. – 1.00 p.m.

INSTRUCTIONS:

Answer **ALL** questions from Section A and any **ONE** question from Section B. Within a Section **ALL** questions carry equal marks. Illustrate your answers with diagrams and give examples where appropriate.

SECTION A:

Answer **ALL** questions (5 marks each).

1. Describe hybrid formation and its benefits.

2. Explain the concept of divergent evolution.

3. Explain how Mendel's experiments differed from those of others who had studied genetics.

4. Explain an experiment that can determine whether an organism showing a dorminant trait is homozygous or heterozygous.

5. Describe sex – linked traits citing two examples.

6. Describe how a single species may become two species.

7. Explain the following terms:
   a) Segregation
   b) Selection
   c) Heterozygous
   d) Species
   e) Mutation

8. Differentiate between individual adaptation and population adaptation citing examples respectively.

SECTION B:

Answer any **ONE** question.

9. Discuss the factors that change gene frequencies in a population.

10. Give an account of the role of sexual reproduction in evolution.

****