KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2007/2008

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE

SZL 206: PRINCIPLES OF MOLECULAR GENETICS

DATE: Wednesday, 18th June, 2008 TIME: 8.00 a.m. – 10.00 a.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 wherever appropriate.

SECTION A: (40 MARKS)

Answer **ALL** questions

1. Explain the modern concept of gene functions.

2. Distinguish pyrimidines from purines and give examples.

3. Describe the classical genetic theory explanation of the transmission of traits.

4. Describe point mutations

5. Explain the mechanism of inheritance of repetitive DNA.

6. Describe the mechanism of translation in the lac operon.

7. Briefly describe the effects of steroids on gene expression.

8. Explain why viruses are mobile genetic units.

SECTION B:

Answer any **ONE** question.

9. Compare and contrast the recombinant production of humulin with the cellurar synthesis of insulin.

10. Discuss the causes and detection of haemoglobinopathies.

11. "Deciphering the mosquito genemo is a breakthrough for public health". Discuss the statement.