



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE AND BACHELOR OF EDUCATION (SCIENCE)

SZL 303: BIOSTATISTICS

DATE: Tuesday, 6th December, 2011

TIME: 8.00a.m. – 10.00a.m.

INSTRUCTIONS

Answer **ALL** questions from **Section A** and any **ONE** question from **Section B**. Within a section all questions carry equal marks. Use labeled diagrams wherever appropriate.

SECTION A: Answer **ALL** questions [40 Marks]

1. Using examples, explain the following terms;
 - (a) Genetic code.
 - (b) Codon.
2. Explain the experiments and contributions of Avery, Macleod and McCarty (1944) in molecular biology.
3. Explain melting temperature of DNA and its applications.
4. Explain annealing of DNA and its applications.
5. Describe briefly denaturation of DNA and its causes.
6. Explain the principle of polymerase chain reaction.
7. Describe briefly the physical structure of DNA and RNA.
8. Explain sources of raw materials required for nucleic acid synthesis in a living cell.

SECTION B: Answer **ANY** one question [30 Marks]

9. Give a detailed account on transcription in eukaryotic cells.
10. Discuss how the genetic make-up of an organism determines all of its characteristics.