



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

**SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR
OF SCIENCE IN COMMUNITY RESOURCE MANAGEMENT
HEH 409: BIOTECHNOLOGY AND HEALTH**

DATE: Wednesday, 28th March, 2012

TIME: 2.00 p.m. – 4.00 p.m.

INSTRUCTIONS:

SECTION I:

Answer **ALL** questions.

1. a) Explain when and how are chromosomes visible in eukaryotic cells.
(3 marks)
- b) Define the following terms:
 - i) Genetic market
 - ii) Gene probe
 - iii) Genome
 - iv) Karyotype(4 marks)
- c) State the three common features shared by all cloning vectors
(3 marks)
- d) Outline the functions of the 3 major types of RNA
(3 marks)
- e) List five uses of genetic engineering
(5 marks)
- f) Draw a well labeled diagram of a chromosome
(2 marks)

SECTION II

This has two parts. Answer ALL questions in part I , and any 2 in part II

PART I (20 MARKS)

2. Using examples, discuss the dangers associated with genetic engineering
(20 marks)

PART II (30 MARKS)

3. a) Briefly discuss genetic variations and state what causes them
(5 marks)
- b) Describe different types of cloning vectors
(10 marks)
4. Discuss the structural abnormalities and numerical disorders associated with chromosomes.
(15 marks)
5. a) Describe the characteristics exhibited by a genetic code. (8 marks)
- b) Discuss the various uses of genetic markers. (7 marks)