



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2010/2011

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN ANIMAL PRODUCTION AND HEALTH MANAGEMENT

KAP 101: GENERAL GENETICS

DATE: Wednesday 30th March, 2011

TIME: 11.00 a.m. – 1.00 p.m.

INSTRUCTIONS

Answer Q1 and any other THREE questions.

1. (a) Define the stage of meiosis that is amenable to anticancer drugs that stop DNA synthesis. [5 marks]
 (b) Distinguish between a spermatid and sperm. [5 marks]
 (c) Using relevant examples, describe heterogametic male. [5 marks]
 (d) Discuss crisscross inheritance giving an example. [5 marks]
 (e) Define linkage group. [5 marks]
2. (a) Describe mutation induction. [5 marks]
 (b) Differentiate between an increasing and decreasing allele giving examples. [5 marks]
 (c) ‘Qualitative traits differ in kind while quantitative traits differ in degree’. Discuss giving two examples of each in animals. [5 marks]
3. Discuss genetic notations and why they are confounding. [15 marks]
4. Homozygotes in a population in Hardy-Weinberg equilibrium have frequencies 0.49 and 0.09 respectively. In a population of 80,000 individuals calculate the individuals of each genotype. [15 marks]
- Q5. Discuss the expected number of gametes, genotypes, phenotypes and minimum population size for (i) Two genes, (ii) Seven genes (iii) Eight genes [15 marks]

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