Uganda Martyrs University

Faculty of Agriculture

B.AGRIC II JANUARY INTAKE Semester II Final Exams: 2022/2023

Course Unit: PPM 1201: ANIMAL BREEDING AND GENETICS

Date: Wednesday 07th December 2022 Time: 09:30am to 12:30am

Instructions

Attempt four questions

Number one takes 40 marks and others 20 marks each

Number one is compulsory; answer three more questions from section B

SECTION A (*compulsory*)

QUESTION ONE

a) State the properties of a genetic Code **(5 marks)**

b) Explain the different characteristics of mutation **(5 marks)**

c) What are the key Components of embryo transfer **(6 marks)**

d) Giving examples in each case, describe how nitrogenous bases of the DNA are classified **(4 marks)**

e) Differentiate the following

i. Dominant allele and recessive allele (5 **marks)**

ii. Genotype and Phenotype **(5 marks)**

iii. Inbreeding and Line breeding **(5 marks)**

iv. Line crossing and cross breeding **(5 marks)**

SECTION B: ANSWER THREE QUESTIONS

QUESTION TWO

a) Discuss the different ways of Conserving the genetic diversity in a population **(9 marks)**

b) What are the causes of genetic erosion in a population? **(11 marks)**

QUESTION THREE

a) Why do farmers prefer artificial insemination over natural mating? **(8 marks)**

b) Describe the ways through which semen can be processed to increase its self-life and viability for future use? **(12 marks)**

QUESTION FOUR

a) Describe the a.m. – p.m. rule of artificial insemination timing in a cow **(5marks)**

b) As a newly recruited veterinary officer in your sub county, you have been tasked to train farmers on how to inseminate their animals, describe how you would help farmers understand the procedures for inseminating a cow using rectal-vaginal method **(15 marks)**

QUESTION FIVE

a) Explain the factors that affect the increment of pregnancy rates and the success of MOET in breeding animals **(9 marks)**

b) What are the advantages of Embryo Transfer method in animal improvement **(11 marks)**

QUESTION SIX

a) Explain the process of animal breed selection in a commercial farm **(15 marks)**

b) Distinguish between random and non-random mating systems in a farm. **(5 marks)**

END

MERRY CHRITMAS AND GOODLUCK