Uganda Martyrs University
Faculty of Agriculture

Final Examination 2021-2022

Bachelors of Science in Agriculture Year Two

Module: BSAG 2214: Animal Breeding and Biotechnology

Time: 09:30 am – 12:30 pm   Date: Sunday 07th August 2022

Instructions:
- *Attempt any **FOUR** (4) questions*
- *Start every question on a **new** page*
- *Do not write on the question paper*

1 a) Explain the types of biotechnology in relation to animal breeding. (10 marks)
b) As technical personnel give ways the Government of Uganda can improve biotechnology livestock genetic improvement.   (15 marks)

2 a) Explain factors affecting breeding efficiency in dairy cattle. (10 marks)
b) Discuss the good management practices animal breeders use to improve breeding efficiency in farm animals.   (15 marks)

3 a) The short horn Zebu has traits or characteristics that have evolved over centuries as these animals adapted to survive in their local environment. Discuss these traits or characteristics.   (15 marks)
b) Describe the practice of controlled animal breeding on a farm. (10 marks)

4 a) Discuss the importance of livestock recording, the prerequisites for its success, its challenges in Uganda   (20 marks)
b) Explain ways that are used or can be used to overcome these challenges. (05 marks)

5 a) Explain the approaches that can be used to improve livestock breeding in Uganda. (15 marks)
b) Discuss the hindrances of Assisted animals breeding reproductive biotechnologies in Uganda.   (10 marks)

6 a) Discuss the advantages of animal breeding   (10 marks)
b) Discuss the importance of Genetics in Farm animals breeding and improvement   (15 marks)

7   a) Explain any five assumption of Hardy-Weinberg equilibrium model
used in population genetics.   (10 marks)
  b) With the aid of examples, explain the causes of allele frequency
       variations in a given population of organisms.   (15 marks)

  8   Explain the following terms used in modern genetics and breeding
       a. Animal breeding
       b. Gene
       c. Homozygote
       d. Heterozygote
       e. Heritability   (25 marks)