



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF AGRICULTURAL EDUCATION AND EXTENSION

THIRD YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION

ANS 301: RUMINANT ANIMAL PRODUCTION

DATE: 2/12/2019

TIME: 2.00-4.00 PM

INSTRUCTIONS:

Answer question ONE and any other TWO questions

QUESTION ONE (30 MARKS)

- a) Describe **FOUR** characteristics of clean milk (4 marks)
- b) Explain **FOUR** roles ruminant livestock play in the Kenyan economy (4 marks)
- c) Explain the importance of the following routine management practices in ruminant animal production
 - i. Hoof trimming (2 marks)
 - ii. Docking (2 marks)
 - iii. Castration (2 marks)
- d) Flushing and steaming are two important feeding practices in ruminant animal production. Explain the importance attached to each of them (4 marks)
- e) A farmer in Iveti ward wants to select a breeding buck from his flock of goats. Explain **FOUR** characteristics he should look out for among his bucks (4 marks)
- f) Explain **FOUR** reasons why record keeping is important in ruminant animal production (4 marks)
- g) Describe **FOUR** characteristics that indicate a healthy sheep (4 marks)

QUESTION TWO (20 MARKS)

- a) Cattle have been used as draught animals to provide labour in the farm. Describe **FIVE** management practices that should be done to ensure their welfare (10 marks)
- b) Farmers in semi- arid Zombe in Kitui County would want to keep dual purpose goats. Describe **FIVE** characteristics of the most suitable breed for the area (10 marks)

QUESTION THREE (20 MARKS)

- a) Explain **FIVE** reasons why artificial insemination (AI) is an efficient strategy in ruminant livestock breeds improvement (10 marks)
- b) The Kenya Dual Purpose Goat (KDPG) is a synthetic meat and milk breed recently developed by Kenya Agriculture and Livestock Research Organisation by crossing Galla X East African goat X Toggenburg X Anglo-Nubian.
- i. Using illustrations show the mating steps that could have been followed to arrive at this breed. (4 marks)
- ii. Describe **THREE** characteristics of the Dorper sheep that make it ideal for semi- arid areas (6 marks)

QUESTION FOUR (20 MARKS)

- a) Explain **FIVE** reasons why dairy farmers must learn and implement clean milk production principles (10 marks)
- b) Using illustrations describe how you can estimate the body weight of goats in your flock (10 marks)

QUESTION FIVE (20 MARKS)

- a) Describe **FIVE** challenges facing ruminant animal production in Kenya. (10 marks)
- b) Explain **FIVE** solutions that can be used to address marketing constraints faced by sheep and goat producers in Kenya (10 marks)