



MERU UNIVERSITY COLLEGE OF SCIENCE & TECHNOLOGY

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University Examinations 2011/2012

FIRST YEAR, SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN HORTICULTURE

AHS 2102: ANIMAL PRODUCTION

DATE: DECEMBER 2011

TIME: 2 HOURS

INSTRUCTIONS: Answer questions *one* and any other *two* questions

QUESTION ONE

- a) Discuss briefly how you would improve beef production in a ranch under the following approaches.
- (i) Genetic improvement (2 Marks)
 - (ii) Environmental improvement (2 Marks)
- b) Why is Boran successful indigenous beef breed (2 Marks)
- c) What three genetic or phenotypic characters would you consider when selecting
- (i) A boar for replacement (1 Mark)
 - (ii) A dairy cow for milk improvement (1 Mark)
 - (iii) A sow for profitable pig enterprise (1 Mark)
- d) What is the purpose of
- (i) Flushing ewes prior to mating? (1 Mark)
 - (ii) How long is the oestrus cycle in sheep? (1 Mark)
 - (iii) When is the appropriate time to mate the ewe after onset of oestrus? (1 Mark)
- e)
- (i) When is it advisable to intervene and assist the kidding dairy goat (during parturition) (1 Mark)
 - (ii) Goat milk has medicinal value and therefore more expensive than dairy cow. What factors limit dairy goat milk productivity? (2 Marks)
- f)
- (i) What are the similarities and differences between fodder and pastures. (2 Marks)
 - (ii) List two methods of forage conservation (1 Mark)

- (iii) Why do we conserve forage (2 Marks)
 - (iv) Mention four factors affecting forage productivity after successful establishment. (2 Marks)
- g)
- (i) What is a concentrate feed (1 Mark)
 - (ii) What is the major reason for supplementing a dairy cow (1 Mark)
 - (iii) What five considerations would one take into account when mixing a home made ration for a dairy cow (2 Marks)
- h) A farmer intend to keep 600 layers, discuss with him one commercial rearing system you would recommend and point out its advantages and limitation. (6 Marks)

QUESTION TWO (20 MARKS)

- a) Milk production is a result of successful pregnancy and calving down of dairy cow.
- (i) What is a calving interval? (1 Mark)
 - (ii) What are the reasons for protected calving interval (5 Marks)
 - (iii) The cow was served on 30th October 2011. When do we expect to come on heat again if did not conceive? (1 Mark)
 - (iv) What are the heat signs of a cow (2 $\frac{1}{2}$ Marks)
 - (v) If the above cow does not repeat service when is the appropriate period to conduct pregnancy diagnosis. (1Mark)
 - (vi) When is it due for calving (2 Marks)
 - (vii) How would you feed the pregnant dairy cow to maximize milk production after calving . (3 $\frac{1}{2}$ Marks)
 - (viii) If the cow repeat more than four times what may be the cause and remedy. (4 Marks)

QUESTION THREE (20 MARKS)

- a) A community based organization in Mwea in Kirinyaga county has formed a self help group to market their horticultural crops raised under irrigation. Being the area horticulture officer,
- (i) What crops combination would you advise them to integrate with their dairy cattle. (2 Marks)
 - (ii) What will be the economic advantages of this integrated system (2 Marks)
 - (iii) What will be environmental advantages of this system to the farms (2 Marks)
 - (iv) What are the likely biological and chemical advantages to the farm (4 Marks)
 - (v) The effect on the household integrity (2 Marks)
- b) Synthetic meat may after all takeup in the market soon. Probably in the next decade
- (i) Describe briefly the technique used to grow meat in the laboratory (2 Marks)
 - (ii) What are the ethical and health advantages of this technology? (2 Marks)
 - (iii) What effect would it have on the current meat industry? (2 Marks)

QUESTION FOUR (20 MARKS)

- a) List 3 beef breeds that are common in Kenya (3 Marks)
- b) Why is Boran breed most successful indigenous beef breed in E. Africa. (3 Marks)
- c) How would you go ahead to improve beef productivity in a farm under the following approaches (10 Marks)
 - (i) Genetic Improvement
 - (ii) Environmental improvement.
- d) What are the advantages and disadvantages of zero grazing in dairy cattle management (4 Marks)

QUESTION FIVE (20 MARKS)

- a) What is the importance of guard? (4 Marks)
- b) List four important diseases of chicken and how they are controlled. (4 Marks)
- c) Proper calf rearing is a prerequisite to good replacement of the herd.
 - (i) Why should we ensure the calf get colostrums (6 Marks)
 - (ii) Why introduce solid feed early in the life of a calf (1 Mark)
 - (iii) What is the guideline for the quantify of milk you offer to the calf just after birth (2 marks)
 - (iv) Cows in the last trimester of pregnancy fall down and are unable to stand again during the dry season or early in wet season and more often die before calving.
 - (i) Why is this? (1 Mark)
 - (ii) How can this be controlled (4 Marks)