

2425/302
ANIMAL PRODUCTION III
June/July 2018
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN AGRICULTURE

MODULE III

ANIMAL PRODUCTION III

3 hours

INSTRUCTIONS TO CANDIDATES

*This paper consists of **EIGHT** questions.
Answer any **FIVE** questions in the answer booklet provided.
All questions carry equal marks.
Maximum marks for each part of a question are indicated.
Candidates should answer the questions in English.*

This paper consists of 3 printed pages.

**Candidates should check the question paper to ascertain that
all the pages are printed as indicated and that no questions are missing.**

1.

Describe milk hygiene with respect to:

- (a) clean milk production; *the milking machine should be clean*
 - Clean milking equipment
 - Wash udder with warm water and ~~clean~~ clean
 - Use a clean towel to ~~dry~~ dry
 - Wash the cow by hand ~~disturbance~~
 - Wash the teats for ~~infection~~
- (b) sources of milk contamination in the farm; *Unhygienic milking man*
 - Poor milking technique
 - Unclean milking equipment
 - Unhygienic use of the animal
- (c) benefits of clean milk. *good milk hence palatable*
 - good keeping quality
 - health of the consumer
 - increase marketability

2.

- (a) Highlight the advantages and disadvantages of natural mating in dairy cows. (6 marks)
- (b) State the oestrus signs of a dairy cow. *frquent moaning*
 - frequent urination
 - restlessness
 - swelling of vulva (7 marks)
- (c) Describe the following:

- (i) calf management before birth; *mounting of other and then nuzzled*
 - mounting of other and then nuzzled
 - decreased milk production
- (ii) calf management at calving up to one week of age. *Should* (7 marks)

3.

- (a) Explain any five reasons for keeping bees. (10 marks)
- (b) Highlight the reasons why Boran cattle is a perfect beef cattle for grazing systems in arid areas. (10 marks)

4.

- (a) Explain compensatory growth of beef cattle. *normal grain*
 - normal grain
 - compensatory growth (3 marks)
- (b) Explain two ways through which wildlife population maintains dynamic equilibrium or homeostasis. *predator prey relationship*
 - predator
 - prey (4 marks)

- (c) Describe four methods used in estimation of wildlife population. *Complete count*
 - complete count
 - mark-recapture
 - indirect count
 - capture-recapture methods (8 marks)

(d) Explain coprophagy/caecotrophy in rabbits with respect to:

- (i) meaning; *with the feces or soft stool*
- (ii) importance. *Can* (5 marks)

- 5. (a) Highlight the purpose of body condition scoring. (5 marks)

(b) Describe the following milk pasteurization methods: (5 marks)

- (i) batch pasteurization;
- (ii) high temperature short time pasteurization. (6 marks)

(c) Explain how the following factors affect reproduction in ewes:

- (i) environment;
- (ii) nutrition;
- (iii) ram effect. *attract pollination* (9 marks)

6. Describe calf scours with respect to:

(a) causes; *- bacterial, - viral, - protozoal, - stress, - cold milk, - poor hygiene* (11 marks)

(b) symptoms; *- diarrhoea, - loss of appetite, - dehydration, - weight loss* (9 marks)

7. A Hereford steer had a live weight of 400 kg. After slaughter, its dressed carcass weight was 208 kg.

(a) Calculate the dressing percentage. (2 marks)

(b) If the same steer was held off-feed overnight and lost 5% of its live weight in gutfill:

- (i) calculate its live weight the following day;
- (ii) calculate the dressing percentage the following day;
- (iii) comment on the increase in dressing percentage;
- (iv) explain the effect on dressing percentage if the same steer is held for a longer time before live weight is recorded. (11 marks)

(c) Highlight the management and calving techniques used in reducing calf mortality in a beef herd. (7 marks)

8. (a) State the factors to consider when selecting a beef cow for breeding. (4 marks)

(b) Describe the following forms of honey:

- (i) unprocessed; *- This is raw honey which is still in the honey comb*
- (ii) semi-refined; *- This is a form of honey which contains some foreign material of pollen or comb, bees etc*
- (iii) refined; *- This is the pure honey which has been all the foreign material removed*
- (iv) comb; *- This is a structure made by bees secreted by bees to store honey, bees etc* (8 marks)

(c) Explain how the following factors affect feed intake in rabbits:

- (i) availability of water; *- Lack of water hinders the rabbits*
- (ii) temperature;
- (iii) physiological state of rabbit;
- (iv) food quality. (8 marks)

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