

**UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DISCIPLINE OF ANIMAL & POULTRY SCI
SUPPLEMENTARY EXAMINATION: 29 NOVEMBER 2013
SUBJECT, COURSE & CODE: ANSI370**

DURATION: 3 HOURS

TOTAL MARKS: 100

External Examiner: Dr Marion Young

Internal Examiner: SW. FOMUM

NOTE: THIS PAPER CONSISTS OF FOUR (4) PAGES, PLEASE SEE THAT YOU HAVE ALL OF THEM.

Question 1 (Total 22 marks)

- a) Describe the endocrine profile in a cyclic cow. (10mks)
- b) What are the similarities in the endocrine profile of a breeding bull to a cyclic cow? (4mks)
- c) How do the processes of oogenesis and spermatogenesis rely on the endocrine profile of the animal? (4mks)
- d) What are the differences in the processes of oogenesis and spermatogenesis? (4mks)

Question 2 (total 10 marks)

The mean number of services per pregnancy based on data from pregnant cows gives an estimate of fertility in dairy herds.

- a) How would this figure be different if the inseminations of non-pregnant cows were included? (2mks)
- b) If these figures were very different, what advice would you give to determine the cause of this, and solutions to the problem? (8mks)

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Question 3 (Total 22 marks)

Explain how the corpus luteum is maintained after successful fertilization in the following animal species:

- a) Sow (4mks)
- b) Cow. (4mks)
- c) Mare (4mks)
- d) Describe fully how a male breeding animal is evaluated for breeding soundness. (10mks)

Question 4 (Total 26marks)

- a) A sow shows a farrowing oestrus within days of farrowing and a mare a foaling oestrus, often with a week or two of foaling. Is it possible to breed these animals at this time? Motivate your answer(s). (5mks)
- b) Explain the effects of the following on post-partum anoestrus:
 - i. Nutrition.
 - ii. Milk production.
 - iii. Rate of body growth.
 - iv. Season.
 - v. Postpartum ovarian disorders.
 - vi. Presence or absence of a male.
 - vii. Lameness. (3marks each)

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Question 5 (Total 15 marks)

Are the following statements true or false? Provide an explanation.

- a) A cow given PMSG to induce super-ovulation a few days after ovulation will only ovulate one oocyte. (3mks)
- b) The results of a progesterone assay testing for pregnancy could give positive results even if the cow was not serviced. (3mks)
- c) The amount of injected prostaglandin that is required for successful synchronisation is far greater than what is produced naturally. (3mks)
- d) Low efficiency of oestrus detection can falsely inflate the non-return rate. (3mks)
- e) The posterior pituitary is considered to be an endocrine gland. (3mks)

Question 6 (Total marks 2)

Explain one advantage and one disadvantage of artificial insemination. (2mks)

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Question 7 (Total marks 7)

The cow in the figure below is not showing signs of oestrus activity.

- a) Give a description of the likely endocrine profile and the state of folliculogenesis. (5mks)
- b) What body condition score would need to be achieved before this cow can cycle again? (2mks)

