FACULTY	**Health Sciences and Veterinary Medicine**		
DEPARTMENT	**School of Veterinary Medicine**		
SUBJECT	**Veterinary Structure and Function III (Paper 2)**		
SUBJECT CODE	**V3681ES**		
DATE	**JUNE 2025**		
DURATION	**3 hours**	**MARKS**	**150**

Examiner: Dr C. Musara

Internal Moderator: Dr F. Chitate

External Moderator: Prof J.P Chamunorwa

This question paper consists of 3 pages, including this front page.

Instructions

Read the questions carefully Answer
ALL questions
Write clearly and concisely

Second Opportunity Examination

ESSAYS (40 marks)

1. Discuss the passive transfer of immunity in domestic animals using the following headings;
   a) Mode of transfer according to type of placenta (4)
   b) Absorption of antibodies in the small intestine (2)
   c) Types of immunity conferred (3)
   d) Duration of immunity (2)
   e) Failure of Passive Transfer of Immunity (FPTI)in dairy calves (9)

2. Review the sense of equilibrium (balance) in terrestrial mammals. (20)

SHORT ANSWER QUESTIONS (80 marks)

1. Describe the mechanism of signal transduction for steroid hormones. (5)
2. a) Define the term negative feedback in endocrinology. (1)
   a) Give any two examples of negative feedback mechanisms. (2)
   b) What is the physiological significance of negative feedback. (1)
   c) Name any two endocrine disorders in which hormone-secreting cells are unresponsive to negative feedback. (2)
3. List the Releasing Hormones secreted by the Hypothalamus. (5)
4. Give two classes of hormones derived from the amino acid tyrosine. (2)
5. Give the target organs for insulin. (3)
6. List five parameters used in the evaluation of semen. (5)
7. Describe the role of Sertoli cells in spermatogenesis. (5)
8. Name two vitamins that are important for spermatogenesis. (2)
9. Name three species of animals exhibiting induced ovulation. (3)
10. State the therapeutic uses of GnRH in reproduction. (2)
11. Indicate the species in which the following phenomena occur in the reproductive cycle.
    a) Ovulation during metoestrus (1)
    b) Lactational anoestrus (1)
    c) Seasonal anoestrus under long photoperiods (1)
    d) Seasonal anoestrus under short photoperiods (1)
    e) Pseudopregnancy (1)
12. Give the sequence of events occurring during fertilisation. (4)
13. Indicate the stages of labour. (3)
14. List five factors that predispose to neonatal hypothermia. (5)
15. Describe the synthesis and significance of lactose in milk. (5)
16. State the functions of the various cell types of the retina. (6)
17. Describe the production, circulation, functions and disorders of aqueous humor (7)
18. Give the functions of the 'windows' of the inner ear. (2)
19. Highlight the use of artificial agents in modifying the taste of foods and medicines. (2)
20. Give the **physiological** defences against heat. (3)

PRACTICAL (30 marks)

1 a) Name the phases of the oestrous cycle in sheep. (5)

b) Describe the physiological processes and hormonal profiles in each phase. (14)

c) Explain how hormonal profiles determine the vaginal cytology characteristic of each phase. (11)

END OF PAPER