FACULTY	**Health Sciences and Veterinary Medicine**		
DEPARTMENT	**Preclinical Department**		
SUBJECT	**Veterinary Structure and Function 3 (Paper 2, Physiology)**		
SUBJECT CODE	**V3681ES**		
DATE	**JUNE 2024**		
DURATION	**3 hours**	**MARKS**	**150**

Examiner: Dr C. Musara

Internal Moderator: Dr P. Mbiri

External Moderator: Prof J.P Chamunorwa

This question paper consists of 2 pages, including this front page.

Instructions

Read the questions carefully Answer
ALL questions
Write clearly and concisely

First Opportunity Examination

ESSAYS (40 marks)

1. Discuss the hormonal regulation of Ca^{2+} levels in blood, giving relevant pathophysiological correlations. (20)

2. a) Describe the reproductive cycle of the mare. (17)

   b) Explain in brief how the cycle can be artificially managed. (3)

SHORT ANSWERS (85 marks)

1. Write briefly on the hormone dopamine. (5)
2. List five manifestations of hyperthyroidism. (5)
3. List four actions of glucocorticoid that are important in pharmacotherapy. (4)
4. Write concisely on mode of action of the insulin receptor (6)
5. State the age of puberty in small ruminants. (2)
6. Indicate the roles of Sertoli cells in spermatogenesis. (5)
7. Describe the normal disposition of the bovine foetus at birth. (3)
8. List four events that must be accomplished in the uterus before resumption of the ovarian cycle post-partum. (4)
9. Name the vitamins present in cow milk at levels that are sufficient for human nutrition. (4)
10. Draw the lactation curve of a typical dairy cow. (5)
11. Write concisely on lactational ketosis in dairy cow. (5)
12. Name two infectious conditions that impair the sense of smell in dogs (2)
13. Write briefly on bitter taste receptors. (3)
14. List the structures that are involved in the mechanism of hearing in the Organ of Corti. (5)
15. Describe the structure, functions and properties of the cornea. (5)
16. Name the areas of the brain where each of the special senses is interpreted. (5)
17. Describe the production, functions, circulation and pathophysiology of lacrimal fluid (7)
18. Draw and annotate an illustration of the skin with respect to the function(s) of each component in thermoregulation. (10)

PRACTICAL (25 marks)

1 a) Define and classify hypothermia. (5)

   b) Give five causes of hypothermia. (5)

   c) List nervous, cardiovascular, respiratory and metabolic changes that occur in severe hypothermia (10)

   d) State five physiological defences against neonatal hypothermia (5)

END OF QUESTION PAPER