

1ST SEMESTER 2008/2009



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**UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER**

PROGRAMME : **B. SC. IN AGRICULTURAL EDUCATION
YEAR II AND B. SC. IN ANIMAL SCIENCE
YEAR II**

COURSE CODE : **APH 201**

TITLE OF PAPER : **ANATOMY AND PHYSIOLOGY**

TIME ALLOWED : **TWO HOURS**

INSTRUCTIONS : **ANSWER ANY FOUR QUESTIONS**

**DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN
GRANTED BY THE CHIEF INVIGILATOR**

QUESTION ONE

- a. Describe the organisation of the thoracic cavity and the arrangements of the pericardium and the pleural membranes in relations to the heart, the lungs, the mediastinum, and the wall of the thoracic cavity. (15 Marks)
- b. Explain how the process of invagination resulted in the heart and the lungs being covered by the pericardium and the pleural membranes respectively. (10 Marks)

QUESTION TWO

- a. Name the two (2) parts of the skeleton of farm animals and list the components of each part. (5 Marks)
- b. Describe the general structure of a typical synovial joint of farm animals. (10 Marks)
- c. Name the types of synovial joints of farm animals and indicate the type (s) of movement (s) each type of synovial joint allows. (10 Marks)

QUESTION THREE

- a. Describe the structural organisation of the conducting portion of the respiratory system of farm animals and indicate the function (s) of this portion. (10 Marks)
- b. Trace the route an oxygen molecule will take from the alveolus in the lungs to the skeletal muscle cell of the hind leg and the route the carbon dioxide molecule will take from the skeletal muscle cell in the hind leg to the alveolus in the lungs. (15 Marks)

QUESTION FOUR

- a. Describe the location and structure of the scrotum in a bull and explain how the testicular temperature is regulated in this farm animal. (15 Marks)
- b. Give an account of the function (s) of the Follicular Stimulating Hormone (FSH), Luteinizing Hormone (LH), and Testosterone in the bull. (10 Marks)

QUESTION FIVE

- a. Give an account of how you would influence the heifer to attain puberty at an early age. (15 Marks)
- b. Explain why the breeding of a heifer should be delayed for several months after she has attained puberty. (10 Marks)

QUESTION SIX

- a. Name the two (2) sperm barriers in a cow and indicate the significance of these barriers in the reproduction of this animal. (5 Marks)
- b. Indicate the duration of gestation in the following farm animals:
 - i. ewe
 - ii. sow
 - iii. cow (5 Marks)
- c. Describe the stages of parturition in a cow. (15 Marks)