



PAGE 1 OF 3

**UNIVERSITY OF SWAZILAND
SUPPLEMENTARY EXAMINATION PAPER**

PROGRAMME : **DIPLOMA IN AGRICULTURE YEAR II AND
AGRICULTURAL EDUCATION 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. Name four (4) main types of bones found in the skeleton of farm animals and describe the structure and function of each of them. (10 Marks)
- b. Describe the structural organization of a vertebral bone and explain how vertebral bones join one with the other to form the vertebral column of farm animals and how, in the process, they form the vertebral canal and the intervertebral foramen. (15 Marks)

QUESTION TWO

- a. Give an account of the structural and functional organization of the foetal blood circulatory system of farm animals. (15 Marks)
- b. Indicate the modifications of the foetal blood circulatory system from that of the adult pulmonary and systemic blood circulatory systems. (5 Marks)
- c. Explain the reasons for the modifications of the foetal blood circulatory system from that of the adult system. (5 Marks)

QUESTION THREE

Describe the chemical digestion of the carbohydrates and proteins in the mouth, rumen, reticulum, abomasum and small intestine of a sheep. (25 Marks)

QUESTION FOUR

- a. Describe the location and the structure of the mammary gland of the cow. (20 Marks)
- b. Give an account of the role of oestrogen and progesterone in the development of the mammary gland. (5 Marks)

QUESTION FIVE

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

QUESTION SIX

- a. Explain the importance of sperm barriers in the reproduction of farm animals. (5 Marks)
- b. Indicate the duration of gestation in the following farm animals. (5 Marks)
 - i. Ewe
 - ii. Sow
 - iii. Cow
- c. Describe the stages of parturition in a cow. (15 Marks)