

**UNIVERSITY OF SWAZILAND**

**FACULTY OF AGRICULTURE**

**DEPARTMENT: ANIMAL PRODUCTION AND HEALTH**

**FIRST SEMESTER EXAMINATIONS: 2004/2005**

**DIPLOMA IN AGRICULTURE YEAR 2**

**DIPLOMA IN AGRICULTURAL EDUCATION YEAR 2**

**REMEDIAL YEAR IN AGRICULTURE**

**COURSE CODE: APH 201**

**TITLE OF PAPER: ANATOMY AND PHYSIOLOGY**

**TIME ALLOWED: TWO (2) HOURS**

**INSTRUCTIONS: ANSWER ANY FOUR (4) QUESTIONS**

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

### QUESTION ONE

- a. Explain how the following descriptive terms are used in the study of anatomy of animals. 6 Marks
- i. Cranial
  - ii. Medial
  - iii. Dorsal
  - iv. Lateral
  - v. Caudal
  - vi. Ventral
- b. Name the four (4) body planes used in the study of anatomy in animals. 4 Marks
- c. Describe the organization of the thoracic cavity and the arrangements of the pericardium (pericardial membrane) and the pleural membrane in relation to the body wall and the organs within the cavity. 15 Marks

### QUESTION TWO

- a. Give a general outline of the structural and functional organization of the nervous system of farm animals. 15 Marks
- b. Describe how a nerve impulse is generated and transmitted. 5 Marks
- c. Explain the main function of the nervous system in the bodies of farm animals. 5 Marks

### QUESTION THREE

- . Describe the organization and functions of the systemic blood circulatory system of adult farm animals. 25 Marks

### QUESTION FOUR

- a. Describe the relationship (s) between the hypothalamus, the pituitary gland and the environment of farm animals. 10 Marks
- b. Give a detailed account of the mode of secretion and function (s) of the gonadotropins (Follicular Stimulating Hormone and Luteinizing Hormone) in the female farm animals. 15 Marks

**QUESTION FIVE**

- a. Name two (2) sperm barriers in a cow and indicate their significance in the reproduction of this animal. 5 Marks
- b. Indicate the duration of gestation and then give an account of the hormonal changes in the foetus and the cow at onset of parturition indicating the role played by each of these hormones in the initiating the process of parturition. 20 Marks

**QUESTION SIX**

- a. Describe the location and structural organization of the suspensory, secretory and duct systems of the mammary glands of the cow. 10 Marks
- b. Describe the development of the mammary gland in a heifer during pregnancy indicating the roles played by the hormones oestrogen and progesterone in the development of the mammary gland. 10 Marks
- c. Explain how both lactogenesis and galactopoiesis are achieved in this heifer. 5 Marks