

UNIVERSITY OF SWAZILAND

FACULTY OF AGRICULTURE

DEPARTMENT: ANIMAL PRODUCTION AND HEALTH

FIRST SEMESTER EXAMINATIONS: 2004/2005

DIPLOMA IN AGRICULTURE YEAR 1

DIPLOMA IN AGRICULTURAL EDUCATION YEAR 1

DIPLOMA IN HOME ECONOMICS YEAR 1

DIPLOMA IN HOME ECONOMICS EDUCATION YEAR 1

COURSE CODE: APH 100

TITLE OF PAPER: ZOOLOGY

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. List ten (10) characteristics of a living organism. 10 Marks
- b. Explain the autotrophic and heterotrophic types of feeding and indicate the type of living organisms carrying out each of these types of feeding. 5 Marks
- c. Describe how grouping and naming are carried out during the process of classification of living organisms. 10 Marks

**QUESTION TWO**

- a. Define the process of evolution. 2 Marks
- b. Explain how 'natural selection' has contributed to the evolution of animals over the years. 8 Marks
- c. Explain what is involved in the following phenomenon.
- i. Divergent Evolution 7.5 Marks
  - ii. Distribution studies as evidence of evolution. 7.5 Marks

**QUESTION THREE**

- a. Draw and label the structure of an animal cell. 10 Marks
- b. Describe the structure of the cell membrane. 5 Marks
- c. Name and give the functions of each of five (5) cytoplasmic organelles found in the cells of animals. 10 Marks

**QUESTION FOUR**

- a. Describe the chemical structure of deoxyribonucleic acid (DNA) and indicate the structural difference (s) between this nucleic acid and the ribonucleic acid (RNA). 10 Marks
- b. Describe the process of meiosis in a boar with 38 diploid number of chromosomes and indicate the objective of this type of cell division. 15 Marks

**QUESTION FIVE**

- a. Describe the composition and functions of the blood of a mammalian animal. 10 Marks
  
- b. Describe, with the aid of a labeled diagram, the structure of tabular organ found outside the abdominal cavity of animals. 15 Marks

**QUESTION SIX**

- a. Describe how glands develop and indicate the main difference (s) between an exocrine gland and an endocrine gland. 15 Marks
  
- b. List the five (5) hormones secreted by the anterior pituitary gland and explain how the secretion of these hormones controlled. 10 Marks