UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER

PROGRAMME	:	**DIPLOMA IN AGRICULTURE YEAR I, DIPLOMA IN AGRICULTURAL EDUCATION YEAR I, DIPLOMA IN HOME ECONOMICS YEAR I AND DIPLOMA IN HOME ECONOMICS EDUCATION YEAR I**
COURSE CODE	:	**APH 101**
TITLE OF PAPER	:	**ZOOLOGY**
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. Define Evolution (2 Marks)

b. Explain how natural selection has contributed to the evolution of animals over the years. (8 Marks)

c. How do the following phenomena act as evidence to the process of evolution of animals?

i. Distribution studies (5 Marks)
ii. Continental drift (5 Marks)
iii. Comparative Anatomy of the pentadactyl limb (5 Marks)

QUESTION TWO

a. Describe the chemical structure of deoxyribonucleic acid (DNA) and indicate the structural difference (s) between this nucleic acid and ribonucleic acid (RNA). (10 Marks)

b. Indicate the relationship among the DNA, the chromosomes and the genes. (5 Marks)

b. Explain the roles played by DNA in the process of protein synthesis and in cell division. (10 Marks)

QUESTION THREE

a. Describe the process of meiosis in a pig 38 diploid number of chromosomes and indicate the role played by this process in the body of farm animals. (20 Marks)

b. Explain the difference (s) between meiosis and mitosis methods of cell division. (5 Marks)

QUESTION FOUR

a. Give an account of the common structural features of connective tissue, cartilage tissue and bone tissue. (5 Marks)

b. Describe the composition and function (s) of the blood of farm animals. (10 Marks)

c. Describe the structure of a typical compact (parenchymatous) organ. (10 Marks)

QUESTION FIVE

a. Indicate the main differences between an endocrine gland and an exocrine gland. (5 Marks)

b. Briefly describe the functional relationship between the hypothalamus and the pituitary gland (hyphophysis). (10 Marks)

c. Give an account of the mode of secretion and functions of the hormone oxytocin in a cow. (10 Marks)

QUESTION SIX

a. Briefly describe the process of spermatozoa capacitation and indicate the objective of this process. (10 Marks)

b. Give an account of the process of fertilization and indicate how the diploid number of chromosomes is achieved during this process. (15 Marks)