

2008/2009



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**UNIVERSITY OF SWAZILAND  
SUPPLEMENTARY EXAMINATION PAPER**

**PROGRAMME** : **ALL B. SC. YEAR I**

**COURSE CODE** : **APH 101**

**TITTLE OF PAPER** : **ZOOLOGY**

**TIME ALLOWED** : **TWO HOURS**

**INSTRUCTIONS** : **ANSWER ANY FOUR QUESTIONS**

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GRANTED BY THE CHIEF INVIGILATOR**

**QUESTION ONE**

- a. Describe how classification of living organisms is carried out. (13 Marks)
- b. Explain the reasons for carrying out the classification of animals. (2 Marks)
- c. Explain the autotrophic and heterotrophic types of feeding and indicate the type of living organisms carrying out each of these types of feeding. (10 Marks)

**QUESTION TWO**

- a. Using the phenomenon of natural selection, explain how the present Giraffe could have acquired the long neck. (15 Marks)
- b. Explain what is involved in the following types of evolution.
  - i. Divergent evolution
  - ii. Convergent evolution (10 Marks)

**QUESTION THREE**

- a. Name the three (3) main parts of an animal cell. (5 Marks)
- b. List the cytoplasmic organelles found in an animal cell and indicate the function (s) of each of these organelles. (15 Marks)
- c. List the mechanisms by which the cell regulates the interchange of metabolites and other substances between the cell and its environment. (5 Marks)

**QUESTION FOUR**

- a. List the three (3) types of ribonucleic acids and indicate the difference between ribonucleic acid and deoxyribonucleic acid. (5 Marks)
- b. Explain how the genetic information is contained in nucleic acids. (5 Marks)
- c. Describe how the genetic information on the gene is transcribed onto the messenger ribonucleic acid (mRNA) and explain the objective of this process in the function (s) of an animal cell. (15 Marks)

**QUESTION FIVE**

- a. Describe the process of mitosis in a sow with 38 diploid numbers of chromosomes and indicate how this process contributes to the process of ova genesis in the sow. (15 Marks)
- b. Explain the process of sperm capacitation and then describe the process of fertilisation as it occurs in animals. (10 Marks)

**QUESTION SIX**

- a. Describe the composition and functions of the blood of a mammalian animal. (10 Marks)
- b. With the aid of a labelled diagram, describe the structure of a typical compact (parenchymatous) organ of farm animals. (10 Marks)
- c. Name examples of 5 compact organs in the body of farm animals. (5 Marks)