



**2<sup>ND</sup> SEMESTER 2009/2010**

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**UNIVERSITY OF SWAZILAND  
FINAL EXAMINATION PAPER**

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

**COURSE CODE : AS 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. Give an account of the characteristics of living organisms. (10 Marks)
- b. Explain the autotrophic and heterotrophic types of feeding and indicate the type of living organisms carrying out these types of feeding. (5 Marks)
- c. Describe how a newly discovered living organism is classified. (10 Marks)

**QUESTION TWO**

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

**QUESTION THREE**

- a. Indicate the role of Deoxyribonucleic Acid (DNA) in the process of protein synthesis. (5 Marks)
- b. Describe the process of protein synthesis as it occurs in an animal cell. (15 marks)
- c. Explain the effect of the inadequate supply of essential amino acids in the process of protein synthesis and the animal itself. (5 Marks)

**QUESTION FOUR**

- a. Describe the process of spermatogenesis in a bull with 60 diploid numbers of chromosomes. (20 Marks)
- b. Indicate the objective (s) of spermatogenesis and how these objectives are achieved. (5 Marks)

**QUESTION FIVE**

- Give an account of the various types of exocrine glands. (25 Marks)

**QUESTION SIX**

- a. Briefly describe the process of spermatozoa capacitation and indicate the objective (s) of this process. (10 Marks)
- b. Give an account of the process of fertilisation and indicate how the diploid number of chromosomes is achieved during this process. (15 Marks)