

2ND SEMESTER 2007/2008



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**UNIVERSITY OF SWAZILAND
FINAL 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. Give an account of the characteristics of living organisms. (10 Marks)
- b. Describe how living organisms are classified. (15 Marks)

QUESTION TWO

- a. Draw and label a typical animal cell. (10 Marks)
- b. Describe the structure of a cell membrane and then describe the processes of diffusion, osmosis, active transport and phagocytosis by which the cell regulates the interchange of metabolites and other substances between the cell and its environment. (15 Marks)

QUESTION THREE

Describe the process of mitosis in a pig with 38 diploid numbers of chromosomes and indicate the objectives of this process and how it achieves these objectives. (25 Marks)

QUESTION FOUR

Describe the process of spermatogenesis in a bull with 60 diploid numbers of chromosomes and indicate the objectives of this process and how it achieves these objectives. (25 Marks)

QUESTION FIVE

- a. Describe the composition and function (s) of blood tissue. (10 Marks)
- b. Name three (3) types of muscle tissue and give an account of the structure and function (s) of each type. (15 Marks)

QUESTION SIX

- a. Describe the mechanisms by which the hypothalamus regulates the production of hormones of the anterior pituitary gland. (10 Marks)

- b. Indicate the function (s) of each of these hormones. (15 Marks)
 - i. Prolactin
 - ii. Follicle Stimulating Hormone
 - iii. Oxytocin
 - iv. Adreno-corticotropic Hormone
 - v. Somatotropic Hormone