

**UNIVERSITY OF SWAZILAND**

**MAIN EXAMINATION PAPER 2013**

**TITLE OF PAPER : ANIMAL PHYSIOLOGY**

**COURSE CODE : B401**

**TIME ALLOWED : THREE HOURS**

**INSTRUCTIONS :**

1. ANSWER ANY FOUR QUESTIONS
2. EACH QUESTION CARRIES TWENTY FIVE (25) MARKS
3. WHEREVER POSSIBLE ILLUSTRATE YOUR ANSWERS WITH LARGE CLEARLY LABELLED DIAGRAMS

**SPECIAL REQUIREMENTS:**

1. CALCULATORS (CANDIDATES MAY BRING THEIR OWN)
2. GRAPH PAPER (ORDINARY)

**THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN  
GRANTED BY THE INVIGILATORS**

**QUESTION 1.**

Define and describe: an "oxygen dissociation curve". List and discuss the factors that determine the positioning of oxygen dissociation curves detailing the advantages (and disadvantages) of the position of an animal's oxygen dissociation curve. [Total Marks = 25]

**QUESTION 2.**

What is meant by the "metabolic rate" of an animal? Design a weight loss programme for a 22 year old female human. Discuss fully the biological concepts and principles on which your design is based.

(25 Marks)

**QUESTION 3.**

Analyze fully the structure and function of the hypophysis in human physiological function, maintenance and regulation.

(25 Marks)

**QUESTION 4.**

Discuss fully ANY THREE of the following:

- (i) Thiamin
- (ii) Pyridoxine
- (iii) Retinol/Rhodopsin
- (iv) Iron
- (iv) Calcium

(25 Marks)

**QUESTIONS 5.**

What role is played by the kidney in human physiology? Describe kidney anatomy and function. (25 Marks)

**QUESTION 6.**

"Life on the third planet from the sun is governed by the physical laws of the planet". Discuss fully, giving examples and instances. (25 Marks)