



*(Knowledge for Development)*

# **KIBABII UNIVERSITY**

## **UNIVERSITY EXAMINATIONS**

### **2022/2023 ACADEMIC YEAR**

#### **SECOND SEMESTER**

#### **MAIN EXAMINATIONS**

**FOR THE DEGREE OF BACHELOR OF EDUCATION (SCIENCE) (B. ED SCIENCE)  
AND BACHELOR OF SCIENCE (B. SC BIOLOGY)**

**COURSE CODE: SBT 321/SZL 223**

**COURSE TITLE: ANIMAL PHYSIOLOGY/ INTRODUCTION TO ANIMAL PHYSIOLOGY**

**DATE: 28<sup>TH</sup> APRIL 2023      TIME: 9.00 – 11.00 AM**

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#### **INSTRUCTIONS TO CANDIDATES**

Answer Question one (1) and any other two (2) Questions. Question one carries 30 marks, the other Questions carry 20 marks each.

TIME: 2 Hours

This paper consists of 2 printed pages. Please Turn Over



KIBU observes ZERO tolerance to examination cheating

### Question one

(a) Define the following;

- i.) Physiology (1marks)
- ii.) Homeostasis (1marks)
- iii.) Pulmonic valve (1marks)
- iv.) Respiratory acidosis (1marks)

(b) State the functions of plasma membrane (4marks)

(c) Outline two differences between somatic and autonomic nervous system (4marks)

(d) Briefly describe the role of the following in the body:

- i) Calcitonin (2marks)
- ii) Lymph nodes (2marks)
- iii) Antidiuretic hormone (2marks)
- iv) Neutrophils (2marks)
- v) Mitochondria (2marks)
- vi) Thyroxine (2marks)

(e) The hypothalamus controls important aspects of parenting and attachment behaviors, list the other functions of hypothalamus in mammals (3marks)

(f) Briefly discuss the pathophysiology of hypothermia in animals (3marks)

### Question two

Discuss the activities involved in maintaining normal temperature of animals in a hot environment of temperature above 31°C. (20marks)

### Question Three

(a) Discuss the adaptation of animals in an environment with low supply of water. (10marks)

(b) Describe the response of the respiratory system to changes in partial pressure of carbon dioxide in the plasma. (10marks)

### Question four

(a) List any two structures that bind cells together. (2marks)

(b) With the help of a drawing, identify the parts of a molar tooth. (8marks)

(c) Differentiate the functions of the tendons and ligaments in the body of an animal (2marks)

(d) Describe the characteristics of smooth muscles in the body. (3marks)

(e) Briefly describe the generation of force in a striated muscle fiber. (5marks)

**Question Five**

(a) Draw a neuron and label its parts. (8marks)

(b) Describe the generation and saltatory movement of an impulse across a neuron (12marks)