



# KISII UNIVERSITY

## UNIVERSITY EXAMINATIONS

**SECOND YEAR EXAMINATION FOR THE AWARD OF THE  
DEGREE OF BACHELOR OF SCIENCE IN BIOMEDICAL SCIENCES  
FIRST SEMESTER, 2021/2022  
(FEBRUARY - JUNE, 2022)**

### **ANSC 267: LABORATORY ANIMAL SCIENCE**

**STREAM: Y2 S1**

**TIME: 3 HOURS**

**DAY: MONDAY, 2:00 – 5:00 P.M.**

**DATE: 23/05/2022**

---

#### **INSTRUCTIONS**

- 1. Do not write anything on this question paper.*
- 2. Answer ALL questions in Section A and any other TWO questions from Section B.*

#### **SECTION A: 40 MARKS**

1. Which Vitamin needs to be supplemented in a Guinea Pig's diet?  
[1 Mark]
2. By giving 3 reasons, explain how rabbits differ from rats/mice/hamsters  
[3 marks]
3. Provide the scientific names for the following laboratory animals  
[4 marks]
  - a. Golden Hamster
  - b. Guinea pig
  - c. Rat
  - d. Rabbit
4. Explain how a mouse can be handled and restrained during experimental procedures  
[4 marks]
5. Outline 4 considerations before performing a surgical process on rabbits  
[4 marks]
6. Explain the criteria for selecting experimental animals for research  
[4 marks]

7. Describe scarification as an experimental Procedure Inoculation of Material [4 marks]
8. Describe how you can collect 0.5ml of blood from a rabbit ear [4 marks]
9. Outline the functions of institutional animal care and use committee [4 marks]
10. Explain the advantages of intravenous injection over oral administration of a drug to an animal [4 marks]
11. By giving 4 reasons, explain why laboratory animals are important in medical and biomedical sciences [4 Marks]

**SECTION B: 30 MARKS**

1. Describe blood collections from experimental animals in relation to
  - a) Guidelines for blood collection [5 marks]
  - b) Blood collection methods [10 marks]
2. Discuss the factors that should be considered when planning for a good animal house [15 marks]
3. a) Discuss the major classes of animal genetic stocks [8 marks]  
b) Describe the procedure followed during intravenous injection of a drug through the tail vein [7 marks]