



**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]