



KISII UNIVERSITY
UNIVERSITY EXAMINATIONS

SECOND YEAR EXAMINATION FOR THE AWARD OF THE
DEGREE OF BACHELOR OF BIOMEDICAL SCIENCES
FIRST SEMESTER, 2023/2024
(AUGUST-DECEMBER, 2023)

ANSC 267: LABORATORY ANIMAL SCIENCE

STREAM: Y2 S1

TIME: 2 HOURS

DAY: TUESDAY, 3:00 – 5:00 P.M.

DATE: 05/12/2023

INSTRUCTIONS

1. *Do not write anything on this question paper.*
2. *This paper comprises of 2 sections A and B.*
3. *Attempt all the questions in section A and any other TWO from section B.*

SECTION A- (ANSWER ALL QUESTIONS)- 40 MARKS

1. Explain briefly the significance of laboratory animal research in advancing scientific knowledge and improving human and animal health (5Marks)
2. Discuss factors considered in calculating drug dosages for laboratory animals? (5Marks)
3. Explain briefly the three Rs in the context of animal research ethics (5Marks)
4. Describe briefly the role of Institutional Animal Care and Use Committees (IACUCs) in overseeing the welfare of laboratory animals (5Marks)
5. Identify potential hazards associated with working in laboratory animal facilities, and explain the mitigations to protect both animals and personnel. (5Marks)
6. Discuss briefly the importance of proper training and safety protocols for personnel working with laboratory animals. (5Marks)
7. Define genetic stocks in the context of laboratory animals. (1 Mark)
8. Explain briefly the importance of health monitoring programs in laboratory animal facilities. (4 Marks)

9. Describe the prevention and management of diseases in laboratory animals to ensure the validity of research results?

5Marks).

SECTION B: ANSWER ANY TWO QUESTIONS-30 MARKS

10. Discuss the ethical considerations associated with the use of animals in scientific research. (15 Marks)

11. Compare and contrast the advantages and disadvantages of using vertebrate and invertebrate animals in laboratory research. When might one be preferred over the other? (15 Marks)

12. Describe the key considerations for designing and maintaining appropriate housing conditions for laboratory animals. (15 Marks)

13. Discuss the various routes of drug administration in laboratory animals. (15 Marks)