

2914/105
ANIMAL HUSBANDRY, MUSEUM
AND HERBARIUM TECHNIQUES
Oct./Nov. 2019
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN APPLIED BIOLOGY

MODULE I

ANIMAL HUSBANDRY, MUSEUM AND HERBARIUM TECHNIQUES

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:

Answer booklet;

Scientific calculator (battery operated).

This paper consists of TWO sections; A and B.

Answer ALL the questions in section A and any THREE questions from section B.

Each question in section A carries 4 marks while each question in section B carries 20 marks.

Maximum marks for each part of the question are indicated.

Candidates should answer the questions in English.

This paper consists of 3 printed pages.

Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

Ans

SECTION A (40 marks)

Answer ALL the questions in this section.

1. (a) Define the term Animal Husbandry. (1 mark)
- (b) State the importance of the use of laboratory animals. (3 marks)
2. State the advantages of the harem system of animals husbandry. (4 marks)
3. Describe the technique of cervical dislocation in euthanasia. (4 marks)
4. (a) Define the following terms as applied to Herbarium technique:
 - (i) ventilation press; (1 mark)
 - (ii) voucher. (1 mark)
- (b) State the use of the following tools in Herbarium specimen preparation:
 - (i) secateur; (1 mark)
 - (ii) felt driers. (1 mark)
5. Name the various methods of preserving herbarium specimen. (4 marks)
6. Describe the information that should be provided on herbarium specimen label. (4 marks)
7. Give **four** advantages of using glue in mounting herbarium specimen. (4 marks)
8. State any **four** sources of ornithological museum specimens. (4 marks)
9. Describe the tattooing method for laboratory animal identification. (4 marks)
10. Name any **four** tools of the dissection kit of laboratory animals. (4 marks)

use

SECTION B (60 marks)

Answer any THREE questions from this section.

- * (a) Name any **two** methods of laboratory carcass disposal. (2 marks)
- (b) Differentiate between guinea pig and hamsters as laboratory animals. (18 marks)
12. (a) State the factors to be considered in planning for caging of laboratory animals. (8 marks)
- (b) Explain the international core principles of the care and use of animals for research. (12 marks)
13. (a) (i) Distinguish between cross-breeding and grading-up systems of out breeding. (2 marks)
- (ii) Explain the considerations observed in cross-breeding systems. (8 marks)
- (b) (i) Outline the steps of picking a good herbarium collection. (7 marks)
- (ii) Name any **three** pests in a herbarium. (3 marks)
14. (a) State the criteria for selecting a method for euthanasia. (6 marks)
- (b) (i) Outline the process of bone preparation for mounted museum specimen. (8 marks)
- (ii) Describe any **three** specimen collections in herbarium. (6 marks)
15. (a) Describe the following steps involved in Herbarium specimen preparation:
- (i) pressing; (8 marks)
- (ii) mounting. (8 marks)
- (b) State **four** display methods of Entomological specimens in a museum. (4 marks)

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