2914/203
ECOLOGY AND PLANT HUSBANDRY
Oct./Nov. 2022
Time: 3 hours

THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN APPLIED BIOLOGY

MODULE II

ECOLOGY AND PLANT HUSBANDRY

3 hours

INSTRUCTIONS TO CANDIDATES

*This paper consists of **TWO** sections; **A** and **B**.*
*Answer **ALL** questions in section **A** and any **THREE** questions from section **B** in the answer booklet provided.*
*Each question in section **A** carries **4** marks while each question in section **B** carries **20** marks.*
Maximum marks for each part of a 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.

SECTION A (40 marks)

*Answer **ALL** questions in this section.*

1. State **four** advantages of drip irrigation. (4 marks)

2. Highlight **four** causes of yield loss in crops. (4 marks)

3. (a) Define the following terms as used in horticulture:

   (i) olericulture; (1 mark)

   (ii) pomology. (1 mark)

   (b) Name **two** environmental factors controlled in a greenhouse. (2 marks)

4. List **four** natural abiotic causes of plant physiological disorders. (4 marks)

5. Highlight **four** effects of plant parasitic nematodes on plant roots. (4 marks)

6. Identify **four** types of forests found in Kenya. (4 marks)

7. Describe the line transect method used in sampling. (4 marks)

8. State **four** effects of acid rain on the environment. (4 marks)

9. (a) Distinguish between population and carrying capacity. (2 marks)

   (b) List any **two** types of hydrophytes. (2 marks)

10. Highlight four methods of conservation of fisheries. (4 marks)

SECTION B (60 marks)

*Answer any **THREE** questions from this section.*

11. (a) (i) Describe **four** adaptations of predators in relation to feeding. (8 marks)

(ii) Explain **four** adaptations of prey that enable them avoid their predators. (8 marks)

(b) List **four** characteristics of habitats of halophytes. (4 marks)

12. (a) Explain **five** benefits of mangrove swamps. (10 marks)

(b) Describe **five** adverse effects of deforestation on the environment. (10 marks)

13. Explain nitrogen cycle under the following:

(a) nitrogen fixation; (10 marks)

(b) nitrification; (6 marks)

(c) denitrification. (4 marks)

14. Describe innate seed dormancy under the following:

(a) causes; (8 marks)

(b) methods of breaking. (12 marks)

15. (a) Explain the success of fungi as a plant pathogen. (10 marks)

(b) Explain **five** cultural methods of pests and disease management. (10 marks)

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