THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATIONS COUNCIL

ADVANCED CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

134/2 **AGRICULTURE 2**

(For Both School and Private Candidates)

Time: 3 Hours **Year: 2000**

Instructions

1. This paper consists of sections **ten (10)** questions in sections A and B.
2. Answer **five (5)** questions choosing at least **two (2)** questions from each section.
3. Each question carries **twenty (20)** marks.
4. Cellular phones are **not** allowed in the examination room.
5. Write your **Examination Number** on every page of your answer booklet(s).

SECTION A

CROP SCIENCE AND PRODUCTION

Answer at least **two (2)** questions from this section.

1. (a) Define the following terms as used in crop protection:

   (i) Economic injury level

   (ii) Economic threshold

   (iii) Pest resurgence

   (iv) Host plant resistance

   (b) Identify four non-insect pests of crops and describe one type of damage caused by each.

   (c) Suggest four advantages and two disadvantages of using pesticides in pest control.

2. (a) Explain briefly the following concepts in crop breeding:

   (i) Cross pollination

   (ii) Self pollination

   (iii) Heterosis

   (iv) Mutation breeding

   (v) Polyploidy

   (b) Mention three objectives of plant breeding.

   (c) Outline four disadvantages of mutation breeding.

3. (a) Assess the effectiveness of crop rotation and mixed cropping in controlling crop diseases.

   (b) Describe the symptoms, causative agent, and control measures of the following plant diseases:

   (i) Coffee berry disease

   (ii) Cassava mosaic disease

   (iii) Groundnut rosette

4. (a) Define the following weed-related terms:
   (i) Noxious weeds
   (ii) Allelopathy

   (b) (i) Briefly explain mechanical methods of weed control.
   (ii) Mention three advantages and three disadvantages of mechanical weed control.

   (c) Describe four chemical properties used in classifying herbicides.

5. (a) Explain two groups of parasitic bacteria giving one example in each.

   (b) Outline:
   (i) Four ways in which viruses spread in plants
   (ii) Four signs of nitrogen deficiency in plants
   (iii) Three common fungal diseases in cereals

   (c) Give a detailed description of rice yellow mottle disease in terms of symptoms, spread, and control.

SECTION B
LIVESTOCK SCIENCE AND PRODUCTION

Answer at least **two (2)** questions from this section.

6. (a) Differentiate between intensive and extensive livestock production systems.

   (b) Explain six benefits of intensive system of livestock production.

   (c) State four limitations of extensive livestock production.

7. (a) Describe four effects of internal parasites on livestock production.

   (b) Mention four common tick species and the type of disease each transmits.
   (c) (i) State five general signs of worm infestation in cattle.

(ii) Suggest three control measures of worm infestation.

8. (a) Define the following terms in animal nutrition:
   (i) Concentrates
   (ii) Maintenance ration
   (iii) Production ration
   (iv) Supplementary feed

   (b) Explain four functions of proteins in animal nutrition.

   (c) Outline six deficiency symptoms of protein in farm animals.

   (d) Describe three functions of carbohydrates in animal body.

9. (a) Briefly explain the function of the following parts of a cow's reproductive system:
   (i) Ovary
   (ii) Oviduct
   (iii) Uterus
   (iv) Cervix

   (b) Explain the process of fertilization and implantation in cattle.

   (c) State six signs of heat in a cow.

10. (a) Outline five characteristics of a good pasture grass species.

    (b) Mention five common legume species used in pasture improvement.

    (c) Suggest five measures for conserving fodder during dry season.

    (d) Explain five benefits of rotational grazing.