

**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: 2004

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).

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SECTION A
CROP SCIENCE AND PRODUCTION

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

1. (a) Define the following terms:
 - (i) Quarantine in crop protection
 - (ii) Host specificity
 - (iii) Insect vector
 - (iv) Economic damage
(b) Identify three storage pests of cereals and describe their damage.

(c) Suggest three measures of minimizing post-harvest losses.

2. (a) Briefly explain the following breeding methods:
 - (i) Mutation breeding
 - (ii) Marker assisted selection
 - (iii) Bulk breeding
 - (iv) Synthetic variety
(b) State three advantages of mutation breeding.

(c) Describe four limitations of using synthetic varieties.

3. (a) Explain the role of crop husbandry practices in controlling plant diseases.

(b) Describe symptoms, causal agents, and control of the following:
 - (i) Groundnut rust
 - (ii) Rice blast
 - (iii) Coffee leaf rust

4. (a) Define:
- (i) Invasive weeds
 - (ii) Herbicide resistance
 - (iii) Contact herbicides
- (b) (i) State three benefits of preventive weed control
- (ii) Mention four disadvantages of herbicide use in weed management
- (c) Explain four harmful effects of weeds in crop production.
5. (a) Name three major groups of fungal diseases with examples.
- (b) Outline:
- (i) Four bacterial diseases of cereal crops
 - (ii) Three viral diseases of legumes
 - (iii) Four nutrient deficiency symptoms in crops
- (c) Describe the nature, symptoms, and control of maize streak disease.

SECTION B

LIVESTOCK SCIENCE AND PRODUCTION

6. (a) Differentiate between free range and backyard poultry production systems.
- (b) State six advantages of free range poultry keeping.
- (c) List four disadvantages of backyard poultry system.
7. (a) Explain four harmful effects of protozoan parasites on livestock.
- (b) Describe the symptoms and control of the following diseases:
- (i) Trypanosomiasis in cattle
 - (ii) Mastitis in dairy cows
 - (iii) Newcastle disease in poultry

(c) Suggest four general measures for improving animal health on farms.

8. (a) Define:

(i) Digestibility

(ii) Feed conversion ratio

(iii) Nutrient

(iv) Energy value

(b) Mention four functions of water in livestock.

(c) List four deficiency symptoms of minerals in cattle.

(d) Discuss four importance of vitamins in animal body.

9. (a) Outline the functions of the following reproductive organs of a hen:

(i) Ovary

(ii) Infundibulum

(iii) Magnum

(iv) Isthmus

(b) State five factors affecting egg production in poultry.

(c) Suggest five management practices for improving hatchability in poultry farms.

10. (a) Mention five desirable characteristics of pasture legumes.

(b) Outline five principles of rotational grazing.

(c) Describe three methods of pasture improvement.

(d) State four advantages of reseeded pastures.