

**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: 2006

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).

maktaba.tetea.org



SECTION A
CROP SCIENCE AND PRODUCTION

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

1. (a) Define the following terms:
 - (i) Pest outbreak
 - (ii) Pest resistance
 - (iii) Pest surveillance
 - (iv) Biological equilibrium
(b) Explain the role of four natural enemies of insect pests in pest management.

(c) State two disadvantages of biological pest control.

2. (a) Briefly explain the following plant breeding concepts:
 - (i) Double cross hybrid
 - (ii) Pedigree selection
 - (iii) Genetic engineering
 - (iv) Clone
 - (v) Mutation
(b) List three advantages of genetic engineering in crops.

(c) Explain two limitations of using clones in plant breeding.

3. (a) Explain the importance of resistant varieties in controlling plant diseases.

(b) Describe the causes, symptoms, and control measures of the following diseases:
 - (i) Maize smut
 - (ii) Potato blight
 - (iii) Coffee berry disease

4. (a) Define:
- (i) Weed seed bank
 - (ii) Selective herbicides
 - (iii) Pre-emergence herbicides
- (b) (i) Explain three advantages of cultural methods of weed control.
- (ii) Mention three limitations of chemical methods of weed control.
- (c) Describe five general characteristics of weeds.
5. (a) Explain two groups of mycoplasma diseases in crops with examples.
- (b) Outline:
- (i) Three fungal diseases of cereals
 - (ii) Three viral diseases of tuber crops
 - (iii) Four bacterial diseases of vegetables
- (c) Describe the nature, symptoms, and control of cassava bacterial blight.

SECTION B

LIVESTOCK SCIENCE AND PRODUCTION

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

6. (a) Distinguish between nomadic pastoralism and ranching.
- (b) Mention six disadvantages of nomadic pastoralism.
- (c) List four advantages of ranching system.
7. (a) Describe four harmful effects of helminths in livestock.
- (b) Identify three types of worms affecting ruminants and describe briefly one control method for each.

- (c) Outline:
- (i) Three signs of coccidiosis in poultry
 - (ii) Two measures for its control
8. (a) Define:
- (i) Digestion
 - (ii) Absorption
 - (iii) Catabolism
 - (iv) Anabolism
- (b) Mention four functions of carbohydrates in farm animals.
- (c) State four deficiency symptoms of carbohydrates in animals.
- (d) Describe four functions of minerals in animal body.
9. (a) Describe the following reproductive hormones in cattle:
- (i) Follicle stimulating hormone (FSH)
 - (ii) Luteinizing hormone (LH)
 - (iii) Progesterone
 - (iv) Estrogen
- (b) Outline six events of the gestation period in cows.
- (c) Mention six causes of infertility in cows.
10. (a) Identify five characteristics of a good fodder crop.
- (b) Suggest five practices of pasture management in dry areas.
- (c) Explain three importance of fodder trees in livestock production.
- (d) State four benefits of pasture conservation.