

**THE UNITED REPUBLIC OF TANZANIA**  
**NATIONAL EXAMINATIONS COUNCIL OF TANZANIA**  
**ADVANCED CERTIFICATE OF SECONDARY EDUCATION**  
**EXAMINATION**  
**134/2**  
**AGRICULTURE 2**

(For Both School and Private candidates)

**Time: 3 Hours**

**Year: 2019**

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**Instructions**

1. This paper consists of sections **A** and **B** with a total of **ten (10)** questions.
2. Answer **five (5)** questions, **atleast two (2)** questions from each section.
3. Each question carries **twenty (20)** marks.
4. Cellular phones and any unauthorized materials are **not** allowed in the examination room.
5. Non-programmable calculators may be used.
6. Write your **Examination Number** on every page of your answer booklet (s)

## **SECTION A**

1. (a) Write a brief account on eight advantages and four disadvantages of using pedigree method of plant breeding.  
(b) Outline the general procedures which are used in developing crop varieties by mass selection.
2. (a) Given the symptoms of the disease
  - (i) give the name of the disease
  - (ii) give the causative agent of the disease and write its scientific name
  - (iii) suggest six cultural measures for the disease,(b) Enumerate seven reasons as to why people study plant diseases and (c) briefly explain four major factors influencing the occurrence of epiphytotic diseases in the field.
3. (a) State five fundamental principles of crop protection  
(b) Mention five effects of crop pests and (c) give the scientific names of the following storage pests:
  - (i) Lesser grain borer
  - (ii) Common rat
  - (iii) Warehouse moth,
  - (iv) Red flour beetle
  - (v) Zebrotres bruchid.
4. (a) Briefly describe the following terminologies as used in plant diseases
  - (i) signs
  - (ii) symptoms
  - (iii) animated plant diseases
  - (iv) abiotic plant diseases(b) Identify causative agent, two typical symptoms and two control measures for each of the following plant diseases:

- (i) cotton blight
  - (ii) tobacco mosaic
  - (iii) Black stem rust of wheat
  - (iv) Groundnut rosette.
5. (a) Briefly explain six environmental factors that affects the performance of the herbicides
- (b) Give six reasons of formulating pesticides
- (c) Briefly outline three non-insecticidal pest control measures available to farmers and (d) Briefly describe five features that have made weeds to have competitive edge.

### **SECTION B**

6. (a) Briefly outline five stages of the life cycle of one host tick,
- (b) Explain six damages caused by ticks on feeding to an animal
- (c) Mention five ways of controlling ticks in the pasture
- (d) List four effective characteristics of acaricides
7. (a) Account for the seven reasons which may cause lack of legumes in the pastures,
- (b) Describe four factors that affects yield potential of pasture species,
- (c) Briefly explain five qualities of a good pasture.
- (d) Suggest four possible strengths of zero grazing as compared to other systems of grazing.
8. Give brief explanation of how feed intake is affected by
- (a) feed processing
- (b) animals associated factors
- (c) food associated factors.
9. (a) (i) Give the meaning of the term animal breeding

- (ii) Briefly explain five usefulness of animal breeding in the improvement of animal production
  - (b) (i) Elaborate five suitability of inbreeding systems in the improvement of livestock.
    - (ii) outline four negative effects of inbreeding in the improvement of animal production
  - (c) Enumerate five ways in which pedigree selection is important in the improvement of animals production.
- 10. (a) Give the meaning of the following terms:**
- (i) Biotechnology,
  - (ii) Modern technology.
  - (iii) Conventional technology,
- (b) Briefly describe three environmental risks associated with Genetically Modified Organisms,
- (c) Identify four important effects resulted from global warming that poses a big challenge to agriculture in most parts of developing world
- (d) Briefly explain six potential benefits of Genetically modified organisms in production of crops.