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 **ANSWERS** **Year : 2011**

Instructions

1. This paper consists of sections **three (3)** questions.
2. Answer **two (2)** questions.
3. Question one (1) carries **twenty (20)** marks and questions **two (2)** and **three (3)** carries **fifteen (15)** marks each.
4. Non-programable calculators may be used.
5. Cellular phones are **not** allowed in the examination room.
6. Write your **Examination Number** on every page of your answer booklet(s).

1. You are provided with specimens: Z1, Z2, Z3, and Z4.

(a) (i) Identify specimens Z1, Z2, Z3, and Z4 by scientific names

Z1 is Maize (Zea mays), Z2 is Sorghum (Sorghum bicolor), Z3 is Tsetse fly (Glossina morsitans), and Z4 is Cattle tick (Boophilus spp.).

(ii) Explain how Z1 and Z2 can be preserved for long-term use

Maize and sorghum grains can be dried to reduce moisture content below 13%, then stored in airtight containers or silos. Alternatively, they can be treated with approved insecticides or hermetic bags to prevent pest infestation.

(iii) Give three reasons why farmers conserve Z1 and Z2

Conservation ensures seed availability for the next planting season, reduces post-harvest losses, and stabilizes household food security by providing grains during lean periods.

(b) (i) Explain how specimen Z4 infests livestock

Ticks attach to livestock by piercing the skin to suck blood, causing irritation, anemia, and potential transmission of tick-borne diseases like babesiosis and anaplasmosis.

(ii) Mention two livestock that commonly host specimen Z4

Cattle and goats are commonly infested by ticks.

(iii) Describe the relationship between Z3 and Z4

Both Z3 (tsetse fly) and Z4 (tick) are ectoparasites. They infest livestock externally and transmit pathogens that can lead to diseases, though their life cycles and hosts may differ.

(iv) Outline three methods for controlling specimen Z4

Methods include regular dipping or spraying with acaricides, pasture management to remove tick habitats, and isolating infested animals to prevent spread.

2. You are provided with specimens: AA1, AA2, and AA3.

(a) (i) Identify specimens AA1 and AA2

AA1 is CAN fertilizer (Calcium Ammonium Nitrate), and AA2 is DAP (Diammonium Phosphate).

(ii) State two roles of specimen AA2 in soil fertility

DAP provides phosphorus for root development and nitrogen for vegetative growth, improving crop establishment and yield.

(iii) Mention one danger of excessive use of specimen AA1

Overuse of CAN may lead to leaf burn, excessive vegetative growth, and soil acidification, reducing long-term fertility.

(b) (i) Identify specimen AA3 by its common name

AA3 is Maize weevil (Sitophilus zeamais).

(ii) State two crops affected by the pest in specimen AA3

Maize and sorghum grains are commonly attacked by maize weevils.

3. You are provided with specimens: AB1, AB2, AB3, and AB4.

(a) (i) Identify specimens AB1, AB2, AB3, and AB4

AB1 is Napier grass (Pennisetum purpureum), AB2 is Rhodes grass (Chloris gayana), AB3 is a pesticide (Malathion), and AB4 is a tsetse fly (Glossina morsitans).

(ii) Give three uses of specimen AB1 on the farm

Napier grass is used as high-protein fodder for livestock, to prevent soil erosion, and for mulching to improve soil moisture retention.

(iii) State two safety precautions when handling specimen AB3

Wear protective gloves and masks, avoid inhalation or skin contact, and wash hands after use.

(b) (i) Mention two control measures for specimen AB4

Use tsetse traps to reduce fly population and spray insecticides on animals or bushy areas where flies breed.