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 : 2006**

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: AF1, AF2, AF3, and AF4.

(a) (i) Identify specimen AF1 and state two uses in soil fertility

AF1 is Triple Superphosphate (TSP). It supplies phosphorus to crops, promoting root development, and enhances flowering and fruiting.

(ii) Outline three symptoms of deficiency corrected by AF2

AF2 supplies nitrogen. Deficiency symptoms include stunted growth, yellowing of older leaves (chlorosis), and poor tillering or reduced leaf size.

(iii) Mention two application methods of AF3 in the farm

AF3 is farmyard manure. It can be applied by broadcasting evenly over the field or incorporated into the soil during plowing.

(b) (i) Identify specimen AF4

AF4 is soybean meal, used as a protein-rich livestock feed.

(ii) Explain its importance in livestock feeding

Soybean meal provides essential amino acids necessary for growth, milk production, and egg-laying in poultry and other livestock.

(iii) Mention two dangers of excess use of AF4

Excess can cause digestive problems such as bloating and diarrhea, and may lead to nutrient imbalance if overused without other feed components.

2. You are provided with specimens: AG1, AG2, and AG3.

(a) (i) Identify specimen AG1 by its scientific name

AG1 is cassava, botanically Manihot esculenta.

(ii) State the disease affecting AG1 and its causal organism

Cassava mosaic disease caused by cassava mosaic virus (CMV).

(iii) Mention two methods of controlling the disease in AG1

Plant resistant varieties and remove or destroy infected plants to prevent virus spread.

(b) (i) Identify specimen AG2

AG2 is cowpea (Vigna unguiculata).

(ii) List three properties of AG2 that improve soil fertility

Fixes atmospheric nitrogen, adds organic matter when residues decompose, and improves soil structure with deep roots.

(iii) State one limitation of using AG2

Susceptible to aphid and pod borer infestations, which may reduce nitrogen contribution.

(c) (i) Identify specimen AG3

AG3 is maize bran, used in animal feed.

(ii) Explain its role in ruminant feeding

Provides carbohydrates for energy and fiber for proper rumen function, supporting weight gain and milk production.

3. You are provided with specimens: AH1, AH2, AH3, and AH4.

(a) (i) Identify each specimen AH1, AH2, AH3, and AH4

AH1 is Napier grass, AH2 is Rhodes grass, AH3 is a pesticide (e.g., Malathion), and AH4 is a tick (Boophilus spp.).

(ii) Mention two uses of AH1

Napier grass is used as high-protein fodder for livestock and for soil erosion control.

(iii) Outline three safety precautions when handling AH3

Wear gloves and protective clothing, avoid inhalation or ingestion, and wash hands thoroughly after use.

(b) (i) Name two animals commonly affected by AH4

Cattle and goats.

(ii) State two control methods for AH4

Regular dipping with acaricides and pasture management such as cutting or burning grass to reduce tick habitats.