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AGRICULTURE
Paper 1
2024
2½ hours



UGANDA NATIONAL EXAMINATIONS BOARD

Uganda Certificate of Education

AGRICULTURE

Paper 1
Theory

2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES:

*This paper consists of **six** examination items. It has **two** sections; **A** and **B**.*

*Section **A** has **two** compulsory items.*

*Section **B** has **two** parts; **I** and **II**. Answer **one** item from each part.*

*Answer **four** examination items in all.*

*Any additional item(s) answered will **not** be scored.*

***All answers must** be written in the Answer booklet(s) provided.*

SECTION A
SOIL SCIENCE AND VALUE ADDITION

Answer all items in this section.

Item 1.

- (a) Kagugu a farmer in Pabbu sub county in Uganda was advised to start a dairy farm on his one-hectare piece of land. He planted elephant grass and Congo signal grass in plots **A** and **B** respectively at the same time. He expects to receive in-calf dairy heifers in six months' time and both pastures have already reached their flowering stages. Therefore, there is no likelihood of him feeding the current pastures to the heifers which are yet to come. At the same time, he is not interested in selling his pastures in a green state to other farmers. In his first attempt to conserve the pastures, the final product was rotten, black in colour and produced an unpleasant smell.

Task

Write a message to Kagugu advising him on how to conserve his pastures.

- (b) In Pabbu sub-county where Kagugu practices farming, many other farmers have small plots of land that are scattered in many places. They keep little money from what they sell. This little money is kept in pillows, or wooden boxes. Some farmers do not even know how much money they have kept. During planting season, each farmer works alone in his/her farm, and by the time they finish, the first part of the garden they began with has already grown bushy. A market survey indicates that an individual farmer buys a litre of Rocket pesticide at Ugsh40,000, yet a 20 litre jerrycan of the same pesticide costs Ugsh600,000.

Task

Based on the above scenario, what advice would you give to the farmers in Pabbu Sub county?

Item 2.

Having realized that students in a school have preferences for fruits like passion fruits, the Young Farmers Club decided to establish an orchard in the school farm. Some areas of the school farm are steep and rocky with shallow soils while other areas are gently sloping with deep, well drained and fairly fertile soils. In the course of running the project, it was observed that the soils in the nursery were compact, sticky and flooded with water. The pH of the soil in the nursery is lower than the recommended range for fruit growing. The seedlings were thin with shallow roots, bent stems and yellowish leaves.

Task

In your view, suggest the improvements that the Young Farmers Club should do to ensure profitable fruit production on the school farm.

SECTION B

This section has two parts; I and II

PART I: ANIMAL PRODUCTION

Answer one item from this part.

Item 3.

Innocent who is an agricultural extension worker visited a farm and in his report he indicated that the roof of a calf pen was blown off. Also, the cows were bonny and their dung contained worms. The adult animals could hardly find what to eat and were grazing on woody natural pastures. The only source of water had snail shells, algae and dung. The lactating cows had cracks on their teats. Hair-like substances were seen in the milk which was filtered using an old cloth. The farm owner uses a basin for mixing the acaricide.

Task

Basing on the report from Innocent, how can the farm owner improve on the productivity of the livestock farm?

Item 4.

Peter is a poultry farmer producing both eggs and meat on a large scale. Recently he got a new farm manager and instructed him to establish a poultry breeding unit using the parent stock he has to produce chicks for sale. However, the farm manager was not getting the expected number of chicks from the hatchery. The farm is located in an area with many other poultry farmers and there is free movement of chicken from one farm to another. Birds from the neighbouring farms were observed with cough, blood-stained faeces, mucus discharge and scratch marks on their bodies.

Operation Wealth Creation has provided tools and equipment to livestock farmers in the community especially for disease and parasite management.

Task

Write guidelines to help the farm manager meet Peter's requirement.

PART II: CROP PRODCUTION

Answer one item from this part.

Item 5.

Mr. Maberu is a farmer who decided to grow cassava on one hectare of land. He obtained all the planting materials from his neighbours' farms. The cassava stems had dark brown streaks which appeared as scratches or wounds. The stems were cut into 20 cm long pieces. After clearing the bush using a slasher, Mr. Maberu used a forked hoe to plant the cuttings at a spacing of 3m x 3m. Some of the cuttings sprouted but others did not. Weeds grew very fast, the cassava leaflets were twisted, and stunted growth was observed in some cassava plants in the garden.

Mr. Maberu managed to weed once and decided to harvest the crop after 6 months using a forked hoe. Most tubers were found rotten at harvest and others damaged during harvesting. As a result, he obtained only two 200 kg of fresh cassava instead of the expected 12600kg per hectare.

Task

Write a message to Maberu advising him on how to obtain the expected yield.

Item 6.

A vegetable farmer decided to grow a hectare of tomatoes. He set up a nursery bed in a free draining area near a water source. After preparing the nursery, he broadcast the seeds, covered them well with soil and watered the bed. The seeds germinated well and seedlings covered the entire soil surface. He maintained all the seedlings up to the time of transplanting. Transplanting began at twelve noon on a sunny day as the farmer had to attend a meeting at 2.00 pm the same day. After a week, some empty spaces were noticed within the crop rows. The plants which survived had many branches and leaves. When the farmer inspected his crop before the plants reached maturity, he observed dark brown patches on the leaves and stems. Dark brown circular spots were also covering large parts of the fruits. At a later stage, holes were also observed on some bigger fruits. At harvest, farm workers picked the fully ripe red fruits, packed and sealed them in plastic bags. The packed fruits were to be delivered to the market in a week's times.

Task

Write a message to the vegetable farmer advising him on how he should carry out tomato production efficiently.