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527/1

Principles &**Practices of Agriculture****Paper 1****2¹/₂ hours**

Apex Examination Council

Uganda certificate of education**PRINCIPLES AND PRACTICES OF AGRICULTURE****Paper 1 (Theory)****2 hours 30 minutes****INSTRUCTIONS TO STUDENTS:**

- ❖ This paper consists of 6 items
- ❖ The paper 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 items in all.
- ❖ Any additional items attempted will not be scored.

SECTION A

VALUE ADDITION AND SOIL SCIENCE

Item 1: Value Addition.

Mukama grows pineapples in Busaana village for the market. He doesn't know how much income and expenditure he incurs on his farm. During harvesting, he always picks green and yellow pineapples and takes them to the market.

He carries the pineapples in a woven basket on his head to Kayunga market. Many pineapple farmers from Busaana village have formed a co-operative society but Mukama is reluctant to join because he doesn't know the benefits of being a member.

He sometimes gets a lot of money from his pineapples but he keeps the money in a very safe box in the ceiling of the house.

Tasks

- a) Advise Mukama on how he can profitably benefit from his pineapple project.
- b) Guide Mukama on how he can produce pineapple juice from his pineapples.

Item 2. Soil Science

Joseph is a farmer who mainly deals in root and stem tuber production. He grows cassava on his two acres of land he inherited from his father but the cousin also claims ownership of the same land.

In some parts of the farm land, the soil tests carried out indicate a pH that is very low cassava growing. Joseph tried to mulch using dry grass to minimise soil erosion on the steep slope of his land but all his crops were washed away.

In some parts, the soils are brown in colour with a low humus content for cassava growing. In other areas, the soils are so compacted for the tubers to easily establish and develop.

Task

Suggest the soil improvement practices that Joseph can employ to improve cassava yields from his farm.

SECTION B

This section has two parts: I and II

PART I- ANIMAL PRODUCTION

Item 3

James is a prominent rabbit farmer in Ntooke village. He rears local rabbits for meat production. Rabbits reach slaughter age at 6 months. He uses modern hutches but recently he observed water passing through the roof of the hutch. The overhang roof put to control rain water is short. One of the hutches was placed on the ground because it was too heavy to

lift up. His rabbits have long claws. The walls of the hutch were constructed full height to control dampness. The rabbits are seen always scratching themselves.

The male rabbits always fight in the hutch. The rabbits are always seen scratching themselves. He slaughters his rabbits at the age of two months for meat using a blunt surgical blade.

Task:

Advise James on how he can rear rabbits profitably.

Item 4

Mr. Kibuuka is a cattle farmer in Gomba District of Uganda. He keeps cattle on a large scale for both milk and meat production. Research was carried out on his farm and the findings that were compiled indicated the following;

He buys his animals from Gomba cattle market after every three months. He feeds his animals on steamy pastures on the farm. He keeps good records for every animal on the farm. He always cleans the calf pens on a daily basis. It was observed that he made a cemented slippery floor in the calf pen for easy cleaning. He made very tall (long) walls under roof of his cattle pen to prevent people from seeing inside.

Kibuuka uses one feeder and drinker to feed his animals. His cattle were seen scratching themselves on the walls. He uses a bull from the nearby farmer for mating his cows and the calves produced are slow growing. Some of the animals are producing worm segments in the dung.

Kibuuka organised a party and slaughtered a bull from the banana plantation. He then stored the meat overnight in the store and by morning it had unpleasant smell.

Task

Using the report above, advise Kibuuka on how to improve productivity from his cattle farm.

PART II- CROP PRODUCTION

Answer one item from this part.

Item 5

Benjamin decided to grow bananas. He prepared the garden during the wet season. He obtained suckers from James' garden. He planted the bananas the way they were obtained from the garden.

Some maize plants he never planted were seen growing amongst the banana plants. Each mature banana plant had six (6) suckers growing at the base of the stem. All banana plants had very many leaves on them. Benjamin used a rusty blunt panga to cut off the dry banana fibres and used a lot of energy during the exercise. Some of the banana plants had bent stems.

During harvesting, he cut the stem 50 centimetres off the ground. The base of the stem of the harvested bananas had dark tunnels running through them. He has continuously suffered losses due to the constant low yields.

Available information shows that banana stems should be cut at 80 centimetres off the ground during harvesting.

Task

Write an essay, advising Benjamin on how to increase yields from his banana plantation.

Item 6

In Kagungu village, vegetable growing is a serious project for most of the farmers. The farmers mostly grow spinach. These spinaches are first raised in a nursery bed before they are transferred to the main garden.

A farmer planted his spinach seeds in the nursery bed and the seeds germinated very well. He watered them by placing a jerry can full of water over them, he transplanted them to the main garden when they had 6 – 7 leaves. He used a hand hoe to scope the seedlings from the nursery bed and transported them to the main garden in gunny sacks.

A week after transplanting, some spinach plants were seen having clusters of insects on the leaves. The farmer decided to apply SSP fertiliser when the spinach plants started forming poor leaves. The farmer decided to spray his spinach in order to control diseases. He used a bucket pump sprayer but the chemicals splashed all over his body and burnt him. When the farmer was moving in his garden, a snake bite his foot and he became paralysed.

When the spinach matured, He harvested them immediately after heavy rains that day and they got soiled. He then left them in the garden after harvesting for six hours and all of them wilted.

Task

As an agriculturalist, what message can you give to this farmer so that he can benefit from his spinach enterprise?

END
