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**PRINCIPLES AND
PRACTICES OF AGRICULTURE**

Paper One

June/July.2024

2hours **30** minutes

~~PLEASE PRINT NAME HERE~~

PRE-MOCK EXAMINATIONS 2024

Uganda Lower Secondary Certificate of Education

PRINCIPLES AND PRACTICES OF AGRICULTURE

Paper One

Duration: **2**hours **30** minutes

INSTRUCTIONS TO CANDIDATES:

- The paper consists of **six** examination items.
- The paper has **two** sections **A** and **B**.
- Section A has **two** compulsory items.
- Section B has **two** parts **I** and **II** and a candidate is required to 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 from this section.

Item 1.

Mr. Rukundo a farmer in Kamagu village cultivates a small acreage of 5 hectares. He has an extended family with four house wives and 28 children. He works hard to ensure that he meets his family needs. Mr. Rukundo also owns two other small land fragments in the nearby village and has over cultivated them to get enough family food. However, Mr. Rukundo grows crops on poor soils with low nutrient content due to over cultivation. Kamagu village is found in the cattle corridor but with scanty poor pasture species. Recently, Mr. Rukundo bought five improved dairy cattle breeds and always moves with them from one place to another looking for pasture and water. This has exposed his cattle to attack by parasites and diseases. Generally, the situation is not good and there is a great decline in both crop and animal production.

Task:

As an Agriculturalist with vast knowledge about farming, write a message to Mr. Rukundo advising him on how to transform his farming into a modern and more profitable farming system. (20 marks)

Item 2.

Mr. Kapere wanted to grow beans on a large piece of land. He cleared all the vegetation from the area and collected the trash to allow proper movement of the farmer to all points in the field. After collecting the trash from the cleared area, he spotted 20 places in the field convenient for picking soil samples from. He collected the necessary tools required for the activity. He put on gumboots, farm gloves, went to the farm tools and equipment store and picked a hand hoe, soil auger, spade, soil sampling bag and loaded the tools onto the wheelbarrow. He then pushed the wheelbarrow to the field ready to collect soil samples.

Task:

As a Pedologist, suggest the activity that Mr. Kapere was going to carry out, write an essay explaining the steps that were to be taken to fulfill Mr. Kapere's need and give reasons for carrying out the above activity on the farm.

(20 marks)

SECTION B

PART I

ANIMAL PRODUCTION

Answer one item from this section

Item 3.

Nabbumba is an Agricultural Extension Worker in greater Mukono area. She visited Kizuka's rabbit farm at Naggalama near Naggalama parish. After her farm's visit, she reported that rabbits were found crowded in a simple ground hutch with a roof sheltered with rusty and broken iron sheets. The hutch had no wire netting, light source and had a broken wooden door with a rotten part. Research showed that the hutch was constructed in an open space close to the main road, had dirty feed and water troughs placed on a damp floor with rotten litter and rabbits had freedom to move out of the structure any time. Nabbumba's report indicated that rabbits were fed on any kind of food and fermented pelleted feed remains were seen in some dirty feed troughs. In the short period she was at the farm, she observed that the feeding and watering schedule was not strictly followed, rabbits were in poor condition with over grown teeth and worms were seen in their droppings. There was general weight loss, loss of fur and some dead rabbits were seen in cage corners.

Task:

In your view, explain the precautions that Kizuka should take to ensure profitable rabbit production on his farm. (20marks)

Item 4.

Katungye is a livestock farmer in Rukungiri district. He rears cattle, goats, sheep, pigs and poultry. The farm is in an area with many animals and birds have freedom of movement from one place to another. He established a green fence around his livestock farm. Recently, Rukungiri District production officer visited Katungye's farm and observed that the green fence had overgrown trees and shrubs with wide gaps at the bottom. Katungye constructed a valley pond that serves as a central water source for all his animals. Sometimes animals from other farms in the nearby villages enter through the fence and meet Katungye's animals at the drinking water point. In addition to the above, the farm buildings are in bad condition. Two weeks ago, birds from other farms were observed with severe cough, bloodstained droppings, mucus discharge from nostrils, difficulty in breathing, dropping wings, loss of appetite, scratch marks on their bodies and some pigs had suffered from African swine fever. Recently, Katungye employed a new farm manager to guide his farm workers on what to do. The new farm manager booked, paid, and stocked 20 cows, 40 goats, 40 sheep, 40 pigs and 2000 poultry layer birds.

Task:

Write an advisory note to the farm manager to help him overcome Katungye's livestock farm challenges in order to improve production and earn more profits. (20 marks)

PART II

CROP PRODUCTION

Answer one item from this part.

Item 5.

Vegetable growing has become a profitable project that has sustained lives of many Ugandans today. In many rural communities, vegetable nursery beds are established near swamps and vegetables are transplanted to the prepared fields with well drained fertile soil. Urban farmers raise vegetables in sacks, perforated wooden boxes to allow excess water to drain away. Some urban farmers raise them in pots as potted crops, perforated concrete basements, old drums, cut water tanks, basins, tins, and cut jerrycans. In some urban settings, farmers raise vegetables in vegetable tower gardens while others raise them in aerial gardens. This is done in order to utilize the small space available for productive farming. However, these vegetable farmers face a challenge of limited knowledge about suitable vegetable varieties to grow, general growth requirements and others lack the necessary facilities for keeping them in a fresh form after harvesting to attract buyers in the market.

Task:

As an agronomist with vast vegetable growing knowledge, explain the basic principles of vegetable growing and give the measures to overcome the challenges that vegetable growers face in raising and marketing the vegetables and vegetable products.
(20 marks)

Item 6.

Maputo is a senior two school drop-out individual but owns a model mixed crop farm in Kalambi village. When she was still in secondary school, she acquired knowledge about growing coffee, bananas, avocado trees, guava trees, maize, beans, ground nuts, soya beans, cow peas and vegetables. She prepares crop fields early so that her crops can benefit from the first rains. She employs good crop management practices that lead to bumper harvests. Maputo collects and records farm information in her simple note books but does not know how to prepare and balance farm records. During last year, she captured and recorded the following information in different note books; Value of implements used Shs.850,000, seeds in the store Shs.150,000, bank over draft Shs.400,000, value of crops Shs.245,000, depreciation Shs.85,000, cash in the bank Shs.450,000, debts payable Shs.110,000, crop store Shs.462,000, prepaid expenses Shs.50,000 and debts payable 190,000.

Task:

As a student of Agriculture with vast knowledge about financial management, show how you would help Maputo to prepare a balance sheet as at 31st December 2023 and explain to her the value of preparing records on the farm.

(20 marks)

END