

NAME.....STREAM.....

P515/1
AGRICULTURE
Paper 1
February 2026
3 hours.



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UGANDA ADVANCED CERTIFICATE OF EDUCATION
AGRICULTURE SET ONE ASSESSMENT 2026

SENIOR six
Paper 1 (theory)
3 hours.

INSTRUCTIONS TO CANDIDATES:

*This paper consists of **four** compulsory examination items.*

All answers **must** be written in the spaces provided.

FOR EXAMINERS USE ONLY

Item.	Scores.
1	
2	
3	
4	
TOTAL SCORES	

BASIC SCIENCE AND VALUE ADDITION.

Item one.

During a scientific investigation, biochemists investigated how different substances move across cell membranes and cell walls in living organisms.

In one setup, oxygen gas was observed entering red blood cells from surrounding fluid. In another setup, carbon dioxide moved out of the same cells into the surrounding medium.

When plant root hair cells were placed in distilled water, water entered the cells and the vacuoles enlarged.

In a separate experiment, glucose was observed entering intestinal epithelial cells even when its concentration inside the cell was already high.

Large protein molecules were observed being moved out of a cell in vesicles, while digestive enzymes were taken into some cells by membrane folding.

Task

- i. For each of the movements described, name the biological process responsible and give an explanation to defend your choice.
- ii. Explain the role of the cell membrane and cell wall in regulating these movements.
- iii. Distinguish between passive transport and active transport using examples from the scenario.

Item two.

A group of individual poultry farmers in Bukolwa town decided to add value to eggs by producing powdered egg white for sale to bakeries and small food processors. The powder was packed in transparent plastic containers that had previously been used for other food products. Different quantities were packed depending on container size. Farmers believed that since egg white powder looks the same, grading was unnecessary.

The product was sold under different names depending on who was selling while others used no name at all. No information was written on the containers, as farmers assumed buyers already knew how the product was used. Prices were decided during sale by bargaining with customers. No prior inquiry was made to bakeries about preferred packaging size, quality standards, or demand levels.

Powdered egg white was transported together with other farm products such as vegetables in sacks. Sales were mainly done at weekly markets, even when bakeries requested regular supply. Orders were sometimes delayed or not supplied at all. Records were kept by writing on a wall. When customers complained about lumps and off-smell, sellers blamed weather conditions and made no adjustments to the process.

Task:

- a) Describe the proper procedures for value addition of eggs into powdered egg white.
- b) Advise them on how marketing functions should be correctly applied to effectively market their product.

ANIMAL PRODUCTION

Item three.

Mutesi decided to establish a large scale rabbit enterprise around his home. The rabbit unit was set up close to the children's playing yard because it was sheltered from strong winds by nearby buildings. He constructed a rabbit hutch with one big compartment to house all the rabbits. No provision was made for future expansion of the unit at the time of construction. He intended to source breeding stock from different parts of the village as opportunities arose. Water for the rabbits was to be obtained as remains after washing utensils and then served to rabbits on plastic plates, while feeding and general care would be handled by any family member

available during the day. Equipment for handling rabbits was not considered essential at the initial stage and was to be acquired later if the enterprise proved profitable.

The animals are identified only by colour and size. When they are moved for counting or treatment, family members chase them and hold them by ears. Some rabbits have overgrown nails and walk with difficulty. Dung accumulates in the night shelter and is removed occasionally when space becomes limited. Vaccination is not carried out regularly because outbreaks are rare in the area. When a rabbit dies, the carcass is dragged outside and left for dogs.

On the day of slaughtering, he chooses any animal that is readily available. The animal continues to feed with the rest of the herd until it is separated for slaughtering later in the morning.

The selected animal is chased from the hutch and tied near the slaughtering place. Slaughtering is done in an open garden area near home. The animal is laid down by force using ropes and cut immediately to allow bleeding. During bleeding, the animal cries for some time before becoming still. The knife used for slaughter is placed on the ground when not in use. Some people step over the carcass as skinning continues couple with talking.

Task.

Advise Mutesi on how to improve his rabbit rearing project.

CROP PRODUCTION

Item four.

Auma decided to grow banana on a piece of land that had been used for some-time in growing coffee. The land is flat and located close to a seasonal grazing area used by neighbouring farmers. Before planting, Auma cleared the field by burning the vegetation. She carried out shallow cultivation using a hoe to save time and planted immediately in the mid of the rain season. The field was not divided into plots to ease management.

After establishing a banana plantation, he continued to manage the crop over several seasons. Weeding was done by slashing when weeds became tall, and the cut weeds were left around the stools. In some parts of the plantation, several suckers were allowed to grow around the same stool to maximize yield.

During dry periods, the soil surface between banana plants was kept exposed to allow proper growth. Some banana plants developed weak pseudo stems and bend after heavy rains. Blackened leaf edges and streaks appeared on older leaves, but no action was taken since the plants continued producing new leaves. Some organisms were occasionally noticed near the bases of some stools. Fertilizers were applied irregularly whenever they were available.

No harvesting tools were prepared before harvesting. Harvested bunches were dropped onto the ground and gathered later as work progressed. Bananas with sap stains and bruises were placed together with clean bananas in a basket that had carried goat manure.

Task

Advise Ssenyonga on how to improve management of bananas in his plantation.

END