527/1

AGRICULTURE

Paper 1

(Theory)

Jul/Aug 2026

$2^{1}/_{2}$ hours

USTAA MOCK EXAMINATIONS 2026

AGRICULTURE

Paper 1

(Theory)

2hours 30 minutes

INSTRACTIONS TO CANDIDATES:

This paper consists of **six items** *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 sheets provided.*

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Turn Over

SECTION A

SOIL SCIENCE AND VALUE ADDITION

Respond to **both** items from this section.

Item 1

Joan is a tomato farmer who produces a large quantity of tomatoes on her farm. She packed the tomatoes into wooden crates and left them in the sun for the entire day. By the evening, some were observed to have wrinkled surfaces. She sorted the tomatoes and stored them, on the following day, some had developed molds and soft surfaces. Joan learned that there was a high demand for tomato sauce in her community. She used the available equipment to make the product. However, the customers complained that it contained dark flecks. The profits obtained are used for plaiting hair and repairing her finger nails. She consistently lacks clear information on tomato cultivation and management, and as a result she is failing to achieve her goals. Her fellow tomato farmers, who are members of the Twekembe Farmers Association, receive training every season on tomato growing and management. She is now worried about her business and is seeking your advice on how she can improve the marketing of her tomatoes.

Task:

(a) Advise Joan on how she can improve the marketing of the tomatoes from her farm. *(Include reasons for your advice).*

(b) Give guidelines on how Joan can come out with good quality tomato sauce.

Item 2

Peter established rice on his gently sloping land that he acquired from his parents. He claims that the land belongs to him, though it has no official documentation. The land is characterized by numerous shallow trenches running down the slope. The soil is brownish with large particles widely spaced and it dries out very fast. The growing plants appear stunted and yellowish. Peter is worried about the status of his crops and has approached you for possible remedies. *Rice grows well under high soil moisture.*

Task:

Suggest to Peter the remedies he can take to address his worries. *(Your suggestions should include reasons).*

SECTION B
PART I:
ANIMAL PRODUCTION

Respond to only **one** item from this part.

Item 3

Rita rears New Zealand white rabbits for meat production. She established rabbit hutches and finished the floor with concrete. Every morning, she realized that the floor was ever damp. She placed wire mesh on the sides half way and finished the remaining part with plywood. She sourced rabbits from the neighbor's farm and introduced them into the hutches. Her rabbits are constantly shaking their ears and scratching their bodies with their claws. At times, they observed with wounds of their claws all over their body. The rabbits are fed plenty of sweet potato veins on a daily basis. She woke up one morning and observed that the rabbits were producing stained faecal matter and abdominal distensions. She slaughters rabbits and produces only two kilograms of meat per rabbit. The meat obtained contains smell of strange plants. The rabbits are slaughtered from under trees surrounded with many strange plants. Rita complains that she is not getting enough from his farm.

(Research data shows that New Zealand white rabbits slaughtered at 6-7 months produce 4.5-5.5kg of meat).

Task:

Explain how Rita can ensure increased productivity on her farm.

Item 4

Deborah rears chicken on a large-scale using battery cage system. She owns a hatchery unit where she hatches the eggs at the farm. She picks eggs at random for incubation. Upon inspecting the incubated eggs after 7 days, it was observed that some eggs had their embryos sticking on the shells. The hatched chicks are transferred from the incubation unit to the brooding house whose inner corners are round. On the day of arrival, the chicks were observed feeding on the litter. After brooding, the growers were moved to the growers' house whose floor was rammed with concrete and covered with coffee husks. She uses a stocking rate of 8 birds per m^2 for layers. The birds always have inability to stand and some have wounds on the cloaca. The house contains a foul smell as chicken droppings are only removed once a week. Some birds have small organisms attached to their eyes. The collected eggs are cleaned, piled in a box and stored in a cool place. The

broilers are currently sold at 18 weeks. She says that the business is performing below her expectations.

(Available information shows that broilers should be sold off at 5-7 weeks of age and stocking rate for layers in battery cage system should be 5-6 birds per m^2).

Task:

Guide Deborah on how to improve the performance of her poultry business.
(Your guidance should include reasons).

PART II: CROP PRODUCTION

Respond to only **one** item from this part.

Item 5

Mafabi established a hydroponics system for growing tomatoes. He used a nutrient film technique system having metallic tubes to supply nutrient solution and hold plants. The flow of the nutrient solution was irregular because it was done manually due to the system's long distance from the power source. He used fine clay soil to hold plants in the grow trays. The established plants possessed soft textured roots with slippery coating. The distribution pipe and reservoir contained greyish surfaces and blocked at certain points. The reservoir was losing nutrient solution which required daily refilling. The nutrient pump was observed receiving low power currents, even though the power source was in good working conditions. The established tomatoes were bushy. The tomatoes were harvested by removing the whole plants from the system and collecting fruits in black polythene bags. Mafabi did not get the high profits he anticipated and is wondering what he can do to maximize profits as he embarks on a second season.

Research data shows that plastic tubes are more preferred in hydroponics system.

Task:

Explain to Mafabi how he can maximize profits from his hydroponic gardening in the second season.

Item 6

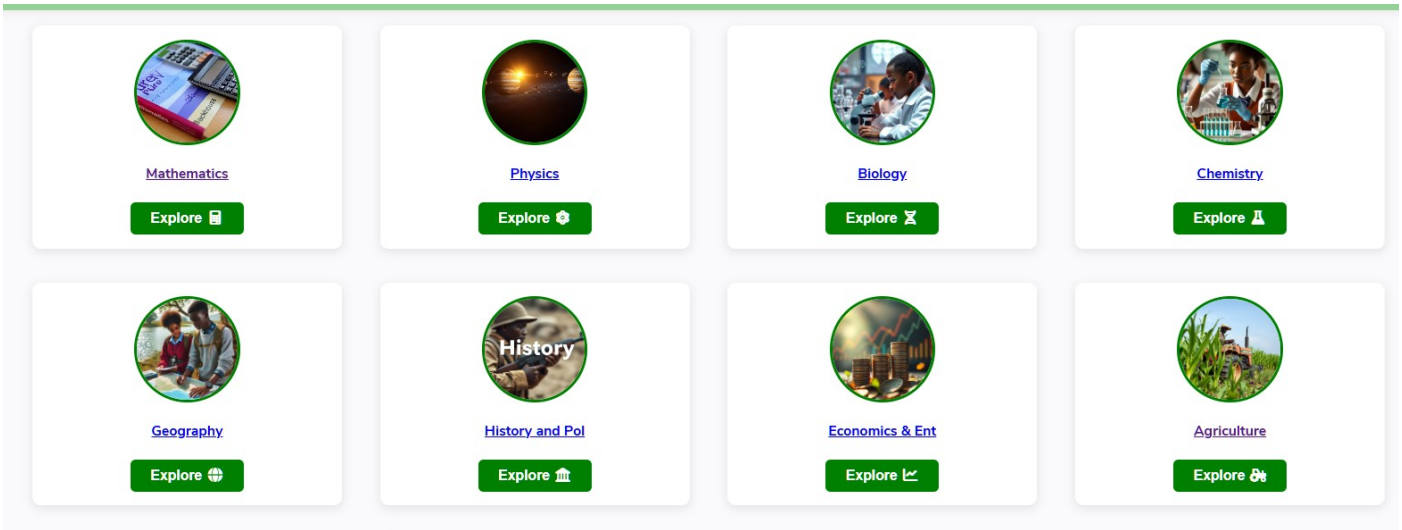
After realizing the high demand for maize, Mukasa decided to establish a maize plantation in his garden. He acquired maize seeds from a certified agricultural shop and mixed them with some seeds from his store to reach the quantity he needed. He cleared the seedbed using a panga with a broken handle. He planted the maize seeds on the same day he finished to ploughing using a seed rate of 5 maize seeds per hole. After establishment, unclear plants were growing taller than the maize crops and stems contained holes bored on all sides. Some plants dried up leaving empty spaces in the garden while some plants had their roots exposed on the surface. He harvested the maize when the husks were still green on a rainy day. Mukasa now complains that he is not getting the yields he expected and has approached you for advice. *A recommended seed rate should be at least 2-3 maize seeds planted per hole.*

Task:

What advice would you give to Mukasa to benefit profitably from his maize project. *(Your advice should include reasons).*

END

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