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PRINCIPLES
AND PRACTICES
OF AGRICULTURE
(Theory)
Paper 1
November 2023
2 hours



WAKISSHA JOINT EXAMINATIONS

End of Year Assessment

SENIOR THREE

PRINCIPLES AND PRACTICES OF AGRICULTURE

Paper 1

THEORY

2 hours

INSTRUCTIONS TO LEARNERS:

- *Attempt any three taking at least one item from each sub section.*
- *All responses must be written in the booklet provided*
- *All items carry equal scores*

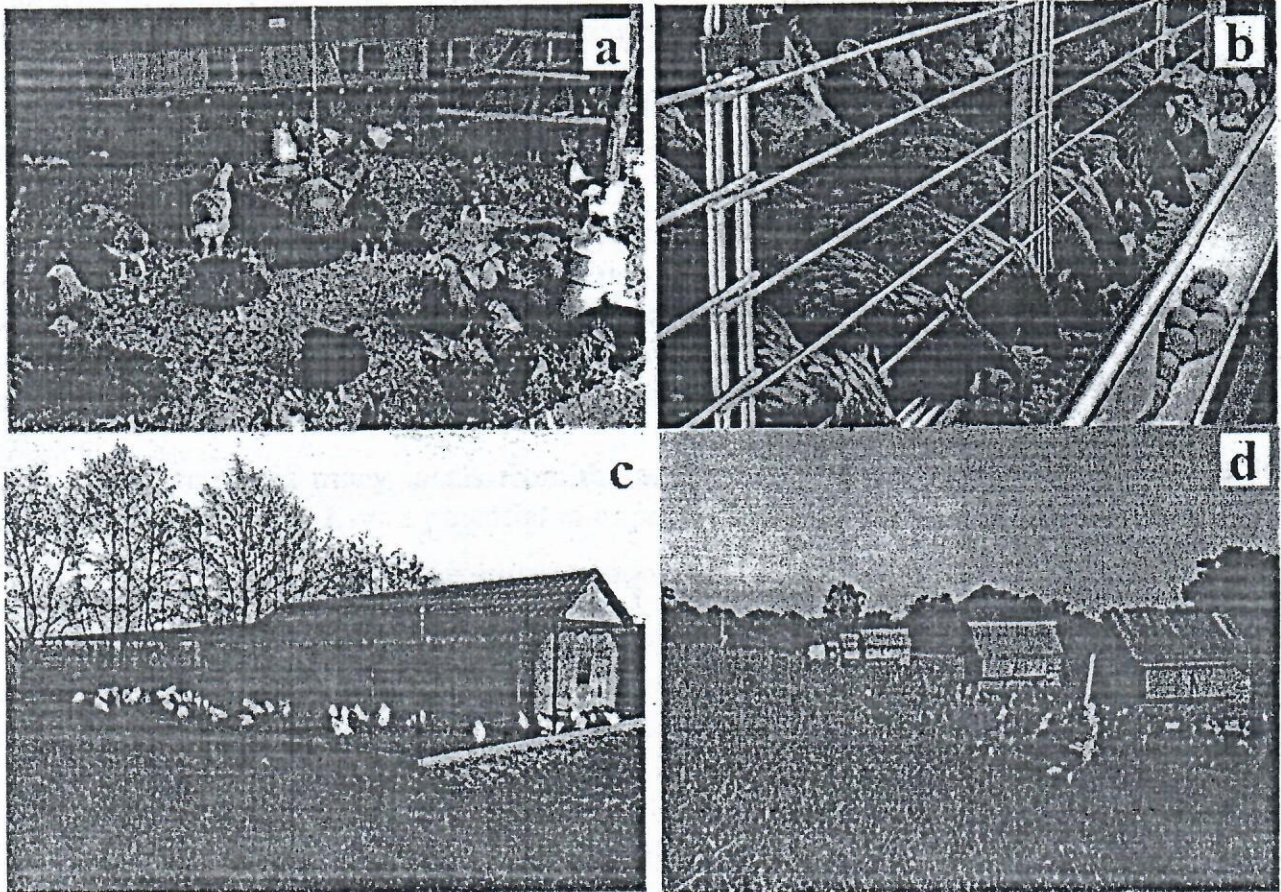
SUB SECTION I

ANIMAL PRODUCTION

1. Majority of rural population in Uganda consider domestic birds as a "*bank*" from which they can easily convert physical to financial capital.
In such areas in most cases, few birds are reared and left to scavenge for food, wonder around, mixing freely with other birds in the community and above all exposed to predators. All this has resulted to low production ability of these birds as *seen in fig.1 part (d)*.

The birds are housed in small semi-permanent structures with dusty floors and no ventilators which expose birds to sneezing and sometimes face difficulty in breathing. Eggs laid are at times soft shelled and even the good ones are laid in bushes making their collection for record purposes difficult. The traditional breeds reared have a low potential to sit on their eggs for three weeks due to the conditions in the houses they are kept in.

This has discouraged many locals from the activity and now takes it to be less valuable enterprise and yet they have a potential to improve and benefit more from this activity.



TASK:

You have been sent to these local communities as an agricultural extension worker to sensitize the local, make a clear briefing you will present to them so that they can benefit from the activity.

(20 scores)

2. Cattle are a great resource in various homesteads in different parts of Uganda. The Ministry of Agriculture, Animal Industries and Fisheries (MAAIF) intends to donate a cow to each homestead in your sub-county.

These are cows that the ministry had given out to some other farmers in the past at the peak of their lactation on condition that they should maintain their production efficiency or even improve it to the highest. These cows had the capacity to produce 17 – 20 litres of milk daily. After their second parturition, their milk production drastically decreased to about 3–6 litres daily since last year. The cows appear emaciated, with rough skins and constantly produce hard dung.

The ministry intends to give them to other farmers in your sub – county at the onset of the rainy season and when they are 7 months pregnant each. Rains are very scarce in this region and it has been forecasted that the rainy season will last for only two months. Furthermore, the forecast indicated more rain will be received six months later.

TASK:

Design a circular that you would disseminate to homesteads in your sub –county such that they benefit from this opportunity. (20 scores)

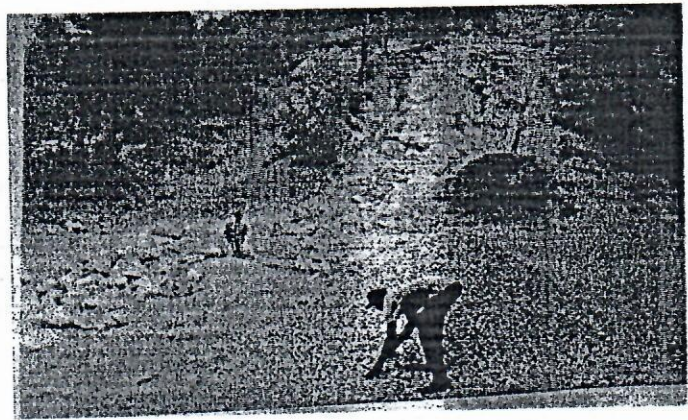
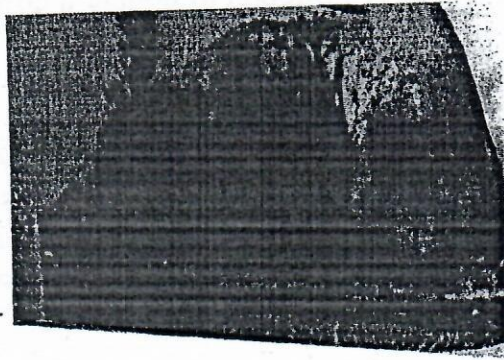
SUB SECTION II

CROP PRODUCTION

3. James is a young boy from Manawa district who likes discovery and learning from old people. During first term holidays, he visited his grandparents in the village. Being a young active boy, he helped them to do some domestic work like garden work, grazing among others.

One day, while digging the little boy asked his elder how the soil they were cultivating came into existence. The old man laughed, smiled and responded to him with a low voice that “my son it’s *God who created the earth and other creatures including soil*”. The little boy kept quiet but he was not convinced. Some days he could see his grandfather breaking stones to sell for a living but still he kept on asking himself why the dust particles disappear after selling the big stones. When he tried to inquire from the elder, he was told that wind has blown it away. But still the response was not satisfactory to the little boy. While grazing one of the days, James came across a small river flowing on top of the rock, holes dug by rats and as he continued, he found a tree growing on the other side of the rock and its roots had penetrated through the rock and has caused the rock to fracture and above all some water from the river was entering into the fracture. He was surprised up on seeing all these events. When he returned home, he narrated the whole scenario to his elder expecting to be guided on his discovery but that didn’t happen.

Fig.2



a) **TASK:**

You have met James arguing with his parents about the same scenario, make a clear write up to these people which will enable them discover more about the genesis of soil existence. (20 scores)

4. Vegetables are a good accompaniment to meals and well known for their plenty of nutrients especially vitamins.

Soroti district is dominated by herdsmen with plenty of livestock and rich plant bio-diversity such as red pepper, Moringa, Mexican sunflower, Lantana camara, among others. A Youth Development Group (YDG) was established in this district, three months back. After getting the parish development model PDM money, these youths secured an acre of fairly fertile land and chose to grow *sukumawiki* on it. They chose to do because of its scarcity in the district as witnessed in Soroti central market much as they had never grown it before.

Besides, the available few sellers on the markets sell damaged products with black holes and some of varying colours on different parts of the leaves. Next to their one acre of land is a commercial rabbit farmer whose wastes from the enterprise are bothering the youths and therefore propose that he should shift his business. They were gifted with all the ordinary necessary farm tools and equipment by an NGO and *sukumawiki* seeds by the National agricultural advisory services (NAADS) chairperson.

These youths had no money to buy other inputs even the little they got from the parish development model (PDM) was spent on one acre of land and this has forced them to halt their plan.

TASK.

- a) As the District Extension Officer, explain to the youth group how they can use the available resources to reach their goal. (20 scores)

SUB SECTION III

PROCESSING AND MARKETING

5. Kamwenge district is composed of 280 registered fruit farmers. Upon harvest of their fruits each farmer has a big task of searching for potential buyers of his/her fruits. Some do sell the fruits in the gardens a month to full maturity and then the buyer takes care of the garden up to harvesting time. It was discovered that their average harvest is about 15 bags of fruits per farmer and each bag weighs 100 kg. This puts their overall total production to about

Each kilogram of passion fruit is sold at Shs.570 at the farm gate whereas the traders in town centers such as Kampala, Mukono, and Wakiso were selling Shs. 2500 per kg and passion fruit juice at Shs. 4000 a glass in big restaurants

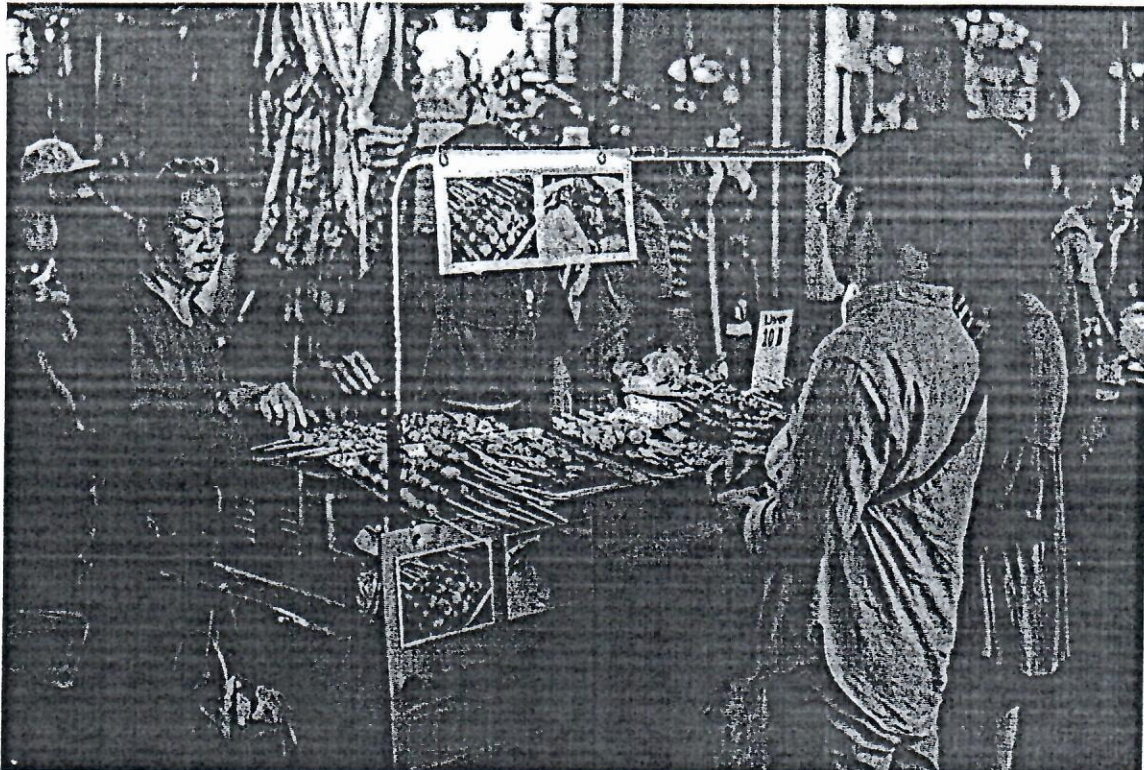
One of the farmers opted to transport his 15 bags of passion fruits to Kampala after hiring the only available lorry in their sub county. The lorry had the capacity to carry up to 120 bags of fruits. He sold at a better price of Shs. 1,100 per kg. His total revenue obtained from sales was Shs. 1,800,000. He paid for transport services to the driver amounting to Shs. 1,200,000.

By May 2023, most of the fruit farmers were discouraged from continuing growing the crop despite its high yielding potential but low returns.

TASK:

- a) As the marketing manager of a fruit factory, write an article that a local newspaper will publish to motivate farmers of Kamwenge district. (20 scores)

6. A trader observed that there was increased demand for roasted meat in his trading center. He decided to start the business of roasting and selling the same in the trading center. In the beginning of the business, He could buy 20 kgs of meat per day from the abattoir and sell everything since the demand and supply were at equilibrium point. Later on, He started transporting the fresh meat on a wheel barrow and at times he piles meat in a plastic bucket as his storage facility. The meat started developing bad smell, changed colour to green and attracted many flies. The taste of the roasted meat was unpleasant and most consumers complained of stomach upsets. They decided to avoid eating the roasted meat from the trader. The trade later noticed that roasted meat business could no long meet the basic needs as it has been. He is wondering on what to do.



TASK:

- a) As an agriculture student, what advice would you give the trader to save his situation and remain in the same business? (20 scores)