

527/1  
AGRICULTURE  
Paper 1  
20242  
½  
HOURS

## YAAKA EXAMINATIONS

Uganda Certificate of Education  
AGRICULTURE  
Paper 1  
TIME: 2 hours 30 minutes

### INSTRUCTIONS TO CANDIDATES

- This paper consists of six examination items in all. 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.
- Respond to four examination items in all. Any additional item(s) answered will not be scored. All responses must be written in the Answer booklet(s) provided.

FOR EXAMINER'S USE ONLY			
SECTION	ITEM	SCORE(S)	EXAMINER'S SIGNATURE
<b>A</b>	1		
	2		
<b>B</b>	3		
	4		
	5		
	6		
<b>TOTAL</b>			

## **Section A**

**Answer all the items in this section.**

### **Item 1**

Mwesigwa, a farmer in Masindi district, decided to start a small-scale poultry farm with 500 broilers. He was advised to use improved hybrid chicks to maximize production. After setting up the poultry house, he noticed that the feed consumption was high, and the growth rate of the birds was slower than expected. The birds were also frequently falling ill, and he had high mortality rates despite having vaccinated the birds against common diseases. He uses a diesel generator to power the brooder and feed mixer, but frequent power outages disrupt his operations. Additionally, Mwesigwa was approached by a local buyer who offers a low price for the broilers, far below the market rate.

#### **Task:**

Provide guidelines to Mwesigwa on how he can improve his poultry production and address his challenges.

### **Item 2**

In Kayunga district, a group of rice farmers under the Kayunga Rice Growers Cooperative (KRGCC) noticed a decline in their yields. Their farms are situated near a wetland, and water levels in the paddies have been unstable due to erratic weather patterns. The cooperative has tried different fertilizers to improve soil fertility, but results have been inconsistent. Additionally, the rice grains are small, and many are discolored, reducing their market value. KRGCC aims to meet the increasing local demand and supply to an international buyer in China.

#### **Task:**

As an agricultural extension officer, provide advice to KRGCC on how to improve their rice yields and quality to meet international standards.

## Section B

**This section has two parts: I and II.**

### **PART I: ANIMAL PRODUCTION**

*Answer only one item from this part.*

#### **Item 3**

Nalukwago owns a small dairy farm with five local breed cows in Wakiso district. Despite receiving advice from local veterinary officers to improve feeding practices, she continues using natural grazing. Her cows are often seen feeding on weeds, and there is no proper pasture management. The milk yield has been poor, and the quality often deteriorates quickly, even when stored in a cooler. Recently, one of her cows developed mastitis, and another had a stillbirth. She relies on a hand milking system, which sometimes causes bruising on the cow teats.

#### **Task:**

Write a newspaper article that would educate small-scale dairy farmers like Nalukwago on best practices to improve dairy production and animal health.

#### **Item 4**

In the rural areas of Lira district, a rise in pig farming has been observed. Many farmers keep their pigs in poorly ventilated, overcrowded sties, often feeding them with food scraps and non-formulated feeds. There have been reports of swine fever outbreaks, high parasite loads, and poor growth rates among the pigs. Most farmers are unaware of the proper feed formulation, biosecurity measures, and the importance of regular veterinary visits. Many pigs are also slaughtered at a young age due to high feed costs.

#### **Task:**

Design a sensitization message for pig farmers in Lira district to help them adopt better pig farming practices and improve productivity.

## **PART II: CROP PRODUCTION**

*Answer only one item from this part.*

### **Item 5**

Muwanga owns a coffee plantation in the hilly areas of Mbale district. His coffee trees were initially productive, but recent changes have seen a decline in berry quality, increased incidences of coffee leaf rust, and poor soil management practices. The trees are overgrown, with branches overshadowing each other, leading to stunted growth and low yields. Additionally, many of the berries are poorly formed and infested with pests. Muwanga wants to explore organic farming practices to improve his coffee quality and meet the standards required for export.

#### **Task:**

Write a letter advising Muwanga on organic farming practices that could help him improve his coffee yields and control pest and disease infestations.

### **Item 6**

Kamanzi is a horticultural farmer in Mubende district, growing tomatoes, onions, and green peppers. He relies on rain-fed agriculture and minimal use of inputs. His crops are often affected by drought stress, and some plants show signs of nutrient deficiencies. Pests and diseases such as tomato blight and onion thrips frequently destroy his produce. Kamanzi wishes to venture into off-season farming to boost his income and reduce competition from other farmers during peak seasons.

#### **Task:**

Guide Kamanzi on how to establish a sustainable irrigation system and other measures to enhance off-season farming in his horticultural enterprise.

**END**

## MARKING GUIDE TO THE TASKS ABOVE

### Section A

#### Item 1: Guidelines for Mwesigwa to Improve Poultry Production

1. **Improve Nutrition and Feed Management:**
  - Use high-quality, balanced commercial feeds that meet the nutritional needs of broilers at different growth stages. Ensure the feed contains the correct protein, energy, vitamins, and minerals.
  - Implement proper feeding schedules and avoid overfeeding or underfeeding. Monitor feed consumption to reduce wastage and ensure efficiency.
2. **Enhance Biosecurity and Health Management:**
  - Improve hygiene in the poultry house to reduce the risk of diseases. Clean and disinfect the poultry house regularly, and ensure adequate ventilation to maintain air quality.
  - Establish a vaccination and health monitoring schedule to prevent common poultry diseases such as Newcastle disease, infectious bronchitis, and coccidiosis.
3. **Optimize Brooder Management:**
  - Ensure the brooder temperature is well-regulated, especially during the first few weeks of the chicks' life. Use gas brooders or solar-powered alternatives to reduce reliance on diesel generators.
4. **Improve Housing Conditions:**
  - Ensure that the poultry house is well-ventilated, has proper spacing, and provides adequate light. Avoid overcrowding to reduce stress and the spread of diseases.
5. **Marketing and Pricing Strategy:**
  - Explore different market outlets, such as local markets, hotels, and supermarkets, to negotiate better prices for the broilers. Form partnerships or cooperatives with other farmers to gain better market access and bargaining power.
6. **Alternative Energy Solutions:**
  - Consider installing solar panels to power essential equipment like brooders and feed mixers, reducing dependency on the diesel generator and minimizing power disruption issues.

#### Item 2: Advice for Kayunga Rice Growers Cooperative (KRGK)

1. **Water Management and Irrigation:**
  - Implement efficient water management practices such as controlled irrigation systems that ensure consistent water levels in the paddies. Use water-saving technologies like alternate wetting and drying to improve water use efficiency.
  - Consider constructing water storage facilities like small reservoirs or tanks to capture rainwater for use during dry periods.
2. **Soil Fertility Improvement:**
  - Conduct regular soil tests to determine nutrient deficiencies and apply the appropriate fertilizers. Use organic matter like compost and green manure to improve soil structure and fertility.
  - Rotate rice with legumes or other crops to break pest cycles and improve soil nitrogen levels.
3. **Pest and Disease Management:**

- Implement integrated pest management (IPM) strategies, including the use of pest-resistant rice varieties, biological controls (natural predators), and minimal use of chemical pesticides.
  - Maintain good field hygiene by removing diseased plants and weeds that may harbor pests.
4. **Improving Rice Quality:**
- Harvest rice at the right time to ensure grain quality, and use proper post-harvest handling techniques, such as drying the grains to the recommended moisture content before storage.
  - Store rice in clean, dry conditions to prevent discoloration and maintain quality.
5. **Training and Capacity Building:**
- Organize training sessions for farmers on best practices in rice production, pest control, and post-harvest handling to ensure they meet the quality standards required by international markets.

## **Section B: PART I - ANIMAL PRODUCTION**

### **Item 3: Best Practices for Small-Scale Dairy Farmers**

1. **Improved Feeding Practices:**
- Introduce high-quality forage such as Napier grass, alfalfa, or legumes that provide essential nutrients to the cows. Supplement with concentrates during milking to enhance milk production.
  - Provide mineral supplements to meet the cows' nutritional needs and prevent deficiencies that can affect milk quality.
2. **Proper Pasture Management:**
- Practice rotational grazing to allow pastures to recover and reduce overgrazing. Plant improved pasture species to increase forage availability and quality.
  - Control weeds in the pasture to ensure cows feed on nutritious grass rather than unwanted plants.
3. **Milk Hygiene and Quality:**
- Improve milking hygiene by washing the cow's udder and the milker's hands before each session. Use clean milking equipment to prevent contamination.
  - Consider using a simple milking machine to reduce bruising on the teats and minimize the risk of mastitis.
4. **Disease Prevention and Control:**
- Implement regular veterinary checks and a vaccination program to protect against common cattle diseases such as mastitis, foot and mouth disease, and brucellosis.
  - Provide clean, fresh water to the cows and maintain a clean living environment to reduce disease transmission.
5. **Proper Storage of Milk:**
- Use proper cooling methods such as milk cans placed in coolers to preserve milk quality. Avoid storing milk in warm conditions, which can cause rapid spoilage.

#### **Item 4: Sensitization Message for Pig Farmers in Lira District**

##### **1. Improve Housing Conditions:**

- Construct well-ventilated pigsties with enough space to prevent overcrowding and reduce stress among the pigs. Ensure the sties have proper drainage to keep the environment clean and dry.

##### **2. Proper Feeding Practices:**

- Provide balanced diets using formulated feeds that meet the nutritional needs of pigs at different growth stages. Avoid feeding pigs with only scraps or waste food, which can lead to nutritional deficiencies.
- Incorporate local feed resources such as maize bran, soybean meal, and fishmeal to reduce feed costs while maintaining quality.

##### **3. Biosecurity Measures:**

- Implement strict biosecurity measures to prevent the introduction and spread of diseases. Limit access to the piggery by visitors, disinfect the entry points, and provide clean clothing and footwear for workers.
- Isolate new or sick pigs from the rest of the herd to prevent disease spread.

##### **4. Regular Veterinary Care:**

- Schedule regular veterinary visits for vaccinations, parasite control, and general health checks. Keep detailed records of all treatments and interventions.

##### **5. Proper Slaughtering Practices:**

- Raise pigs to an optimal weight before slaughter to maximize profits. Ensure humane and hygienic slaughtering practices to produce high-quality pork.

#### **Section B: PART II - CROP PRODUCTION**

#### **Item 5: Advice to Muwanga on Organic Coffee Farming Practices**

##### **1. Pest and Disease Control:**

- Use organic pest control methods such as neem extracts, garlic sprays, or biological controls like introducing beneficial insects to reduce pest populations.
- Prune coffee trees regularly to improve air circulation and light penetration, reducing the incidence of coffee leaf rust and other fungal diseases.

##### **2. Soil Fertility Management:**

- Apply organic fertilizers like compost, manure, and green manure to enhance soil fertility and structure. Use mulching to retain soil moisture and suppress weeds.
- Avoid chemical fertilizers and instead opt for organic soil amendments to maintain a healthy and balanced soil ecosystem.

##### **3. Improving Plant Health:**

- Thin out overcrowded branches to allow better growth and prevent competition for nutrients. Focus on keeping the coffee plants well-shaped and managed for optimal yield.
- Ensure that the coffee plants are spaced properly to avoid shading and improve overall plant vigor.

##### **4. Post-Harvest Handling:**

- Harvest coffee cherries at the peak of ripeness to ensure high-quality beans. Process the cherries promptly using organic-approved methods to avoid contamination.
- Store dried coffee beans in clean, dry conditions to maintain their quality before sale.

## **Item 6: Guidance for Kamanzi on Sustainable Irrigation and Off-Season Farming**

### **1. Establish a Sustainable Irrigation System:**

- Invest in drip irrigation or a sprinkler system that delivers water directly to the plant roots, reducing water wastage and improving efficiency. This is particularly useful for off-season farming when water is scarce.
- Use rainwater harvesting techniques to collect and store water during the rainy season for use during dry spells.

### **2. Soil and Water Conservation:**

- Practice mulching to retain soil moisture, reduce evaporation, and suppress weeds. Incorporate organic matter into the soil to improve its water-holding capacity.
- Construct contour bands or terraces on sloping land to prevent soil erosion and conserve water.

### **3. Crop Rotation and Intercropping:**

- Rotate crops with legumes or other cover crops to maintain soil fertility and break pest cycles. Intercrop with drought-tolerant species to maximize land use and reduce the impact of pests and diseases.

### **4. Off-Season Farming Practices:**

- Choose drought-resistant varieties for off-season farming to minimize the effects of water scarcity. Implement timely planting and harvesting schedules to avoid peak competition periods and achieve better market prices.
- Utilize greenhouses or shade nets to protect crops from harsh weather conditions and extend the growing season.



JOINT CERTIFICATES COURSES ONLINE BY



# GET ICT SKILLS TO EARN YOU

OVER \$2,000 A MONTH

Study a one month course (2hours, 3days a week) that will equip you with the practical skills and knowledge you need to start a profitable hustle even as you study, using your phone



## CHOOSE FROM A VARIETY:

Digital Graphics & Imaging \$250

Digital Video Production \$250

AI Prompt Engineering \$250

Digital Content Creation 250

Social Media Essentials \$250

Website and apps design \$490

Creative Writing & Book Publishing \$390

## MORE INFORMATION

+256770730170

info@yaaka.cc

DJC.CHUSS@MAK.AC.UG



[www.yaaka.cc/makerere-djc](http://www.yaaka.cc/makerere-djc)  
<https://jocom.mak.ac.ug/programs/short-courses>





**ULTIMATE**  
**Multimedia Consult**  
 Value added News, Information & Knowledge

# GET EXPERT SUMMARIES

## SAVE TIME ON READING:

- GET KEY TAKE-AWAYS FROM 100S OF GREAT BOOKS
- ASK AI OF GREAT AUTHORS WHAT YOU WANT
- ANSWERS FOR YOU
- ANYTIME, ANYWHERE

## GAIN ADANTAGE:

Attain the advantage in having this business, spiritual and esoteric knowledge, and wisdom by sages who implemented it. Get insights of a book in less than 10mins.

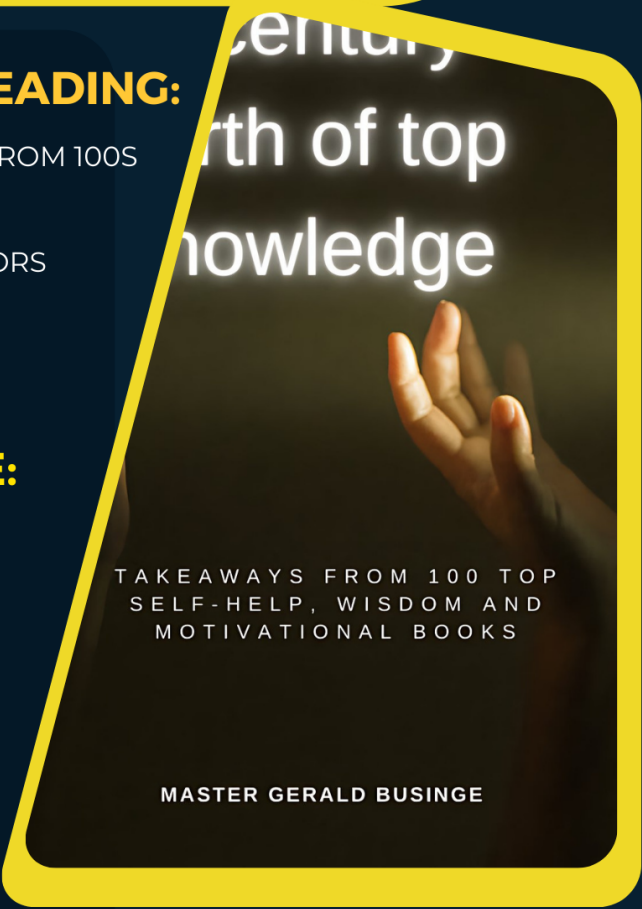
**\$50 MONTHLY FOR UNLIMITED ACCESS**



+256771324119

INFO@ULTIMATEMASTERS.ORG

[WWW.ULTIMATEMASTERS.ORG/COACHING](http://WWW.ULTIMATEMASTERS.ORG/COACHING)



MASTER GERALD BUSINGE





Get the best digital learning  
ANNY TIME, ANYWHERE

# PRIME NOTES, ASK & GET ANSWERED

BY SUPER AI TEACHERS  
FOR ALL YOUR SUBJECTS



## SUBSCRIBE & GET



### PERSONALISED LEARNING

OUR AI CHAT TEACHERS ACT AS  
YOUR 24/7 PERSONALIZED GUIDES.



### PRIME CONTENT, DOWNLOADS

GET CONTENT FOCUSES ON PRACTICAL  
APPLICATION, HELPING YOU TRANSLATE  
THEORY INTO ACTIONABLE SKILLS FOR  
YOUR CAREER OR PERSONAL GOALS.



### STAY AHEAD

WITH CONSTANTLY UPDATED PREMIUM  
CONTENT, YOU'LL GAIN ACCESS TO THE  
LATEST TRENDS AND KNOWLEDGE IN  
YOUR SUBJECTS, DOWNLOAD THEM

GET UNEB OR MOCK EXAMS & TESTS,  
ASK THE AI TO SPOT FOR YOU EXAMS

[www.yaaka.cc/subscribe-to-learn](http://www.yaaka.cc/subscribe-to-learn)

## Staffed to best support you

“  
YAAKA.CC IS MORE THAN JUST A  
LEARNING PLATFORM - IT'S AN  
EMPOWERING COMMUNITY  
WHERE YOU'LL HAVE THE TOOLS  
AND SUPPORT TO ACHIEVE YOUR  
FULL POTENTIAL.  
”



Agnes tumuheire  
Digital Specialist



Philimon Badagawa  
Learning Facilitator



Enid Nabumati  
Multimedia Specialist



Gerald Businge  
Technical Lead

10,000UGX A MONTH



+256770730170



info@yaaka.cc



OR 50,000UGX A YEAR

