



FINAL EXTERNAL INTEGRATED SUMMATIVE ASSESSMENT
OCCUPATIONAL CERTIFICATE: ORCHARD AND VINEYARD FOREMAN
EXEMPLAR

PAPER 1 OF 2 · Instrument code: OVF-EISA-V1-P1

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Date: Exemplar – published sample

Marks: 60

Time: 3 hours when administered

Duration: 3 hours

Instructions

This paper consists of 17 pages including the cover page.

This is Paper 1 of the EISA for this qualification. Paper 1 counts 60 marks (3 hours) and Paper 2 counts 40 marks (2 hours); the two papers are written on different days and together total 100 marks.

All questions are compulsory. The pass mark is 50%, and an overall mark of 65% across both papers is required to be found competent.

This paper: Question 1.1 (25 Marks) · Question 1.2 (20 Marks) · Question 1.3 (15 Marks)

- Answer every question in the spaces provided in this question paper.
- This is a closed book assessment.
- Read the instructions for each question before answering, and use the mark allocation to guide the length of your answer.
- Candidates are not allowed any form of assistance and must adhere to the invigilator's instructions at all times.
- Any attempt at cheating will lead to disqualification. No cell phones are allowed.

Candidate details

First name:	
Surname:	
ID number:	

SCENARIO 1

Read the following case study carefully. Looking at the the case study answer the questions below:

Scenario: Integrated Management of Citrus, Table Grapes, and Stone Fruits in South African Agriculture

Location: Paarl, Western Cape, South Africa

Climate: Mediterranean climate with warm, dry summers and cool, wet winters. Ideal conditions for citrus production.

Soil: Well-draining, sandy loam soils which support healthy root systems.

QUESTION 1.1 (25 POINTS 75 MINUTES)

Lead, monitor and control a skilled and motivated work team to achieve quality and quantity targets in an orchard or vineyard.

Scenario Overview:

You manage a table grape vineyard and a peach and plum orchard in Paarl. Harvest is near, and you need to get a big harvest while keeping the fruit top quality. Your team is skilled in harvesting, pruning, and pest control. Your job is to make sure they meet daily goals, work together well, and stay motivated.

QUESTION 1.1.1 (13 POINTS 39 MINUTES) (MULTIPLE CHOICE)

Planning

1.1.1.1 What is ONE of the MOST important things to do when planning work in an orchard or vineyard? Choose the best answer and briefly explain your reason.

a) Hiring workers for the busy season.

b) Fixing problems that come up.

c) Setting achievable goals for how much will be produced, considering what the market wants and what resources are available.

d) Regularly checking the quality of the fruit.

Organizing

1.1.1.2 What's the BEST way to organize a team for orchard work? Choose the best answer and briefly explain your reason.

a) Give jobs based on each worker's skills and experience, and what the job needs.

b) Give jobs based on how long someone has worked there.

c) Give jobs to workers randomly.

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d) Don't worry about how the team works together.

Leading

1.1.1.3 Harvesting is tough. How can a foreman BEST motivate their team? Choose the best answer and briefly explain your reason.

a) By always pointing out what they do wrong.

b) By only caring about how much work gets done.

d) By giving people more work without saying thank you.

d) By praising their work, celebrating successes, and making sure everyone feels supported.

1.1.1.4 Your team seems unhappy. What should you do? Choose the best answer and briefly explain your reason.

a) Ignore it and hope things get better.

b) Tell them off to make them work harder.

c) Find out why they're unhappy and fix the problem.

d) Give them more work to keep their minds off it.

Monitoring

1.1.1.5 You set daily goals for picking fruit. What's the BEST way to check progress and quality? Choose the best answer and briefly explain your reason.

a) Regularly check the fruit, using a checklist, and give feedback on what's good and what needs to be improved.

b) Ask workers to tell you how much they picked.

c) Wait until the end of harvest to check how things went.

d) Don't worry about daily goals; let workers do their own thing.

Controlling

1.1.1.6 Your orchard hasn't been producing enough fruit for a few seasons in a row. What should you do? Choose the best answer and briefly explain your reason.

a) Blame the workers for poor performance.

b) Fire all the workers.

c) Examine everything from start to finish to find out what's wrong and fix it.

d) Do nothing and hope things get better next year.

1.1.1.7 Your fruit quality isn't as good as it should be, even though you seem to be following all the best practices, irrigation, nutrition and pest control. What should you do? Choose the best answer.

a) Keep doing what you're doing and hope for better results next year.

b) Replace your workers.

- c) Use more pesticides, fertilizer, and water.
- d) Carefully check every part of how you manage your orchard to find the problem and fix it.

QUESTION 1.1.2 (12 POINTS 36 MINUTES)

Set daily targets, monitor performance and address deviations to achieve the production plan for the orchard or vineyard.

Scenario

Sunrise Orchards in the Eastern Cape faces big challenges growing citrus, grapes, and blueberries. The climate (hot, humid summers; mild winters) and high humidity create ideal conditions for pests and diseases, which are a major problem, especially for blueberries. The soil is okay, but nutrient levels are uneven.

Setting Daily Targets

1.1.2.1 Sunrise Orchards needs to set daily targets for its blueberry harvest. What factor should be given the HIGHEST priority when determining the daily harvest volume? Choose the best answer and briefly explain your reason.

- a) The number of workers available for harvesting.

- b) The current market price for blueberries.

- c) Predictions of berry ripeness based on how the berries look and weather forecasts.

- d) The amount of fertilizer used on the blueberry plants.

1.1.2.2 During harvest, you need to pick 500 kg of grapes every day, and you have five teams. What's the BEST way to set targets? Pick one and briefly explain your choice.

- a) Give each team 100kg to pick.

- b) Give each team 50kg, in case something goes wrong.

- c) Give each team 100kg but change the amount depending on how well they've done before and what problems there might be (weather, equipment etc.).

d) Push each team to pick 125kg to get the most grapes possible.

Monitoring Performance

1.1.2.3 You want to make sure your fruit-picking team is doing a good job. What's the BEST way to monitor their work? Pick one and briefly explain your choice.

a) Have regular meetings to discuss progress and address any issues.

b) Check their social media posts.

c) Only look at the final amount of fruit picked by all teams.

d) Let each team member keep their own records.

1.1.2.4 One of your blueberry-picking teams is lagging behind other teams. What's the BEST way to find out why? Pick one and briefly explain your choice.

a) Tell the team off.

b) Have a quick chat with the team to see if there are any problems (equipment, tired workers, etc.).

c) Do nothing and see if they catch up.

d) Give their work to other teams

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Addressing Deviations

1.1.2.5 Lots of your citrus fruit is rotting, so your pickers aren't meeting their targets. What's the MOST likely reason? Pick one and briefly explain your choice.

a) The workers aren't motivated.

b) The trees need more water.

c) The weather has been bad.

d) There's a disease problem because of pests or poor disease control.

1.1.2.6 Sunrise Orchards' blueberries are being attacked by pests and diseases. What's the BEST long-term plan to deal with this?

a) Use more pesticides.

b) Use a combination of methods (preventative, biological, chemical only if necessary) to control pests and diseases sustainably.

c) Stop growing blueberries and plant something else.

d) Get a new team to manage the blueberries.

SUB-TOTAL: 25

QUESTION 1.2 (20 POINTS 60 MINUTES)

Control vineyard or orchard practices.

QUESTION 1.2.1 (4 POINTS 12 MINUTES)

Control and evaluate cultivation practices to determine adherence to safety rules and regulations and to improve and maintain safe working conditions.

Safety Training

1.2.1.1 Plan a safety training session for your team that includes these three important topics: (Write a short sentence regarding each point that you can use to train your team with.)

1. How to safely use pesticides.
2. How to safely use equipment. (Discuss two pieces of equipment)
3. Why personal protective equipment (PPE) is important.

Pesticides –
Equipment –
PPE –

Regular Risk Assessments

1.2.1.2 List TWO possible dangers on your farm (in the vineyard or orchard) and explain one practical way the foreman can reduce the risk for each danger.

Danger 1 –
Danger 2 –

Monitoring Compliance

1.2.1.3 Explain how a checklist system can be used to monitor compliance with safety regulations at your farm. Include TWO specific examples of items that should be checked regularly using the checklist.

Feedback Mechanism

1.2.1.4 Describe a system for anonymously reporting safety concerns at your farm. Explain why anonymity is important, and how the foreman should respond to reported concerns.

QUESTION 1.2.2 (8 POINTS 24 MINUTES)

Processes and procedures to monitor production output for adherence to quality, hygiene and technical standards.

Quality Control Protocols

1.2.2.1 Your farm needs to improve its quality control procedures for the fruit. Describe THREE specific quality control measures that should be implemented *before* harvest, focusing on ripeness, size, colour, and defects.

Hygiene Standards

1.2.2.2 Outline THREE hygiene protocols that should be implemented at your farm to prevent contamination during the harvesting and handling of citrus fruit.

Production Monitoring

1.2.2.3 You use daily production logs to track harvested quantities. Explain how comparing the *actual* daily harvest to the *expected* daily harvest can help identify potential problems. Give TWO examples of problems that might be revealed through this comparison.

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Stakeholder Communication

1.2.2.4 Describe TWO methods you could use to communicate quality expectations to harvesting teams and provide feedback on their performance. Explain why regular communication is essential for maintaining a focus on quality and hygiene.

QUESTION 1.2.3 (8 POINTS 24 MINUTES)

Conduct regular inspections in the orchard or vineyard of equipment and processes to address deviations from standards and initiate preventative steps.

Inspection Schedule

1.2.3.1 Develop a sample inspection schedule for a fruit orchard, covering key aspects of tree health, pest and disease monitoring, and fruit quality. Your schedule should include at least Two different types of inspection and specify how frequently each should occur.

Inspection 1	
Schedule	
General Information	
Inspection 2	
Schedule	
General Information	

Equipment Checks

1.2.3.2 Outline TWO key aspects of regular equipment maintenance in a fruit orchard, highlighting the importance of preventative maintenance and its benefits. Explain how this maintenance relates to worker safety and overall productivity.

Aspect 1	
Schedule	
General Information	

Aspect 2	
Schedule	
General Information	

Process Audits

1.2.3.3 Describe TWO key processes in fruit production where regular audits are essential for maintaining quality and efficiency. For each process, identify TWO specific factors that should be included in the audit.

Process 1	
Factor 1	
Factor 2	
General Information	
Process 2	
Factor 1	
Factor 2	
General Information	

Documentation and Action Plans

1.2.3.4 Explain the importance of maintaining detailed records of inspections, audits, and corrective actions on a fruit farm. Outline TWO benefits of a well-maintained documentation system.

Benefit 1:
Benefit 2:

SUB-TOTAL: 20

QUESTION 1.3 (15 POINTS 45 MINUTES)

Production activities of a horticultural crop from establishment to harvesting through all growth stages of the crop are discussed.

Given a set of questions and/or scenario(s) with information on production activities and crop growth stages and seasonal production cycle

QUESTION 1.3.1 (2 POINTS 6 MINUTES)

Explain the plant structure and functions and the influence thereof on horticultural processes.

Plant Structure:

1.3.1.1 Complete the table below, giving a short description of the function of each plant part:

Roots	
Stems and trunks	
Leaves	
Flowers and fruit	

Influence on Horticultural Processes:

1.3.1.2 Complete the table below, giving a short description of the production practices that influences the health or growth of each plant part: (practices include, irrigation, nutrient management, plant manipulation etc.)

Plant part	Production Practice
Roots	
Stems and trunks	
Leaves	
Flowers and fruit	

QUESTION 1.3.2 (3 POINTS 9 MINUTES)

Define and explain crop establishment principles.

Scenario Overview:

Coastal Fruit Farms, located in the Western Cape, produces citrus, table grapes, and stone fruits for both the local and export markets. The region has a Mediterranean climate with predictable rainfall, but recent years have shown increased variability. The farm is facing significant challenges due to fluctuating global market prices for its products. Coastal Fruit Farms needs to develop strategies for adapting to market volatility, optimizing production costs, and ensuring long-term economic sustainability and profitability. They need to consider factors such as diversification of crops. To diversify their crops, they are looking at establishing new plantings.

Crop Establishment:**Key Principles:****Site Selection and Preparation**

1.3.2.1 Coastal Fruit Farms is planning new plantings. Which of the following BEST describes the primary reason for conducting a thorough soil test before establishing a new orchard. Choose the best answer.

- a) To determine the amount of fertilizer needed.
- b) To assess soil drainage and identify potential problems that could hinder plant growth (e.g., poor drainage, high salinity).
- c) To determine the best time of year to plant.
- d) To satisfy local agricultural regulations.

Proper Planting Techniques:

1.3.2.2 When planting citrus trees, which of the following practices is MOST important for ensuring adequate root development and air circulation? Choose the best answer.

- a) Planting trees very close together to maximize space utilization.
- b) Planting trees very deep to protect them from frost.
- c) Following recommended planting depths and spacing based on the specific needs of the citrus variety.
- d) Planting trees randomly across the orchard.

Water Management:

1.3.2.3 Immediately after planting new grapevines, which irrigation practice is MOST important for ensuring successful establishment without negatively impacting plant health? Choose the best answer.

- a) Applying a large amount of water all at once to saturate the soil.
- b) Allowing the soil to dry out completely between irrigations to prevent waterlogging.
- c) Implementing a drip irrigation system that provides regular, controlled watering to maintain optimal soil moisture.
- d) Ignoring irrigation needs during the establishment phase.

QUESTION 1.3.3 (10 POINTS 30 MINUTES)

Explain orchard/vineyard production processes and technology/machinery and motivate reasons for, procedures and timing of activities.

Production Processes:**Planting:**

1.3.3.1 Which of the following is the PRIMARY reason for planting fruit trees in early spring or late autumn? Choose the best answer.

- a) To maximize the time the trees are exposed to sunlight.
- b) To ensure that roots become established before the heat of summer.
- c) To make the planting process easier for workers.
- d) To align with the timing of local agricultural fairs.

Irrigation:

1.3.3.2 Why is a drip irrigation system often preferred over other irrigation methods in fruit production? Choose the best answer.

- a) It's the least expensive method.
- b) It's the easiest method to install.
- c) It provides consistent moisture to the plants throughout the growing season, particularly during critical phases like flowering and fruit set.
- d) It requires less maintenance than other systems.

Pruning:

1.3.3.3 Why is pruning typically done during the dormant season (late winter for stone fruits; post-harvest for grapes)? Choose the best answer.

- a) To reduce the workload for workers.
- b) To make the plants easier to harvest.
- c) To encourage healthy growth and fruit production by removing damaged or dead branches and shaping the plant for optimal light exposure and air circulation.
- d) To reduce the risk of pest and disease infestation.

Fertilization:

1.3.3.4 Why is it important to conduct soil tests before applying fertilizers? Choose the best answer.

- a) To satisfy local environmental regulations.
- b) To determine the appropriate type and amount of fertilizer to apply based on the specific nutrient needs of the plants and the existing soil nutrient levels.
- c) To ensure that the fertilizers are applied evenly across the field.
- d) To determine the best time of year to apply fertilizers.

Pest and Disease Management:

1.3.3.5 What is the PRIMARY advantage of using Integrated Pest Management (IPM) practices. Choose the best answer.

- a) IPM is the cheapest method of pest control.
- b) IPM always eliminates all pests and diseases.
- c) IPM reduces reliance on chemical pesticides, minimizing environmental impact and promoting sustainable agriculture.
- d) IPM requires less monitoring than other methods.

Technology and Machinery:**Sprayers and Fertilizer Spreaders:**

1.3.3.6 What is the main advantage of using sprayers for pesticide application in fruit production? Choose the best answer.

- a) Sprayers are inexpensive to purchase and maintain.
- b) Sprayers require minimal training to operate.
- c) Sprayers allow for even and efficient application of pesticides, reducing wastage and ensuring even coverage.
- d) Sprayers eliminate the need for other pest control measures.

Harvesting Equipment:

1.3.3.7 Why is hand-picking often preferred over mechanical harvesting for stone fruits? Choose the best answer.

- a) Hand-picking is always faster than mechanical harvesting.
- b) Hand-picking requires less labour.
- c) Hand-picking reduces the risk of bruising, maintaining higher fruit quality.
- d) Hand-picking is less expensive than mechanical harvesting.

Trellising Systems for Grapes:

1.3.3.8 What is the main benefit of using trellising systems in grape production? Choose the best answer.

- a) Trellising systems prevent birds from eating grapes.
- b) Trellising systems reduce the need for pruning.
- c) Trellising systems improve light exposure and air circulation, leading to better fruit quality, easier harvesting, and improved yield.

d) Trellising systems reduce water usage.

Motivation and Procedures:

Reasons for Timing:

1.3.3.9 Why is pruning often carried out during the dormant season for many fruit trees? Choose the best answer.

- a) It's easier to prune trees when they are dormant.
- b) It reduces the risk of spreading diseases.
- c) Pruning during dormancy stimulates new growth without disrupting the plant's energy balance, maximizing the effectiveness of the pruning.
- d) Pruning during dormancy reduces the risk of damaging the tree's flower buds.

Procedural Considerations:

1.3.3.10 A fruit farmer experiences unusually high temperatures during the growing season. What is the MOST appropriate adjustment to their irrigation schedule? Choose the best answer.

- a) Reduce irrigation frequency to conserve water.
- b) Maintain the existing irrigation schedule.
- c) Increase irrigation frequency to compensate for increased water loss due to evapotranspiration.
- d) Stop irrigating completely to allow the plants to adapt to the hot weather.

SUB-TOTAL: 15