



L-Università  
ta' Malta

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE  
EXAMINATIONS BOARD

**SECONDARY EDUCATION CERTIFICATE LEVEL  
2023 SUPPLEMENTARY SESSION**

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SUBJECT: **Agribusiness**  
PAPER NUMBER: Synoptic – Unit 1  
DATE: 2<sup>nd</sup> November 2023  
TIME: 8:30 a.m. to 10:35 a.m.

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**THIS PAPER SHOULD BE RETURNED TO THE INVIGILATOR  
AFTER THE EXAMINATION.**

**For examiners' use only:**

Question	1	2	3	4	5	6	7	8	Total
Score									
Maximum	6	8	8	12	8	8	8	12	70

Answer **ALL** questions in the space provided.

**Scenario**

- Fresh Co-op is a group of farmers that want to expand and modernise their business.
- They are working to improve both health and safety as well as crop production conditions.

**Question 1**

**K-4 (6 marks)**

a. Match different types of risks with hazards in a crop production enterprise, by drawing a line between them.

<b>Hazard</b>
Pesticides and fertilisers
Dust
Direct sunlight
Lifting Heavy objects

<b>Risk</b>
poisoning
Heat stroke
Back injury
Eye irritation

(2)

b. List the **TWO** missing pieces of information needed when calling for help in case of an emergency.

i. Emergency Number

ii. \_\_\_\_\_ (1)

iii. Number of people involved

iv. \_\_\_\_\_ (1)

c. State **TWO** reasons for maintaining a safe work environment in a crop production enterprise.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(2)

6

**Question 2**

**K-3 (8 marks)**

a. Name the life cycle stages of a pomegranate tree. The first stage has been provided for you.

Stage 1: Germination

Stage 2: \_\_\_\_\_ (0.5)






Stage 3: \_\_\_\_\_ (0.5)

Stage 4: \_\_\_\_\_ (0.5)

Stage 5: \_\_\_\_\_ (0.5)

b. Organise the stages of the life cycle of a pomegranate tree in order by assigning a number next to the pictures in Table 1 below. 1 represents the first stage and 5 represents the last. The first stage (1) has been provided for you.

Table 1: Pomegranate tree life stages

	Image of life stage	Order in life stage
i.	 <p>(Source: <a href="https://www.pethelpful.com/">https://www.pethelpful.com/</a>)</p>	<p>_____</p> <p>(0.5)</p>
ii.	 <p>(Source: <a href="https://plantura.garden/uk/">https://plantura.garden/uk/</a>)</p>	<p>_____</p> <p>(0.5)</p>
iii.	 <p>(Source: <a href="https://www.fromthegarden.co.za/.com/">https://www.fromthegarden.co.za/.com/</a>)</p>	<p>_____</p> <p>(0.5)</p>
iv.	 <p>(Source: <a href="http://bioweb.uwlax.edu/.com/">http://bioweb.uwlax.edu/.com/</a>)</p>	<p>_____</p> <p>(0.5)</p>
v.	 <p>(Source: <a href="https://www.houzz.com/">https://www.houzz.com/</a>)</p>	<p>1</p>

c. Outline any **TWO** of the life stages, named in Question 2a above, of the life cycle of a pomegranate tree.

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(4)

8

**Question 3**

**K-5 (8 marks)**

a. Identify the following crop types below.



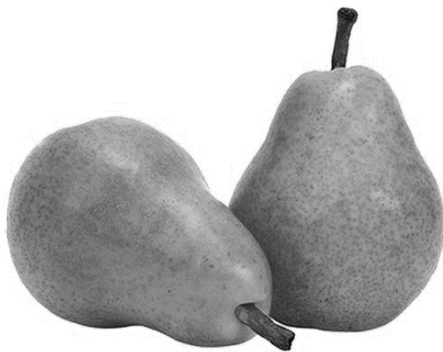
(Source: <https://www.livescience.com/>)

i. \_\_\_\_\_ (0.5)



(Source: <https://www.agrifarming.in/>)

ii. \_\_\_\_\_ (0.5)



(Source: <https://www.bigbasket.com/>)

iii. \_\_\_\_\_ (0.5)



(Source: <https://www.drshaer.com/>)

iv. \_\_\_\_\_ (0.5)

b. Outline the following crop production types.

Aquaponic crop production: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (1)

Outdoor soil-based (geoponic) crop production: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (1)

c. Describe the following production requirements of orange trees.

Soil/media requirements: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (1)

Planting method and spacing: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (1)

Irrigation system and intensity: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (1)

General crop care from planting to harvesting: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (1)

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**Question 4**

**C-3 (12 marks)**

- a. One of the farmers in Fresh Co-op planted broad beans in his field. The following information is available:
- Date of planting: 1/11/2022
  - The seed to harvest date of broad beans is around 150 days.
  - Winter was colder than normal with limited rainfall.
- Choose the expected harvest date deviation by circling it, and justify your answer.

10/03/2023	31/03/2023	15/04/2023
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Justification: \_\_\_\_\_  
 \_\_\_\_\_ (4)

- b. Justify **TWO** appropriate sales agreements, from the box below to be established with the customers in the given scenarios.

online	contractual	by order	retail
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- i. Scenario 1: Smiles Childcare wants to make a sales agreement with Fresh Co-op to have a continuous supply of local seasonal freshly squeezed juices and salads. There must be an all-year-round supply and the products should be at a fixed price.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_ (2)

- ii. Scenario 2: David’s restaurant would like to be able to call the farmer whenever the chef requires to buy vegetables that the farmer has in stock.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_ (2)

- c. Fresh Co-op will be taking on a strategy that includes a very wide diversity of fruit and salad crops.

Justify a crop production strategy for Fresh Co-op by focusing on **TWO** aspects from the box below.

diversity of crops	quantity of crops	production method	price
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(4)

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**Question 5**

**K-6 (8 marks)**

Producers and consumers are two major players in the agribusiness market.

a. Define the term 'market' in relation to agribusiness.

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(2)

b. Define the following terms in relation to agribusiness.

Demand: \_\_\_\_\_

\_\_\_\_\_ (1)

Supply: \_\_\_\_\_

\_\_\_\_\_ (1)

***This question continues on next page.***

c. Describe the role of the following market actors in agribusiness.

Processors/manufacturers	Consumer
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(4)

**Question 6**

**K-7 (8 marks)**

a. For plants to grow, macro and micronutrients are required. Define the following terms:

i. Macronutrients:

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(1)

ii. Micronutrients:

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(1)

b. Select by underlining the most important nutrient in brackets for each of the following crop requirements:

- i. Healthy flowering and fruiting: (Potassium, Nitrogen, Magnesium) (0.5)
- ii. Leaf growth: (Phosphorus, Potassium, Nitrogen) (0.5)
- iii. Healthy rooting: (Sulphur, Magnesium, Phosphorus) (0.5)
- iv. Fruit turgidity: (Calcium, Magnesium, Phosphorus) (0.5)



c. Relate the following deficiency symptoms to **ONE** typical missing nutrient causing them.

- i. Interveinal chlorosis of new leaves: \_\_\_\_\_ (1)
- ii. Leaf purpling: \_\_\_\_\_ (1)
- iii. Interveinal chlorosis of older leaves: \_\_\_\_\_ (1)
- iv. Total leaf chlorosis of older leaves: \_\_\_\_\_ (1)

8

**Question 7**

**K-9 (8 marks)**

a. List **TWO** tools required to take soil samples.

- Tool 1: \_\_\_\_\_ (1)
- Tool 2: \_\_\_\_\_ (1)

b. List **TWO** of the most commonly measured parameters in soil and water analysis.

- Parameter 1: \_\_\_\_\_ (1)
- Parameter 2: \_\_\_\_\_ (1)

c. Outline the following **TWO** reasons why it is important to measure soil and water parameters.

- Meeting crop requirements: \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_ (2)

- Appropriate fertilisation: \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_ (2)

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