



L-Università
ta' Malta

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE
EXAMINATIONS BOARD

**SECONDARY EDUCATION CERTIFICATE LEVEL
2026 MAIN SESSION**

SUBJECT:	Agribusiness
PAPER NUMBER:	Controlled – Unit 1
DATE:	8 th May 2024
TIME:	10:00 a.m. to 11:35 a.m.

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

Name of candidate _____

I.D. number _____

School _____

Class _____

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

Scenario

- During the next Agrifair an information leaflet is to be produced for visitors.
- Agribusiness students are being asked to compile information on the following topics to fill-in this leaflet:
 - The requirements of crops throughout their growing period;
 - The marketing of crops;
 - The biology of crops from sowing/planting to harvest.

Question 1

K-2 (4 marks)

a. Label the different plant cell components (A-E) in Figure 1 by filling Table 1 below.

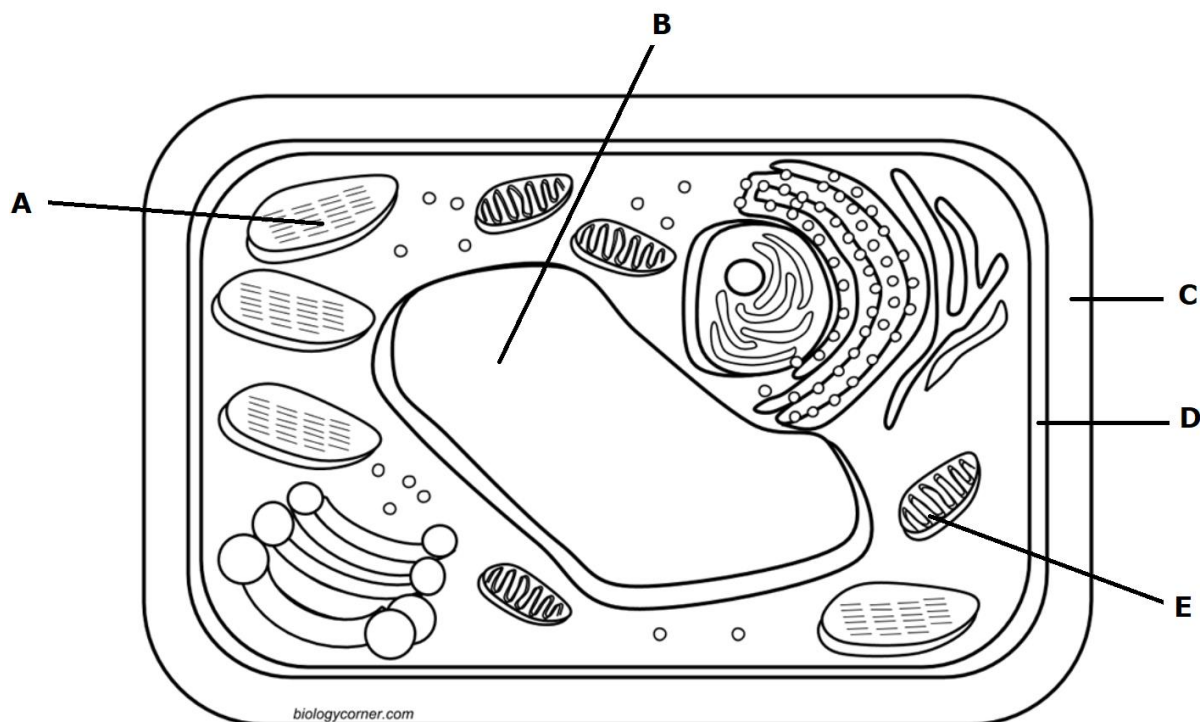


Figure 1: A typical plant cell
(Source: <https://biologycorner.com>)

Table 1: A typical plant cell

Label	Name of cell component
A	_____
B	_____
C	_____
D	_____
E	_____

(1)

b. Identify the xylem and phloem in the typical stem cross-sections of a monocot and dicot in Figure 2.

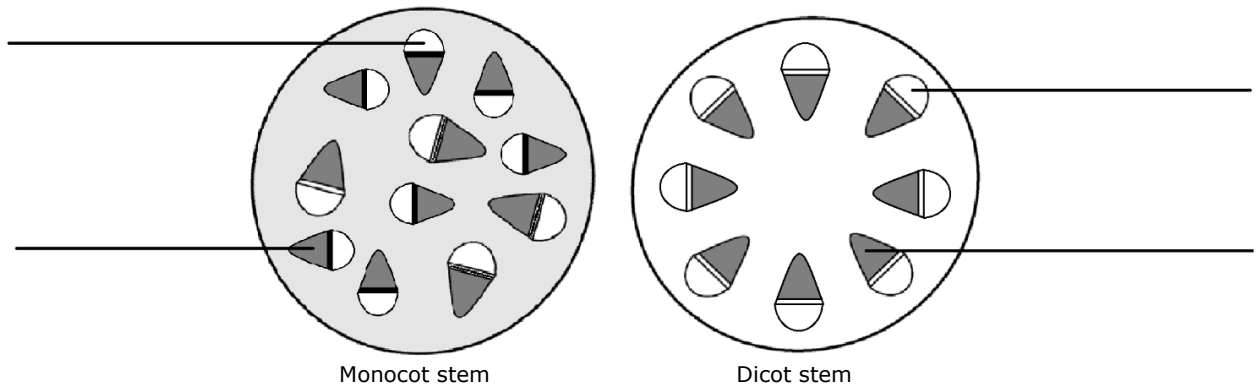


Figure 2: Typical stem cross-sections

(1)

c. Describe the function of:

i. The nucleus as a plant cell component: _____

(0.5)

ii. The cytoplasm as a plant cell component: _____

(0.5)

iii. The xylem as a transport system: _____

(0.5)

iv. The phloem as a transport system: _____

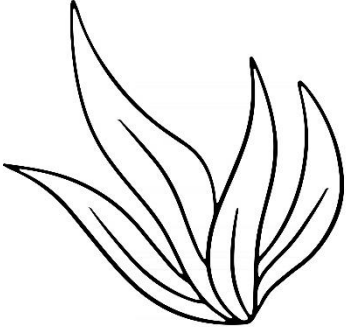
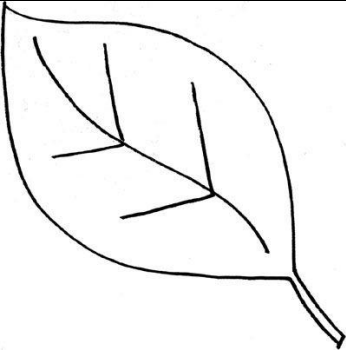
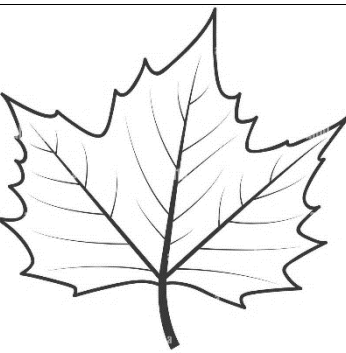
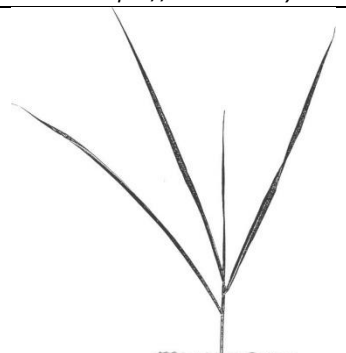
(0.5)

Question 2

C-1 (6 marks)

a. Classify the following leaves as monocotyledons or dicotyledons in Table 2 by ticking in the correct check-box for each.

Table 2: Typical leaves of monocotyledons and dicotyledons

Leaf	Monocotyledons	Dicotyledons
 <p>(Source: https://www.vecteezy.com)</p>	<input type="checkbox"/>	<input type="checkbox"/>
 <p>(Source: https://www.pinterest.com)</p>	<input type="checkbox"/>	<input type="checkbox"/>
 <p>(Source: https://www.alamy.com)</p>	<input type="checkbox"/>	<input type="checkbox"/>
 <p>(Source: https://www.researchgate.net)</p>	<input type="checkbox"/>	<input type="checkbox"/>

(2)

b. Refer to Figure 3 to explain which of the root cross-section images belong to a monocotyledon and a dicotyledon. Your answer should include direct reference to vascular bundles.

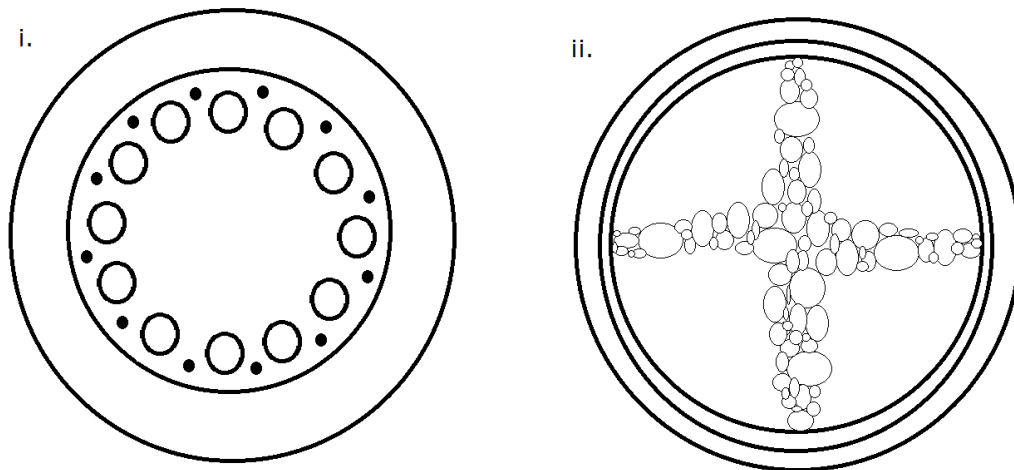


Figure 3: Microscopic structures from typical monocotyledons and dicotyledons

(2)

c. Differentiate between:

i. The external structure of the leaf system of monocotyledons (e.g. wheat) and dicotyledons (e.g. peas):

(1)

ii. The internal seed structure of monocotyledons (e.g. wheat) and dicotyledons (e.g. peas):

(1)

Question 3

K-3 (4 marks)

Green peppers are a very common Maltese crop. They are planted either outside by seedlings between March and June or in greenhouses between September and October.

a. Name the life stages of a green pepper plant. The order of stages is not important for this part of the question.

Life stage 1: _____ (0.2)

Life stage 2: _____ (0.2)


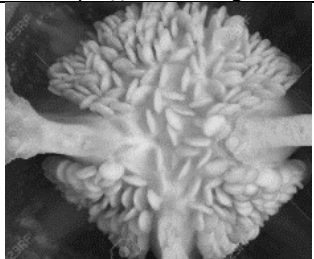
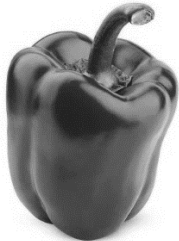
Life stage 3: _____ (0.2)

Life stage 4: _____ (0.2)

Life stage 5: _____ (0.2)

b. Organise the stages of a green pepper plant by giving a number to the box next to each image of a life stage. 1 represents the first stage and 5 represents the last.

Table 3: Stages of the life cycle of a green pepper plant

Image of life stage		Order in life stage
i.	 <p>(Source: https://www.dengarden.com)</p>	<p>_____</p> <p>(0.2)</p>
ii.	 <p>(Source: https://www.123rf.com)</p>	<p>_____</p> <p>(0.2)</p>
iii.	 <p>(Source: https://www.target.com)</p>	<p>_____</p> <p>(0.2)</p>

Question 4

K-4 (4 marks)

There are many potential hazards and possible risks within an agribusiness enterprise.

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

	Hazard
i.	Lifting heavy objects
ii.	Pesticides and fertilisers
iii.	Fuel
iv.	Electricity
v.	Direct sunlight

Risk
Electric shock
Respiratory problems
Back injury
Burns
Heat stroke

(1)

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

- i. _____ (0.25)
- ii. _____ (0.25)
- iii. _____ (0.25)
- iv. _____ (0.25)

c. State **TWO** reasons for maintaining Health and Safety measures in a crop production enterprise.

(2)

(2)

Question 6

K-7 (4 marks)

a. Define:

i. plant micronutrients

(0.5)

ii. plant macronutrients

(0.5)

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

i. Healthy flowering and fruiting: (Potassium, Phosphorus, Magnesium) (0.25)

ii. Leaf growth: (Phosphorus, Potassium, Nitrogen) (0.25)

iii. Healthy rooting: (Nitrogen, Potassium, Phosphorus) (0.25)

iv. Fruit turgidity: (Calcium, Nitrogen, Sulfur) (0.25)

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

i. Leaf purpling: _____ (0.4)

ii. Leaf margin necrosis: _____ (0.4)

iii. Interveinal chlorosis of older leaves: _____ (0.4)

iv. Total leaf chlorosis on new leaves: _____ (0.4)

v. Deformed/stunted new leaves: _____ (0.4)

Question 9

C-5 (6 marks)

a. Distinguish between biotic and abiotic soil factors.

(2)

b. Explain how the following **TWO** activities can improve soil fertility.

Addition of manure: _____

(1)

Soil solarisation: _____

(1)

c. Describe how earthworms and organic matter affect plant growth.

This question continues on next page.

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