

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.

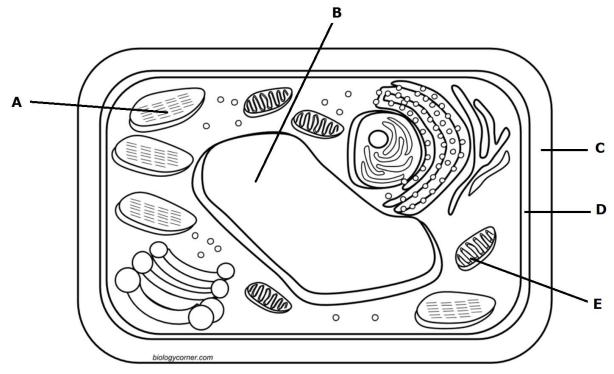


Figure 1: A typical plant cell (Source: https://biologycorner.com)

Table 1: A typical plant cell

Label	Name of cell component
А	
В	
С	
D	
Е	

(1)

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

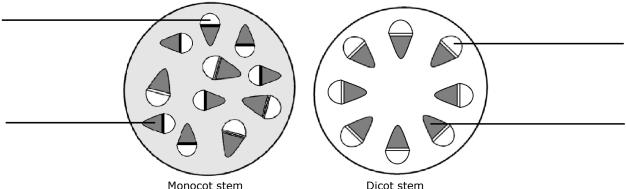


	Figure 2: Typical stem cross-sections	(1)
Describe the fu	nction of:	
i. The nucleus	as a plant cell component:	
		(0.5
ii. The cytoplas	m as a plant cell component:	
		(0.5
iii. The xylem a	s a transport system:	
iv. The phloem	as a transport system:	
		(0.5

Question 2 C-1 (6 marks)

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

Table 2: Typical leaves of monocotyledons and dicotyledons

Table 2: Typical leaves of monocotyledons and dicotyledons				
Leaf	Monocotyledons	Dicotyledons		
(Source: https://www.vecteezy.com)				
(Source: https://www.pinterest.com)				
(Source: https://www.alamy.com)				
(Source: https://www.researchgate.net)				

(2)

c.

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.

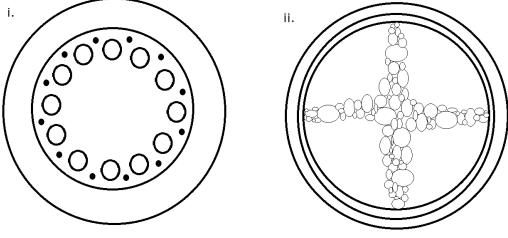


Figure 3: Microscopic structures from typical monocotyledons and dicotyledons

	(2)
Di	fferentiate 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.	(Source: https://www.dengarden.com)	(0.2)
ii.	(Source: https://www.123rf.com)	(0.2)
iii.	(Source: https://www.target.com)	(0.2)

iv.	(Source: https://www.fieryfoodscentral.com)	(0.2)
٧.	(Source: https://science4fun.info)	(0.2)

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
٧.	Direct sunlight

Risk	
Electric shock	
Respiratory problems	
Back injury	
Burns	
Heat stroke	
	(1

_____(2)

٧.	•	Direct sunlight	t				Heat	stroke		
b.	List FOUR p	nieces of informa	tion neede	d when o	calling	for he	lp in case	of an er	nerge	(1) ency.
	i									(0.25)
	ii									(0.25)
	iii									(0.25)
	iv									(0.25)
	State TWO enterprise.	reasons for m	naintaining	Health	and S	Safety	measure	s in a	crop	production

Question 5	K-6 (4 marks
~ · · · · · ·		

Within	the	Agribusiness	sector,	there	are	several	business	activities	where	terms	like	market
deman	id an	d supply are	commor	nly use	d.							

Define the term `	market' in relation to agribusi	ness.	
			(1
Define the terms	'demand' and 'supply' in relat	ion to agribusiness.	
Demand:			
			(0.5
Supply:			
			(0.5
Describe the role	of the following actors in agri	business. consumer	
Describe the role			

This question continues on next page.

		(2)
Question 6		K-7 (4 marks)
a. Define:		
i. plant micronutrients		
		(0.5)
ii. plant macronutrients		
		(0.5)
b. Select by underlining th requirements:	e most important nutrient in brackets for each of t	he following crop
i. Healthy flowering ar	nd fruiting: (Potassium, Phosphorus, Magnesium)	(0.25)
ii. Leaf growth: (Phosp	horus, Potassium, Nitrogen)	(0.25)
iii. Healthy rooting: (Ni	trogen, Potassium, Phosphorus)	(0.25)
iv. Fruit turgidity: (Calc	ium, Nitrogen, Sulfur)	(0.25)
c. Relate the following defi	ciency symptoms to ONE typical missing nutrient ca	using them.
i. Leaf purpling:		(0.4)
ii. Leaf margin necrosis:		(0.4)
iii. Interveinal chlorosis o	of older leaves:	(0.4)
iv. Total leaf chlorosis or	n new leaves:	(0.4)
v. Deformed/stunted nev	w leaves:	(0.4)

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Question 7 K-9 (4 marks)
Soil testing is an essential part of sustainable and profitable farming.	
a. List TWO tools required to take soil samples.	
Tool 1:	(0.5)
Tool 2:	(0.5)
b. List FOUR of the most commonly measured parameters in soil and water analysis.	
Parameter 1:	(0.25)
Parameter 2:	(0.25)
Parameter 3:	(0.25)
Parameter 4:	(0.25)
c. Outline FOUR reasons why it is important to measure soil and water parameters.	
	(2)

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Question 8	K-10 (4 marks)
This question is about soils and soil fertility.	
a. Define soil fertility.	
b. Outline the following Maltese soil types.	
Calcisols:	
	(0.5)
Arenosols:	
	(0.5)
c. Relate the texture of a Leptosol soil to water and nuti	·
	(2)

Qı	uestion 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.	

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