TOPICAL TEST 5A:

30

Section A (10 x 2 marks)

For each question from 1 to 10, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and write the answers in the brackets provided.

1. The figure below shows a potato plant. Which of the following are functions of its underground stem?

A: It stores food for the plant.
B: It helps the plant to reproduce.
C: It holds the plant firmly to the ground.
D: It supports the branches and leaves of the plant.

(1) A and C only
(2) B and D only
(3) A, B and D only
(4) A, B, C and D ( )

2. Study the diagrams of the leaves shown below.

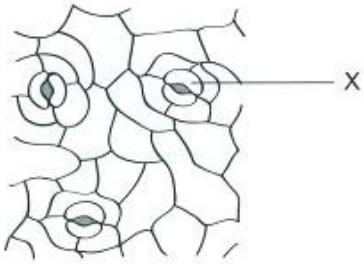
Leaf A

Leaf B

	Leaf A	Leaf B
(1)	Lobed-edged	Toothed-edged
(2)	Entire-edged	Lobed-edged
(3)	Lobed-edged	Entire-edged
(4)	Toothed-edged	Entire-edged

( )

3. The diagram below shows Part X which a girl saw under a microscope.



Which of the following statements is true about Part X?

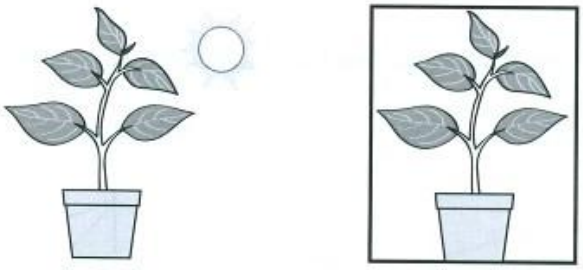
(1) It releases water.
(2) It absorbs light.
(3) It absorbs water and gases.
(4) It is found on the root of a plant. ( )

4. Which of the following are required by plants for the process of photosynthesis to take place?

A: Oxygen
B: Sunlight
C: Carbon dioxide
D: Chlorophyll
E: Water

(1) A, B, C and E only
(2) A, B, D and E only
(3) B, C, D and E only
(4) A, B, C, D and E ( )

5. Two similar young plants were kept in different environments as shown below. Both had equal supplies of air and water. After ten days, it was discovered that Plant A was greener than Plant B.



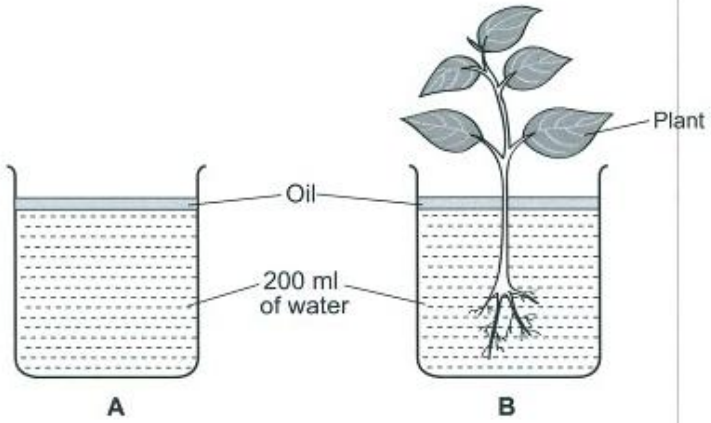
Plant A
(Under the Sun)

Plant B
(In a dark room)

Which of the following statements best explains why Plant A was greener than Plant B?

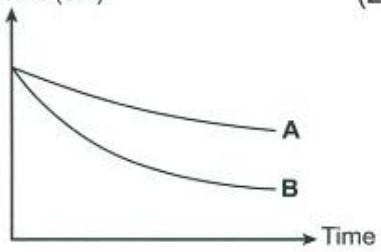
(1) Plant A had more air than Plant B.
(2) Plant A had more water than Plant B.
(3) Plant A had more sunlight than Plant B.
(4) Plant A had more chlorophyll than Plant B. ( )

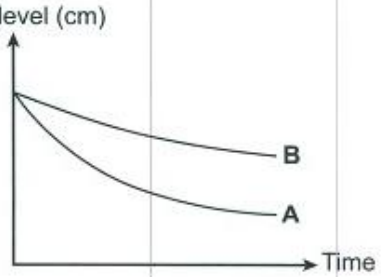
6. Rani set up an experiment in the classroom as shown below.

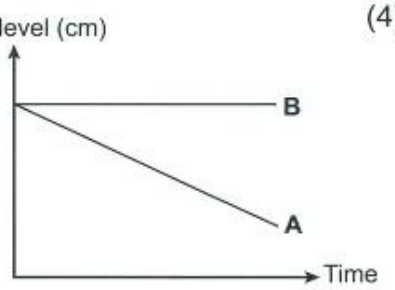


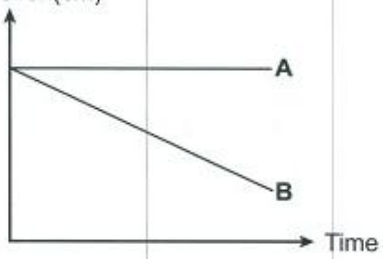
She poured 200 ml of water into Beakers A and B. A small plant was placed in Beaker B. She recorded the height of the water level in both beakers every day for a week. She plotted a graph based on her results.

Which graph most likely shows the results that Rani obtained after a week?

(1)


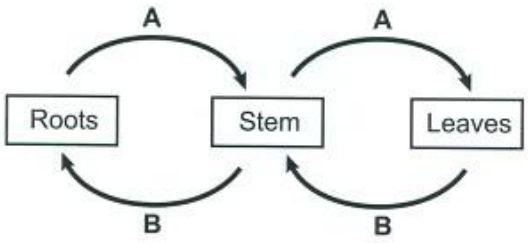
(2)


(3)


(4)


( )

7. The diagram below shows how Substances A and B are transported in a plant.

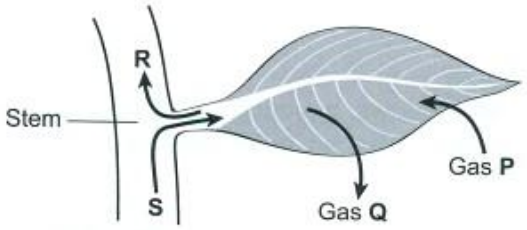


Based on the diagram above, what are Substances A and B?

	A	B
(1)	Water	Nutrients
(2)	Water	Glucose
(3)	Glucose	Dissolved mineral salts
(4)	Dissolved mineral salts	Water

( )

8. The diagram below shows photosynthesis taking place in a plant involving Substances P, Q, R, S.

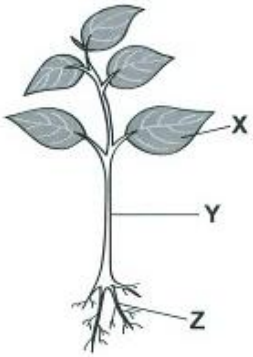


Which of the following correctly shows the substances involved?

	P	Q	R	S
(1)	Oxygen	Carbon dioxide	Water	Sugar
(2)	Carbon dioxide	Oxygen	Sugar	Water
(3)	Sugar	Oxygen	Water	Carbon dioxide
(4)	Oxygen	Carbon dioxide	Sugar	Water

( )

9. The diagram below shows a plant.



Which of the following correctly states the functions of X, Y and Z?

	X	Y	Z
(1)	Absorbs water from the environment	Transports food and water	Stores food
(2)	Makes food	Transports food and water	Absorbs water from the soil
(3)	Makes food	Stores food	Absorbs water from the environment
(4)	Loses water to the environment	Absorbs water from the soil	Stores food

( )

10. The diagram below shows a young plant and an adult plant. Which two parts can only be found on an adult plant but not on a young plant?

Young plant

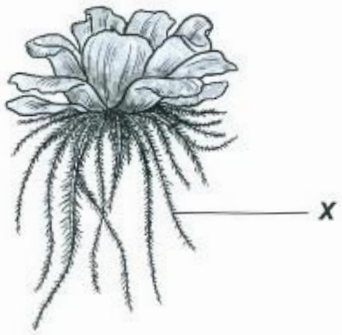
Adult plant

(1) Fruits and stem
(2) Flowers and fruits
(3) Leaves and roots
(4) Roots and flowers ( )

Section B (10 marks)

Read each question carefully and write the answers in the space provided.

11. The diagram below shows a water lettuce plant.



(a) Name the part labelled X. (1m)

_____

_____

(b) State one important function of the part mentioned in (a) for the water lettuce. (1m)

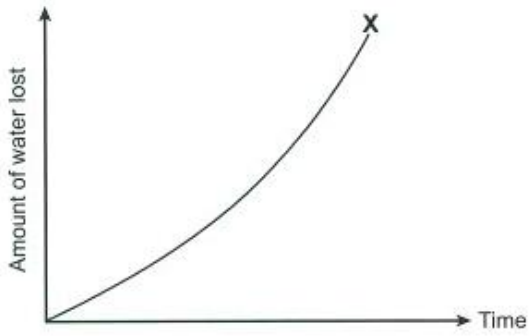
_____

_____

12. Ally carried out an experiment to investigate the loss of water from 2 similar leafy plants, X and Y, placed in the same room with windows open. Different parts of the leaves were applied with waterproof moisturising hand cream as shown in the table below.

Plant	Part of the leaves applied with waterproof hand cream
X	Upper side of the leaves
Y	Underside of the leaves

The mass of the leafy plants was measured and recorded hourly. The graph below shows the water loss from Plant X.



(a) On the same graph above, **draw and label** the graph for water lost from Plant Y. (1m)

(b) Explain your answer in (a). (2m)

13. Tom and Jerry wanted to test if the number of leaves affects the rate of water transported up the stem of plants. Tom was given the following items:

- 2 similar plants
- 2 similar beakers
- 600ml of water containing blue dye
- scissors

In the table below, Tom wrote out the steps he should take to carry out a fair test. He used all the items given.

Step	Instruction
1	Pour 300ml of water into each beaker.
2	Leave an equal number of leaves on both plants.
3	Put one plant into each beaker and place the beakers on a table in a room.
4	Conduct the experiment for 7 days.

(a) However, Jerry spotted a mistake in one of the steps above. Name the wrong step and write down the correct step that Tom should take. (2m)

_____

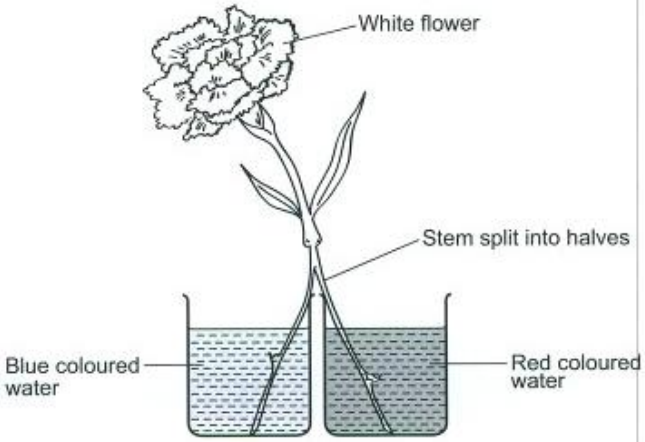
_____

(b) What would they have to measure at the end of the experiment in order to arrive at a conclusion for their experiment? (1m)

_____

_____

14. Molly set up the experiment shown below.



(a) What can be observed about the flower after a few days? (1m)

(b) Explain your answer in (a). (1m)

TOPICAL TEST 5B:

30

Section A (10 x 2 marks)

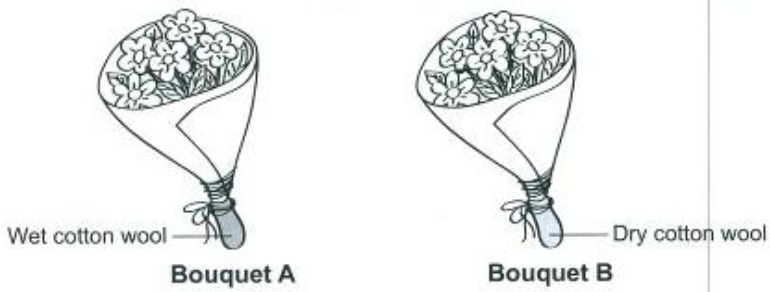
For each question from 1 to 10, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and write the answers in the brackets provided.

1. Jody cut off all the leaves of a healthy plant in his garden as shown below.

After 2 weeks, he noticed that the plant had died. Which of the following could be the reason why the plant died?

(1) The plant did not bear fruits.
(2) The plant absorbed too much water.
(3) The plant was unable to photosynthesise.
(4) The plant did not receive enough mineral salts. ( )

2. Candy received two bouquets of similar flowers for her birthday as shown below. The flowers in both bouquets did not have roots.



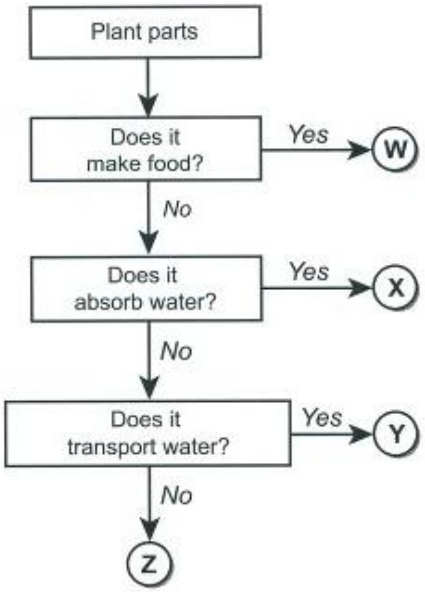
Bouquet A **Bouquet B**

A few days later, Candy observed that the flowers in Bouquet B had withered while the flowers in Bouquet A remained fresh.

The flowers in Bouquet B withered before those in Bouquet A because they have no _____.

(1) soil (2) mineral salts
(3) water (4) food ( )

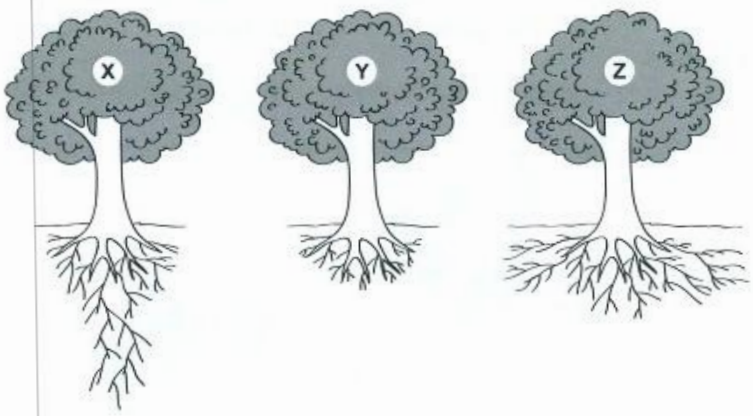
3. Study the flowchart below.



Which of the following, W, X, Y or Z, best represents the flower?

(1) W (2) X
(3) Y (4) Z ( )

4. The diagram below shows 3 similar trees, X, Y and Z.



Based on the diagram above, which tree is most likely to be uprooted during a storm?

(1) X only
(2) Y only
(3) X and Z only
(4) X, Y and Z ( )

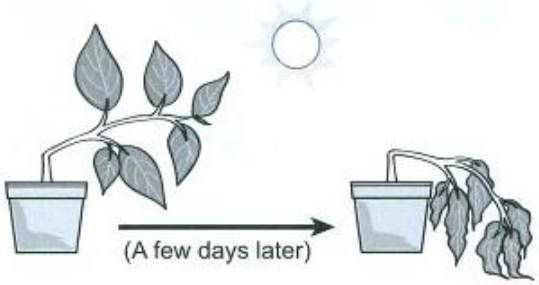
5. The diagram below shows a leaf.

Which of the following correctly identifies Parts A, B and C of the leaf correctly?

	A	B	C
(1)	Leaf edge	Lead blade	Lead vein
(2)	Lead blade	Leaf vein	Leaf edge
(3)	Leaf edge	Leaf vein	Leaf blade
(4)	Leaf vein	Leaf blade	Leaf stalk

( )

6. The diagram below shows a plant with its stem accidentally bent while it was being planted in a pot. The plant was watered daily and it was placed at a sunny spot in the garden. It was observed a few days later that the plant had died.

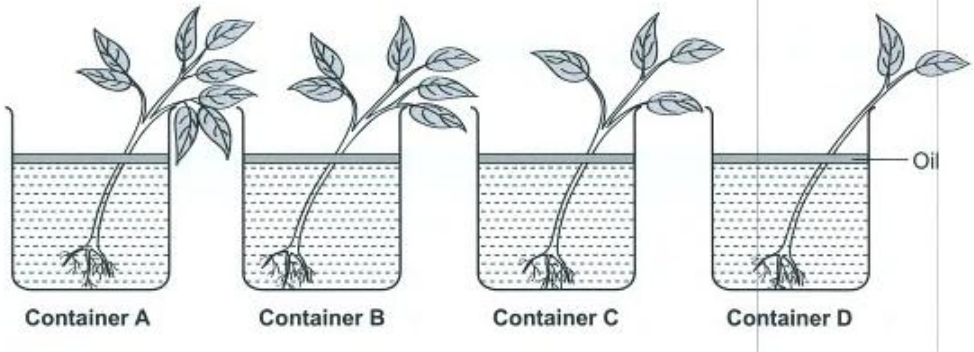


Which of the following statements best explains why the plant died?

(1) The plant was not planted firmly in the soil.
(2) The plant was not upright to receive enough light.
(3) The plant was unable to transport water to the leaves.
(4) The plant was unable to absorb enough water and mineral salts.

( )

7. Kelly wanted to find out if the number of leaves affects the amount of water absorbed by a plant. She set up an experiment with similar plants that had different number of leaves. She placed all four containers with the plants by the window. Each container contained 200 ml of water at the start of the experiment.



She recorded her results in the table below.

Container	Number of leaves on the plant	Amount of water left after 5 days (ml)
A	8	120
B	6	140
C	4	160
D	2	180

Based on the results in the table above, which of the following conclusions can Kelly make?

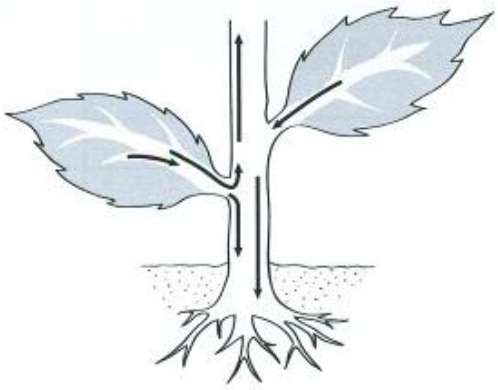
(1) The greater the number of leaves, the greater the amount of water absorbed by the plant.
(2) The greater the number of leaves, the less the amount of water absorbed by the plant.
(3) The plant is Container D absorbed more water than the plant in Container A.
(4) The number of leaves on a plant does not affect the amount of water absorbed by the plant. ( )

8. Study the diagram below.

The plant shown above cling onto the pole for support to get _____.

(1) air (2) water
(3) food (4) light ( )

9. Study the diagram below.



The arrows show the paths taken by _____ in the plant.

(1) sugar
(2) water
(3) mineral salts
(4) carbon dioxide ( )

10. Mei Mei planted four tomato plants, P, Q, R and S, in four similar pots. She placed the plants under different conditions as shown in the table below.

Plant	Air	Water	Sunlight
P	✓	✗	✗
Q	✗	✗	✓
R	✗	✓	✓
S	✓	✓	✓

Which plant will most likely die after 2 weeks?

(1) P and Q only
(2) R and S only
(3) P, Q and R only
(4) Q, R and S only ( )

Section B (10 marks)

Read each question carefully and write the answers in the space provided.

11. Zann had two similar plants, X and Y. She removed the roots of Plant X and planted it back into the pot as shown below.

Plant X

Plant Y

Zann observed that Plant X toppled and fell out of the pot later that day when there was a strong wind, but not Plant Y.

(a) Explain why Plant X toppled and fell out of the pot when there was strong wind? (1m)

_____

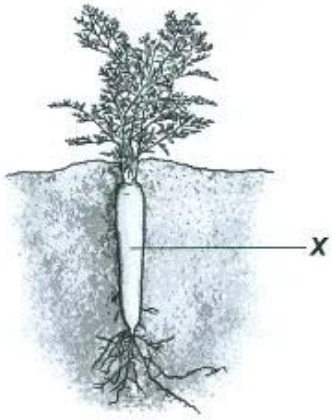
_____

(b) Name two substances that roots take in for plants to grow well. (1m)

_____

_____

12. Study the diagram of the plant shown below.



(a) Name the part labelled X. (1m)

_____

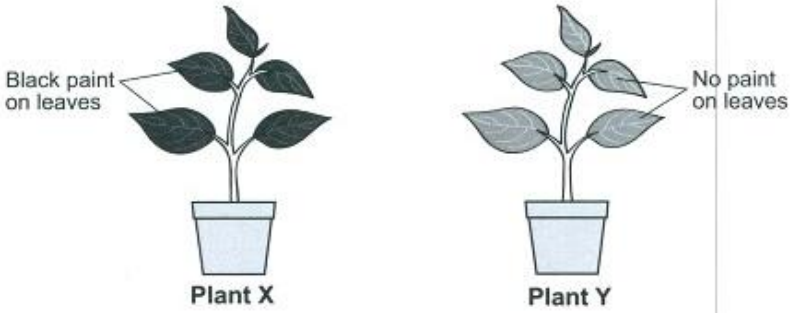
_____

(b) State the function of the part labelled X shown in the diagram above. (1m)

_____

_____

13. Kerui placed 2 similar pots of plants, X and Y, in the garden as shown in the diagram below. She painted the leaves of Plant X with black paint. Both plants were placed in the garden and given the same amount of water every day.

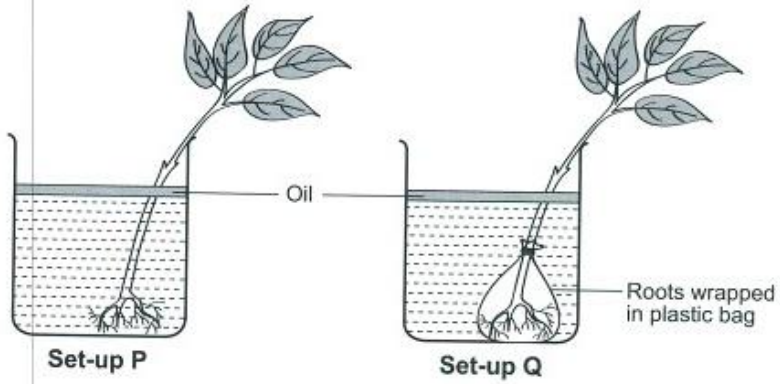


(a) What is the aim of the experiment? (1m)

(b) What can be observed about the plants after 2 weeks? (1m)

(c) Explain your answer for Plant X. (1m)

14. Two similar plants were placed in 2 beakers filled with 300 ml of water as shown in the diagram below.



Three days later, at the end of the experiment, the volume of water left in each container was measured and recorded in the table below.

Set-up	Volume of water (ml)	
	Start of the experiment	End of the experiment
P	300	205
Q	300	?

(a) What can be observed about the volume of water in Set-up P? Give a reason for the observation. (1m)

(b) What could be the volume of water left in Set-up Q at the end of the experiment? (1m)

(c) Explain your answer in (b). (1m)