BIOLOGY

BOOKS - EVERGREEN BIOLOGY (ENGLISH)

TRANSPIRATION

Review Questions

1. Name the following :

Respiratory openings found on the stem of

woody plants.

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2. Potomater is used for measuring

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3. In which of the following plant sunken

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4. Name the following :

An apparatus to compare the rate of transpiration in a cut shoot.

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5. Name the following :

Kidney shaped cells present at the borders of stomata.

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6. Name the following :

Respiratory openings found on the stem of woody plants.

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7. Name the following :

Loss of cell sap from the injured part of a plant.

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8. Name the following :

The loss of water from injured parts of a plant.

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9. Name the outermost layer of the epidermis.

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10. Given below are certain biological statements which are incomplete and hence

incorrect. Rewrite the correct form of the statement by inserting suitable word/words at right place. Do not delete any word already given in the statement. Underline the inserted word/words.

Transpiration is the loss of water from the leaves of a plant.

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11. Given below are certain biological statements which are incomplete and hence

incorrect. Rewrite the correct form of the statement by inserting suitable word/words at right place. Do not delete any word already given in the statement. Underline the inserted word/words.

The opening and closing of stomata is controlled by guard cells.

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12. Given below are certain biological statements which are incomplete and hence

incorrect. Rewrite the correct form of the statement by inserting suitable word/words at right place. Do not delete any word already given in the statement. Underline the inserted word/words.

More transpiration occurs from the dorsiventral leaf.

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13. Given below are certain biological statements which are incomplete and hence

incorrect. Rewrite the correct form of the statement by inserting suitable word/words at right place. Do not delete any word already given in the statement. Underline the inserted word/words.

Guttation is the loss of water along the margins of leaves

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14. Given below are certain biological statements which are incomplete and hence

incorrect. Rewrite the correct form of the statement by inserting suitable word/words at right place. Do not delete any word already given in the statement. Underline the inserted word/words.

Bleeding is the exudation of sap or watery solution from the parts of a plant.

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15. State whether true or false. Rewrite the false statements in their correct form :

Rate of transpiration is directly proportional to the surface area of the leaves.

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16. State whether true or false. Rewrite the false statements in their correct form :

The plants transpire more in high humid conditions outside the plant.

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17. State whether true or false. Rewrite the false statements in their correct form :

Bleeding in plants takes place because of reduced root pressure.

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18. State whether true or false. Rewrite the false statements in their correct form :

Stomatal pores open or close in response to the turgor pressure of the guard cells.

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19. State whether true or false. Rewrite the false statements in their correct form :

Transpiration is more from the upper surface of a leaf as compared to lower surface in a dorsiventral leaf.

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20. List three external factors that increase the rate of transpiration

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21. Give a brief account of significance of transpiration.

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22. Comment upon the following :

Plants have to pay the price of photosynthesis in the form of transpiration.

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23. Comment upon the following :

Transpiration is a necessary evil.

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24. Comment upon the following :

Some plants show wilting of their leaves, even when the soil is well watered.

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25. Comment upon the following :

A higher rate of transpiration is recorded on windy days rather than on a calm day.

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26. Comment upon the following :

During the day transpiration and photosynthesis are interlinked

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27. Comment upon the following :

The leaves of plants roll up on a bright sunny day.

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28. Define the following terms:

Transpiration

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29. Define the following terms:

Guttation

Watch Video Solution

30. Define the following terms:

Bleeding

Watch Video Solution

31. Define the following terms:

Potometer

Watch Video Solution

32. Define the following terms:

Wilting

Watch Video Solution

33. Define the following terms:

Hydathodes

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34. Differentiate between the following:

Transpiration and evaporation

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35. Transpiration and guttation

Watch Video Solution

36. Differentiate between the following:

Stomata! and Lenticular Transpiration

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37. Differentiate between the following:

Stomata and Hydathodes.

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38. Differentiate between:

Guttation and Bleeding

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39. [A]: Wax, resin and suberin coating on the surface of plant parts reduce the rate of transpiration.

[R]: These adaptations are found mostly in xerophytes.

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40. What is transpiration ? Mention various kinds of transpiration.

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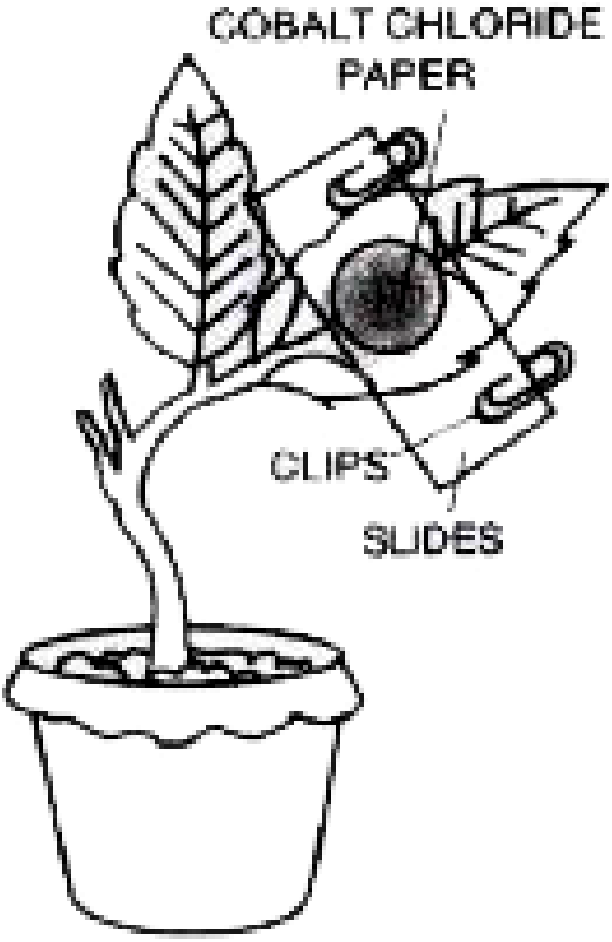
41. Given below is the diagram of an experimental set-up to study the process of transpiration in plants. Study the same and then answer the questions that follow :



What is the colour of dry cobalt chloride paper?

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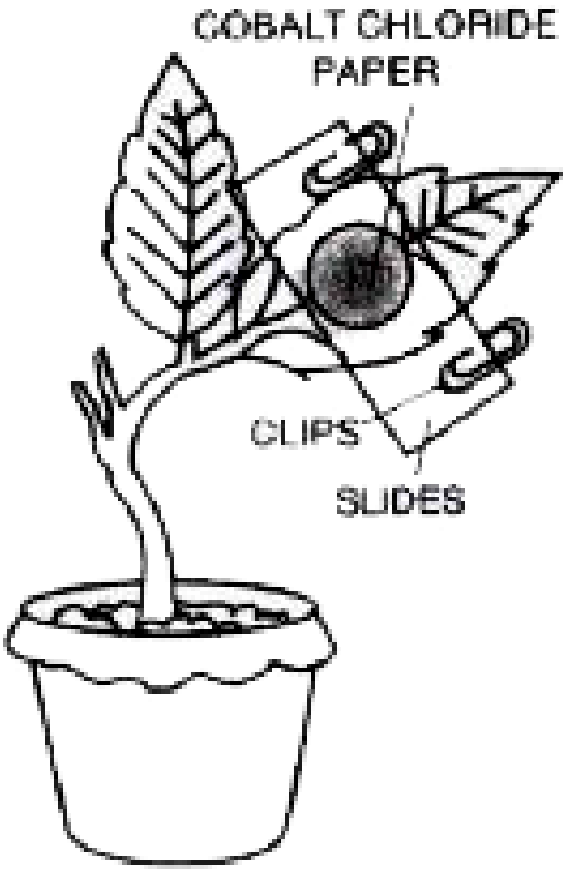
42. Given below is the diagram of an experimental set-up to study the process of transpiration in plants. Study the same and then answer the questions that follow :



Is the experimental leaf a monocot or a dicot ?

Give a reason to support your answer.

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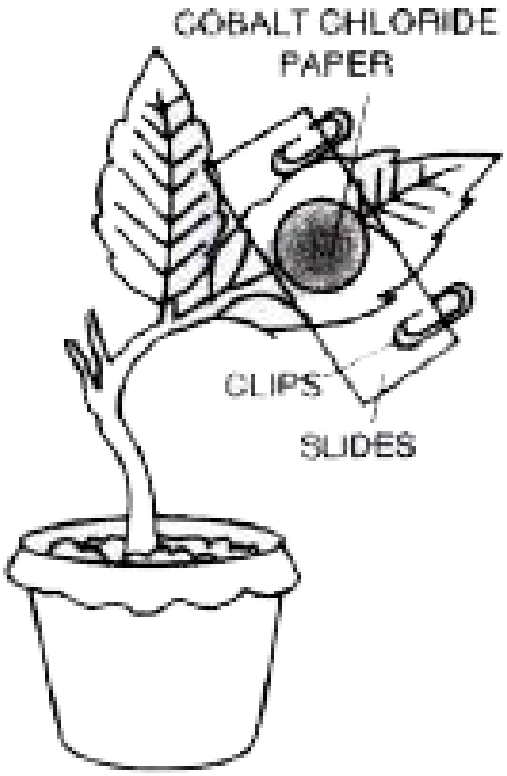
43. Given below is the diagram of an experimental set-up to study the process of transpiration in plants. Study the same and then answer the questions that follow :



Why are glass slides placed over the dry cobalt chloride papers ?

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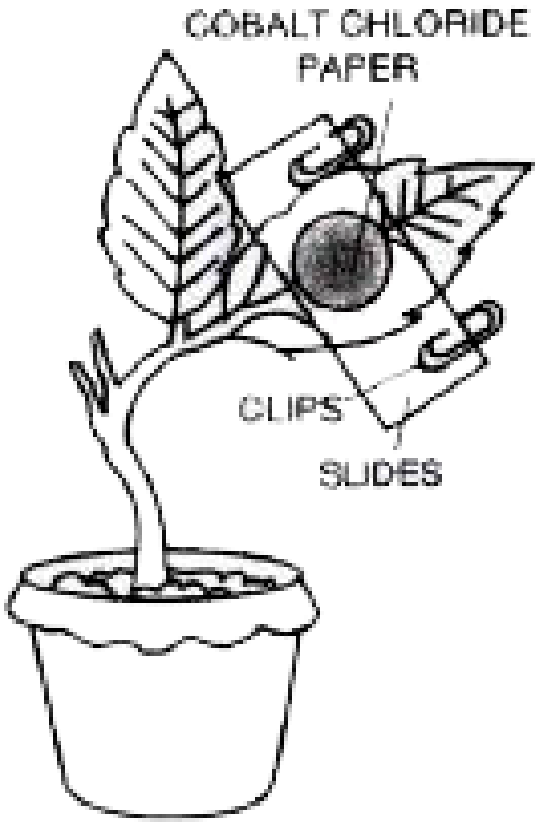
44. Given below is the diagram of an experimental set-up to study the process of transpiration in plants. Study the same and then answer the questions that follow :



After about half an hour what change, if any, would you expect to find in the cobalt chloride papers placed on the dorsal and ventral sides of the leaf? Give a reason to support your answer.

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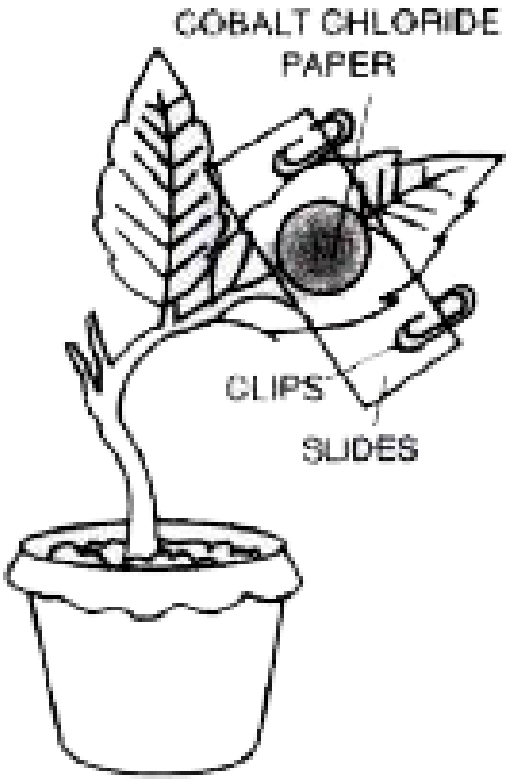
45. Given below is the diagram of an experimental set-up to study the process of transpiration in plants. Study the same and then answer the questions that follow :



Define the term 'transpiration'.

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46. Given below are sets of five terms each. In each case rewrite the terms in logical sequence as directed at the end of each statement.

Stoma, Mesophyll cells, Xylem, Substomatal space, Intercellular space (loss of water due to transpiration),

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47. Write in a logical sequence

Cortical cells, roots hair, soil water, endodermis, xylem (entry of water into the plant from the soil).

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48. Given below are sets of five terms each. In each case rewrite the terms in logical sequence as directed at the end of each statement.

Spongy cells, upper epidermis, stoma, palisade tissue, substomatal space.

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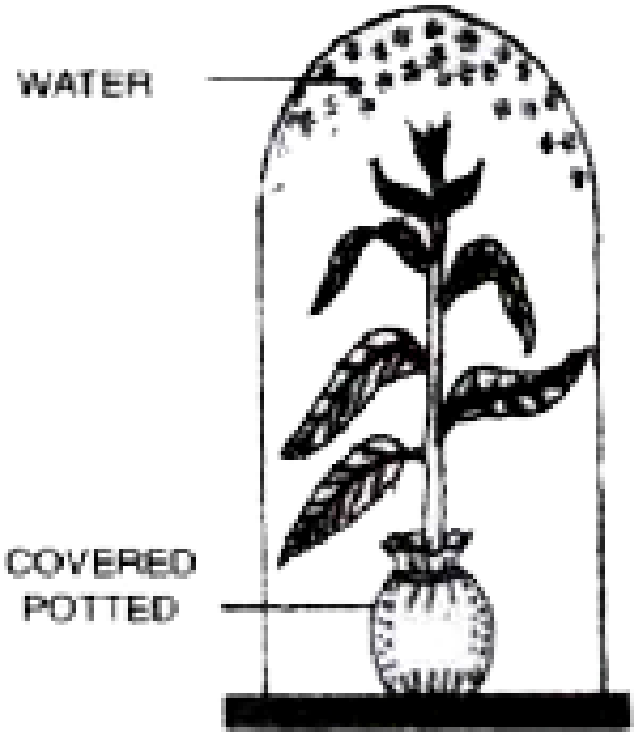
49. Given below is an experimental set-up to study a particular process:



Name the process being studied.

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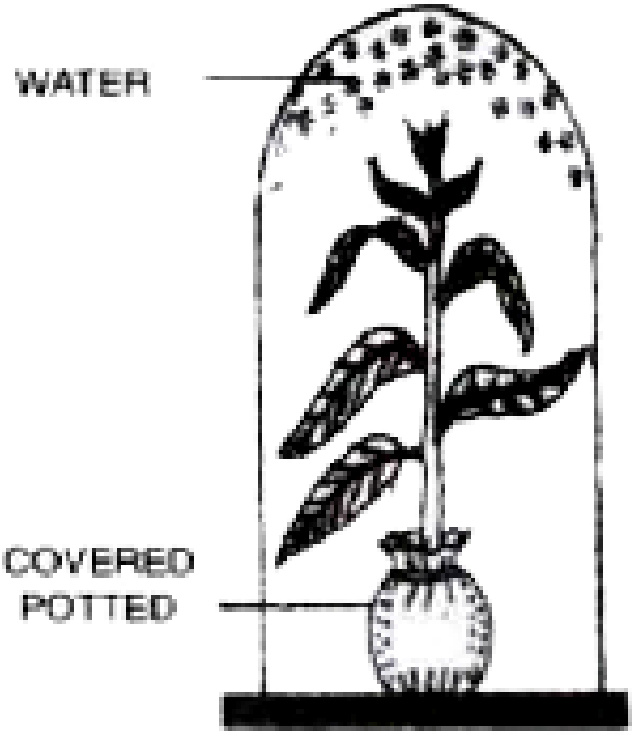
50. Given below is an experimental set-up to study a particular process:



Name the process being studied.

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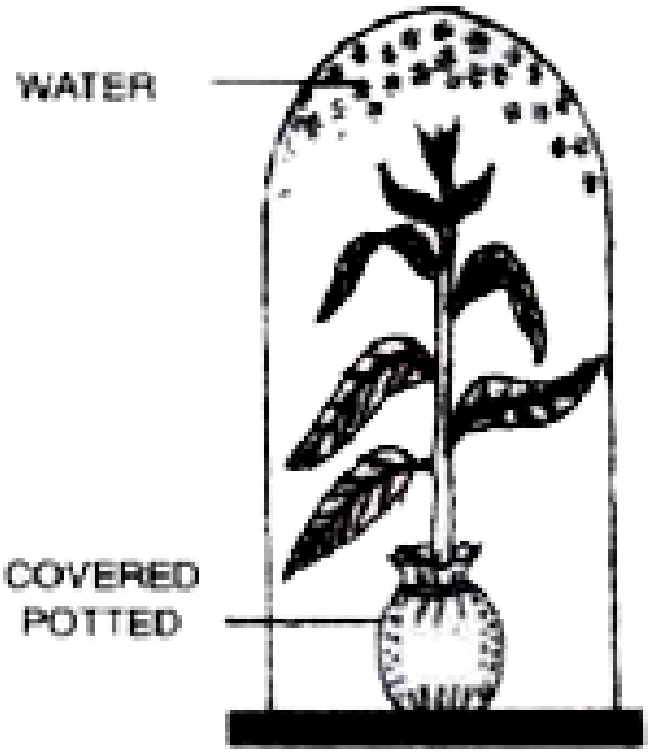
51. Given below is an experimental set-up to study a particular process:



Why is the pot covered with a plastic sheet ?

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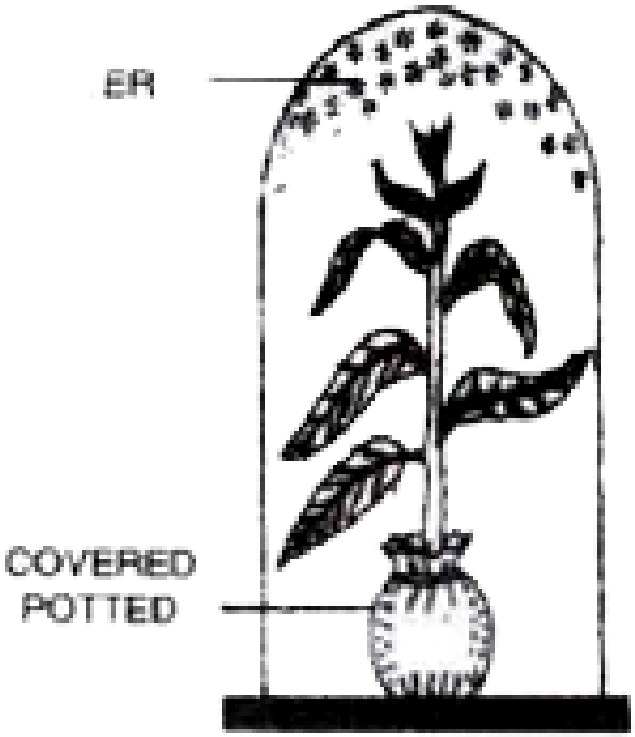
52. Given below is an experimental set-up to study a particular process:



Mention one way in which this process is beneficial to the plant.

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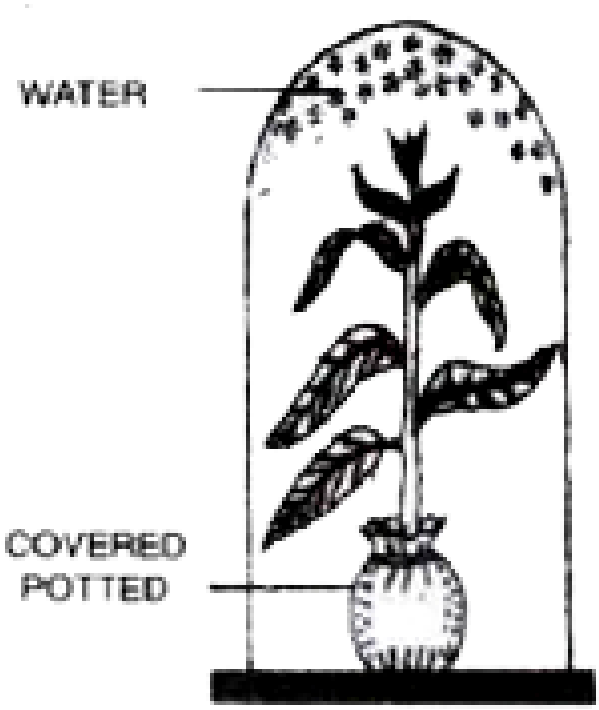
53. Given below is an experimental set-up to study a particular process:



Suggest a suitable control for this experiment.

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54. Give the specific function of the following structures found in the body of plants.

Hydathodes

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55. Give the specific function of the following structures found in the body of plants/animals.

Xylem

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56. Give the specific function of the following structures found in the body of plants/animals.

Lenticels

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57. Give the specific function of the following structures found in the body of

plants/animals.

Guard cells

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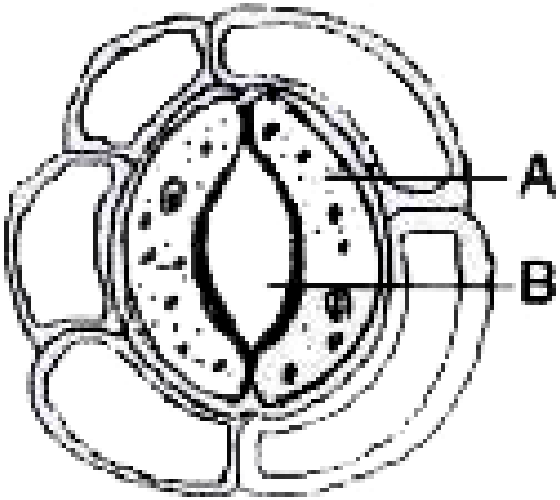
58. The diagram given below represents a structure found In a leaf.



Study the same and answer the questions that follow:

Name the parts labelled A and B.

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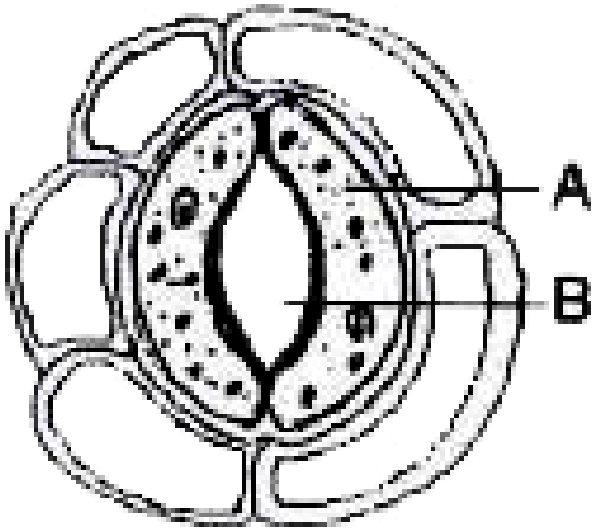
59. The diagram given below represents a structure found In a leaf.



Study the same and answer the questions that follow:

What is the biological term for the above structure?

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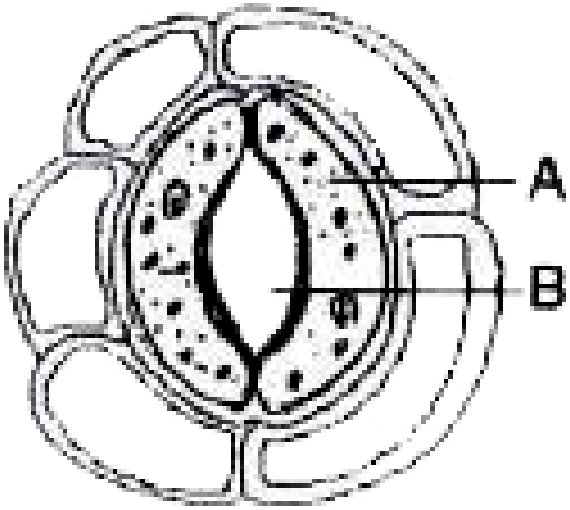
60. The diagram given below represents a structure found In a leaf.



Study the same and answer the questions that follow:

What is the function of the part labelled A?

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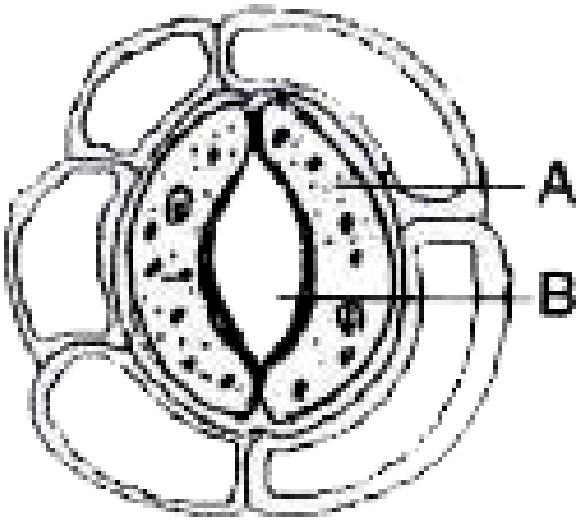
61. The diagram given below represents a structure found In a leaf.



Study the same and answer the questions that follow:

Mention two structural features of A, which help in the function labelled in A above

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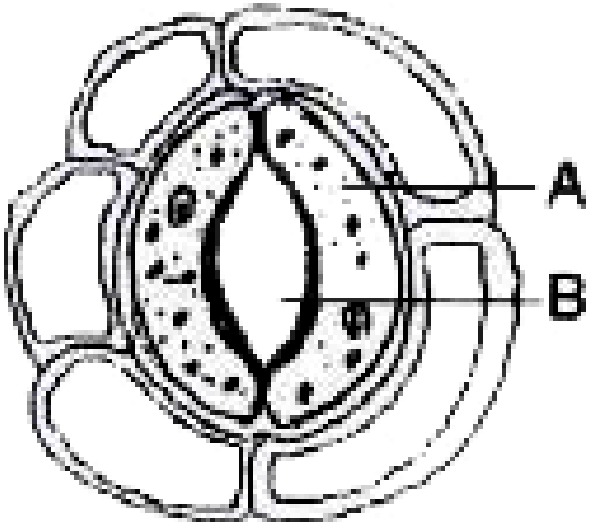
62. The diagram given below represents a structure found In a leaf.



Study the same and answer the questions that follow:

Where is this structure likely to be found in a leaf?

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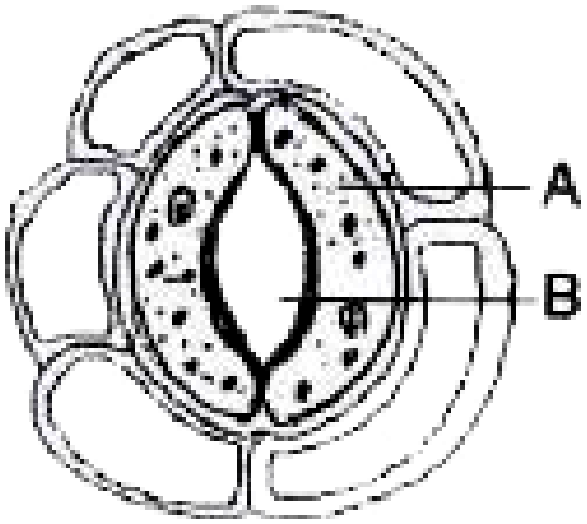
63. The diagram given below represents a structure found In a leaf.



Study the same and answer the questions that follow:

The above structure helps in the process of transpiration. Explain the term transpiration.

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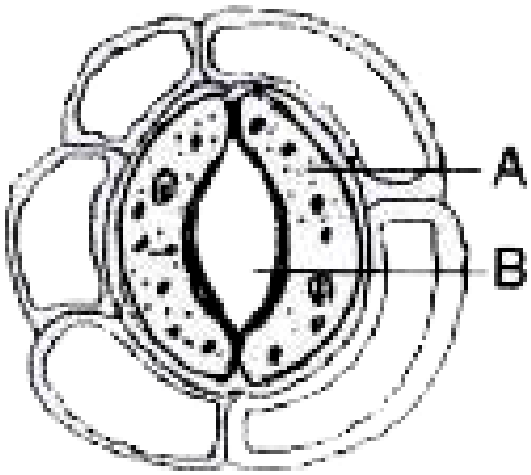
64. The diagram given below represents a structure found In a leaf.



Study the same and answer the questions that follow:

How many other cells are found surrounding this structure as seen In the diagram.

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65. Mention three adaptations found in plants to reduce transpiration.

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66. Explain the term root pressure.

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67. Explain how the rate of transpiration Is affected on :

a windy day

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68. Explain how the rate of transpiration Is affected on :

a foggy day

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69. Choose the correct answer

Loss of water as droplets from hydathodes is

called:

A. Transpiration

B. Bleeding

C. Guttation

D. None of these

Answer:

70. Choose the correct answer

Which one of the following does not affect the rate of transpiration ?

A. Light

B. Humidity

C. Wind

D. Age of the plant

Answer:

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71. Give the exact location of

Hydathodes.

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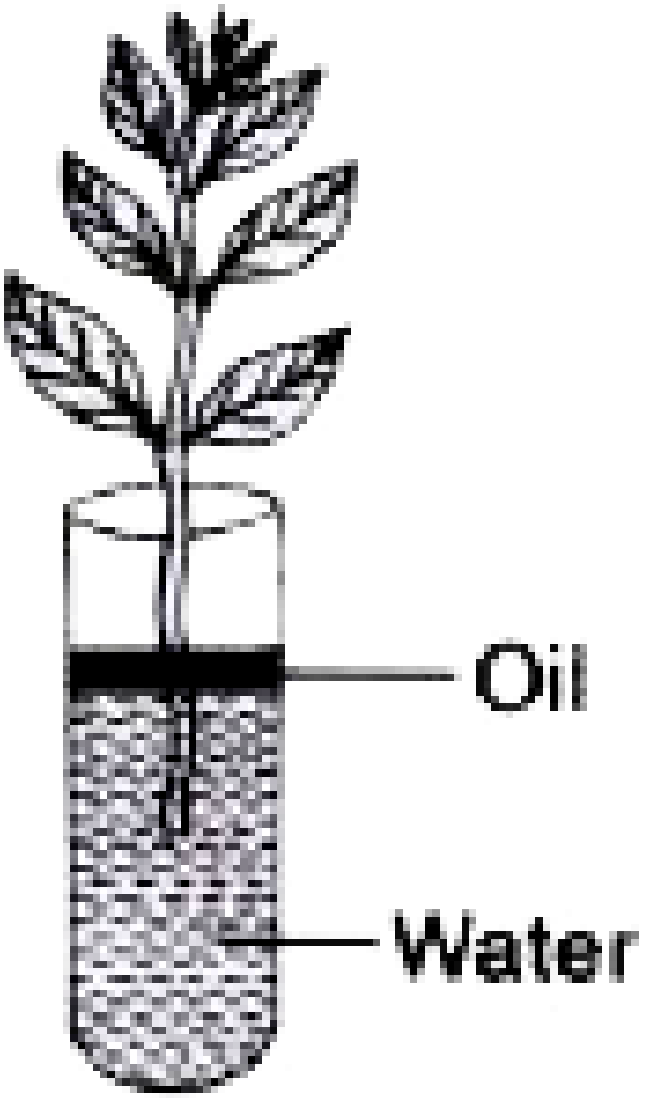
72. Give the exact location of

Lenticels.

Watch Video Solution

73. Study the diagram given below and answer the questions that follow :



Name the process being studied in the experiment.

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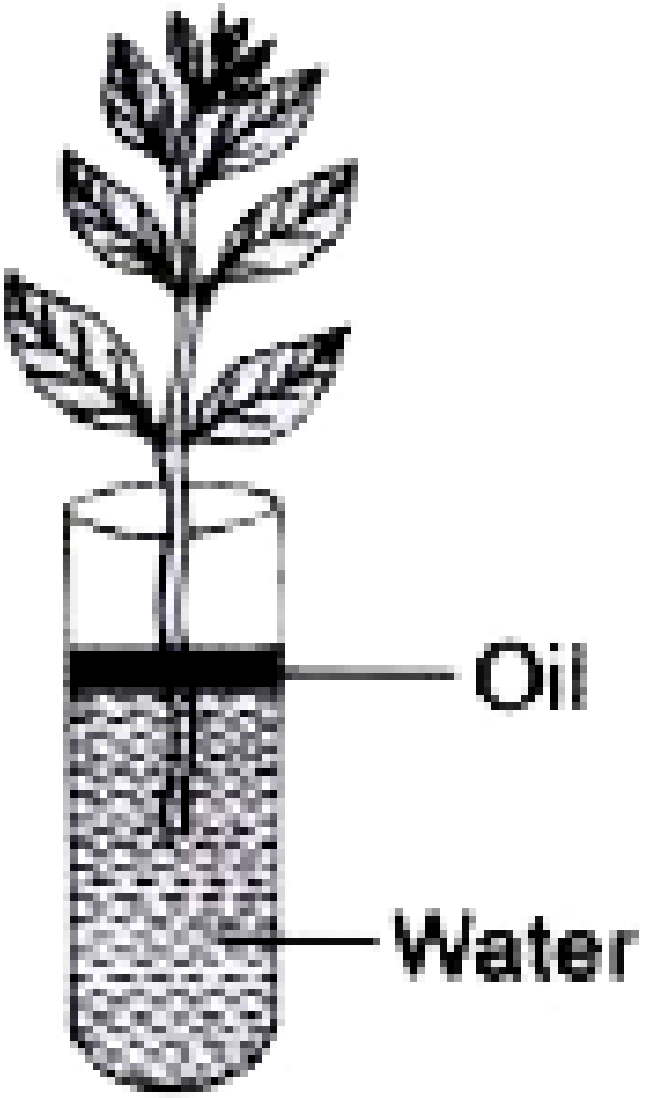
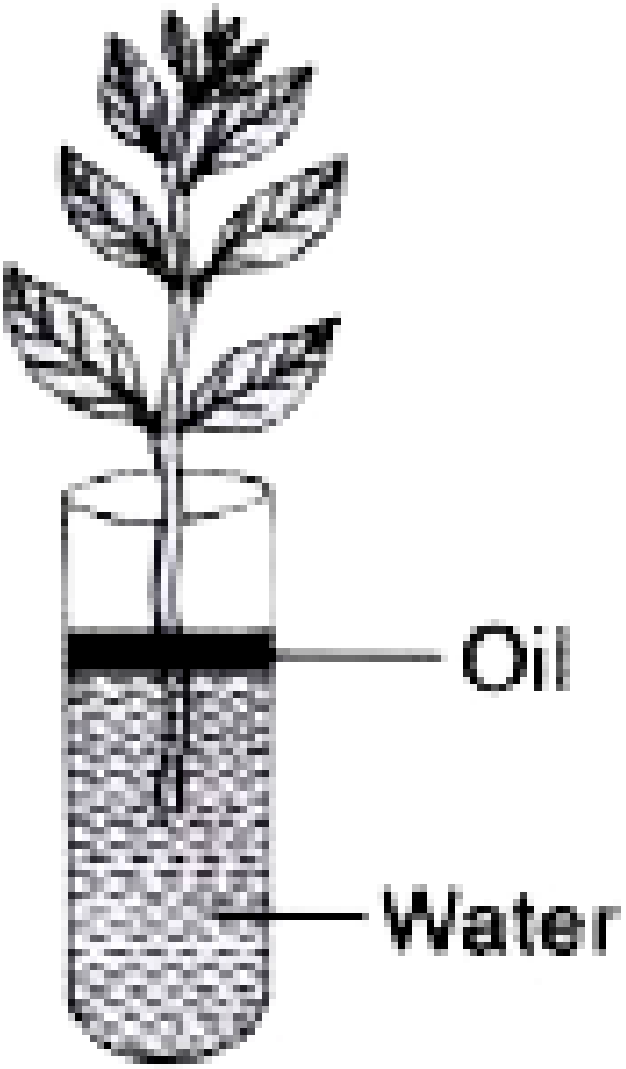
74. Study the diagram given below and answer the questions that follow :



Name the process being studied in the experiment.

Watch Video Solution

75. Study the diagram given below and answer the questions that follow :



Why is oil placed over water

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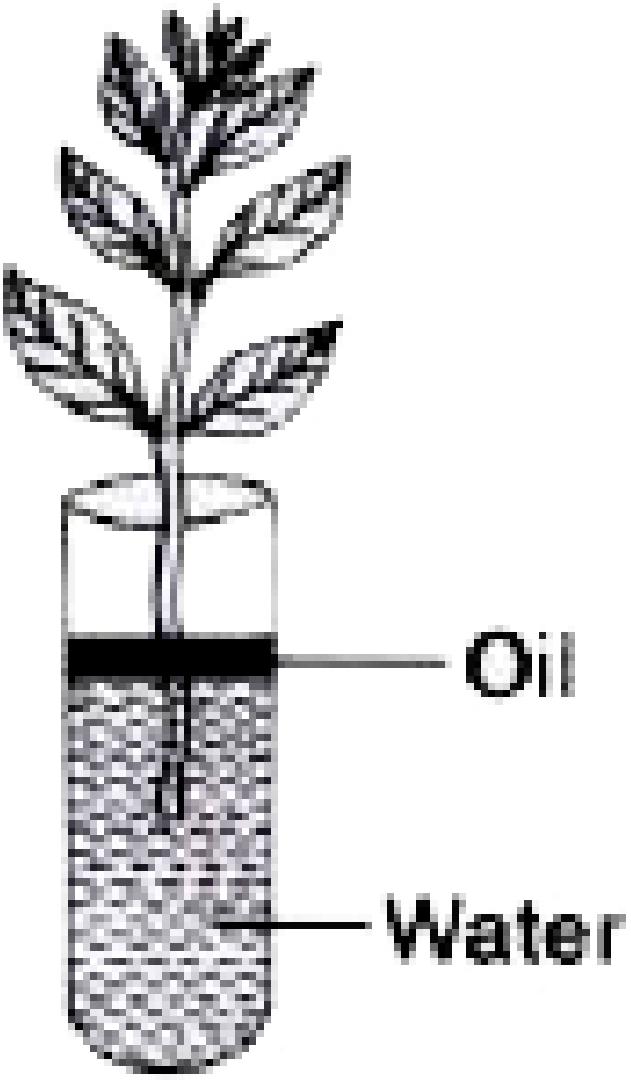
76. Study the diagram given below and answer the questions that follow :



What do we observe with regard to the level of water when this set-up is placed in (1) bright sunlight (2) humid conditions (3) windy day

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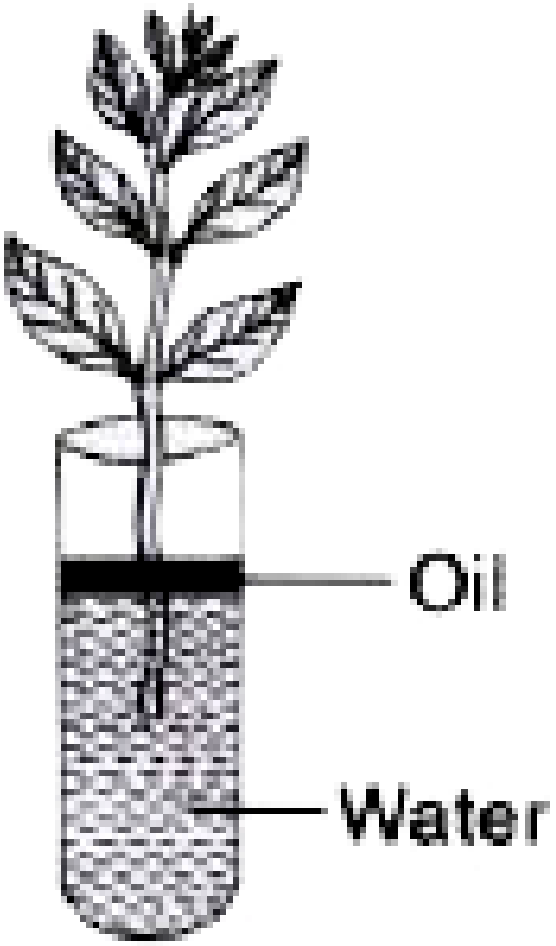
77. Study the diagram given below and answer the questions that follow :



Mention any three adaptations found in plants to overcome the process studied in the experiment. .

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78. Match the following :

	Column - I		Column - II
a.	Electroporation	(i)	Isolation of fungal DNA
b.	Ti-plasmid	(ii)	Vectorless gene transfer
c.	Kary Mullis	(iii)	Opines
d.	Chitinase	(iv)	PCR

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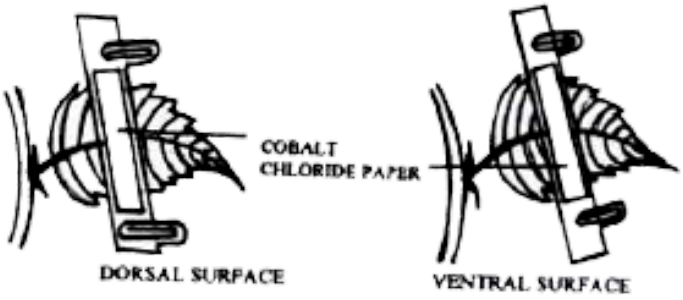
79. Given below is an experimental set-up to demonstrate a particular process. Study the same and answer the questions that follow :



Explain the process being studied.

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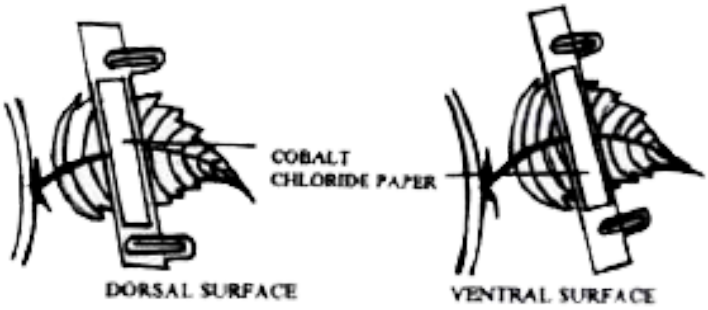
80. Given below is an experimental set-up to demonstrate a particular process. Study the same and answer the questions that follow :



What is the aim of the above experiment ?

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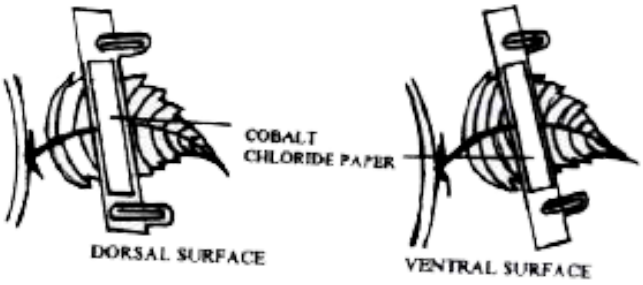
81. Given below is an experimental set-up to demonstrate a particular process. Study the same and answer the questions that follow :



What would you observe in the experimental set up after an hour? Give a reason to support your answer.

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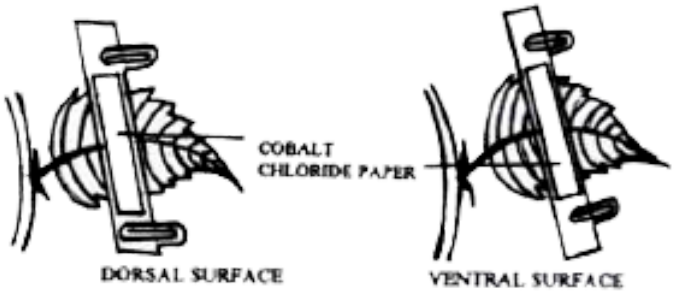
82. Given below is an experimental set-up to demonstrate a particular process. Study the same and answer the questions that follow :



Mention any three adaptations found in plants to overcome the physiological process mentioned in being studied.

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83. Between the bark and the wood in a woody stem, there is a layer of meristem called :

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84. Name the following :

An apparatus to compare the rate of transpiration in a cut shoot.

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85. Find the odd one out : transpiration, Photosynthesis, Phagocytosis and Guttation

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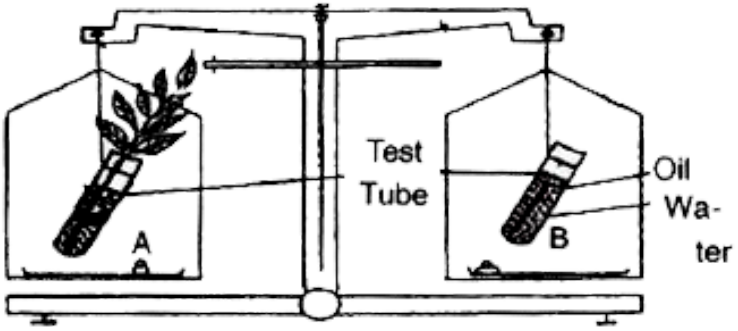
86. The figure given below represents an experimental setup with a weighing machine to demonstrate a particular process in plants. The experimental set -up was placed in bright sunlight. Study the diagram and answer the following questions :



Name the process intended for study.

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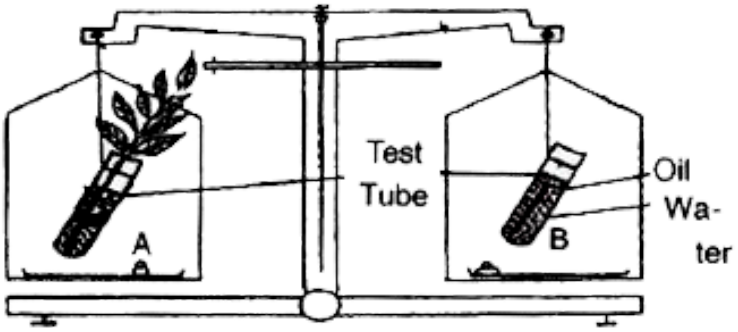
87. The figure given below represents an experimental setup with a weighing machine to demonstrate a particular process in plants. The experimental set -up was placed in bright sunlight. Study the diagram and answer the following questions :



Name the process intended for study.

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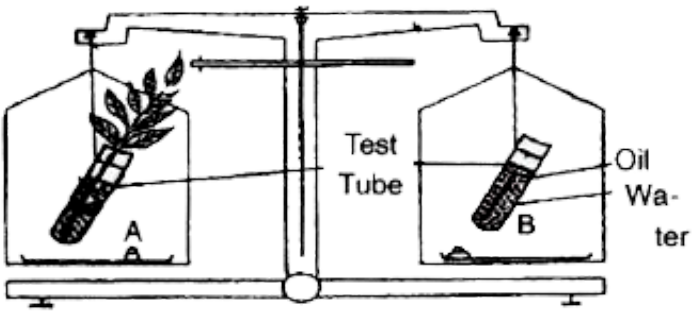
88. The figure given below represents an experimental setup with a weighing machine to demonstrate a particular process in plants. The experimental set -up was placed in bright sunlight. Study the diagram and answer the following questions :



When the weight of the test tube (A & B) is

taken before and after the experiment, what is observed? Give reasons to justify your observation in A & B.

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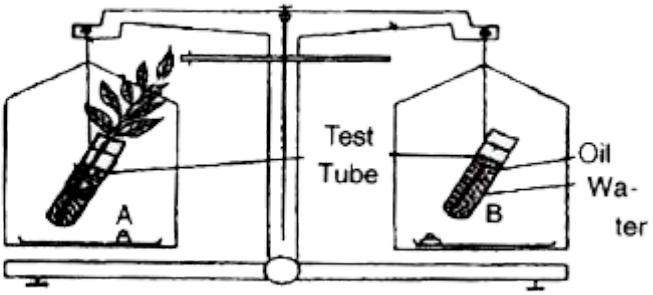
89. The figure given below represents an experimental setup with a weighing machine to demonstrate a particular process in plants. The experimental set -up was placed in bright sunlight. Study the diagram and answer the following questions :



What is the purpose of keeping the test tube Bin the experimental set-up?

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90. Balsam plants wilt during midday even if the soil is well watered. Give scientific reason.

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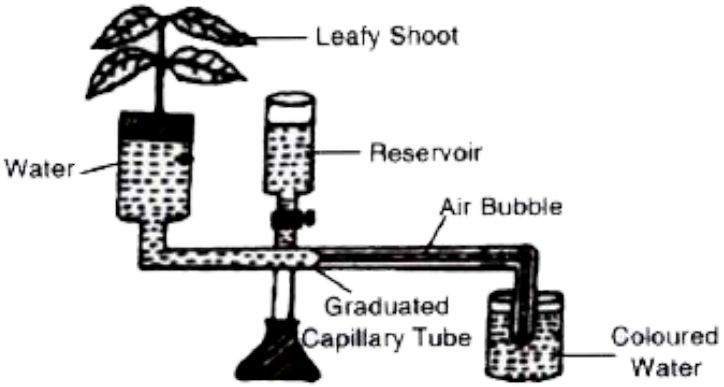
91. The diagram of an apparatus given below demonstrates a particular process in plants. Study the same and answer the questions that follow :



Name the apparatus.

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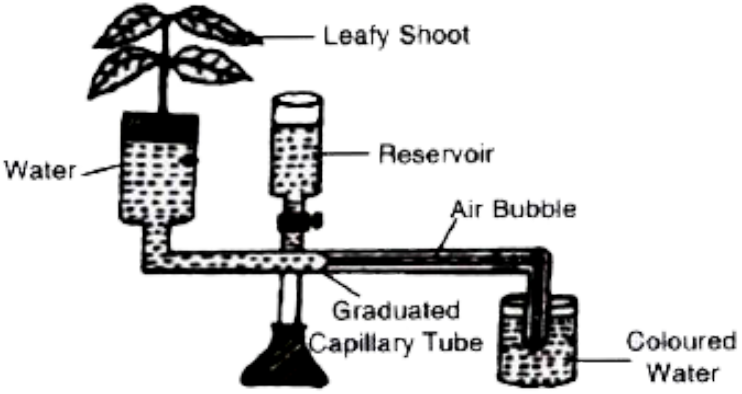
92. The diagram of an apparatus given below demonstrates a particular process in plants. Study the same and answer the questions that follow :



Which phenomenon is demonstrated by this apparatus?

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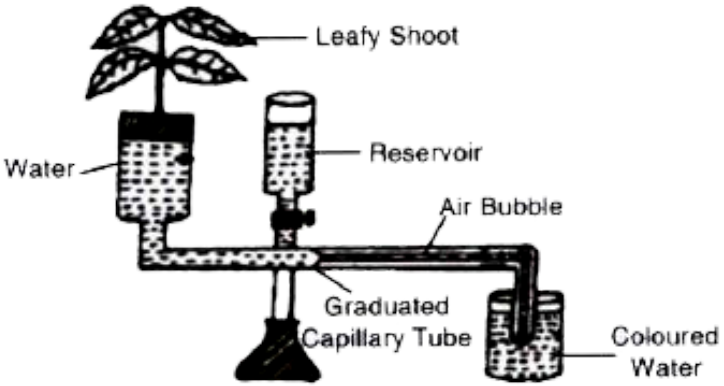
93. The diagram of an apparatus given below demonstrates a particular process in plants. Study the same and answer the questions that follow :



Name the apparatus.

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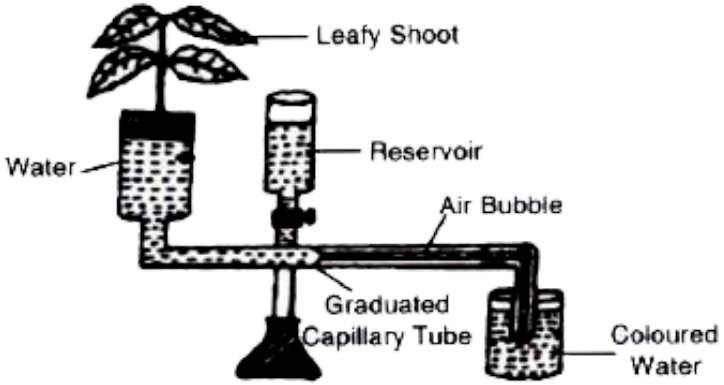
94. The diagram of an apparatus given below demonstrates a particular process in plants. Study the same and answer the questions that follow :



State two limitations of using this apparatus.

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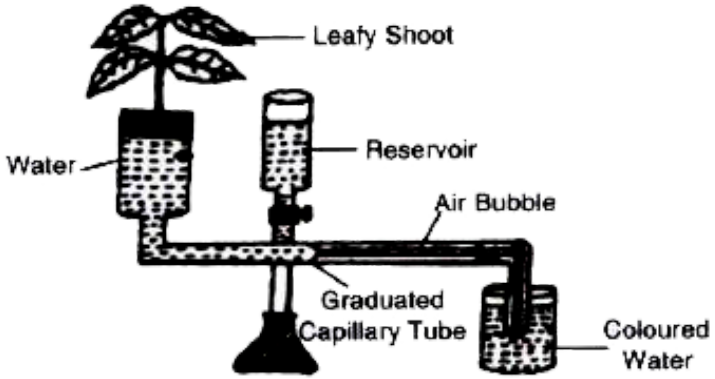
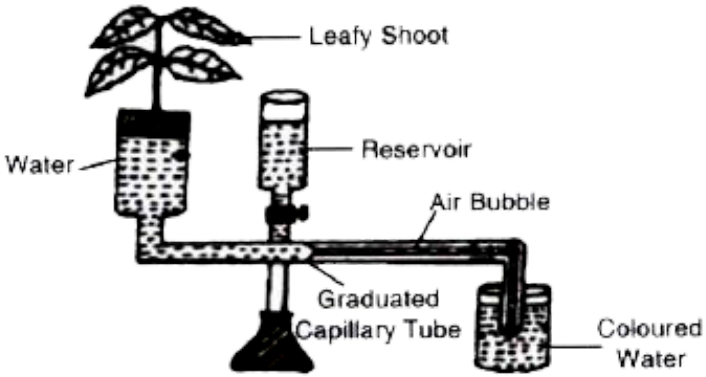
95. The diagram of an apparatus given below demonstrates a particular process in plants. Study the same and answer the questions that follow :



What is the importance of the air bubble in the experiment ?

Watch Video Solution

96. The diagram of an apparatus given below demonstrates a particular process in plants. Study the same and answer the questions that follow :



Name the structures in a plant through which the above process takes place.

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97. Give biological reason for the following statements :

In some xerophytes, leaves are modified into spines.

Watch Video Solution

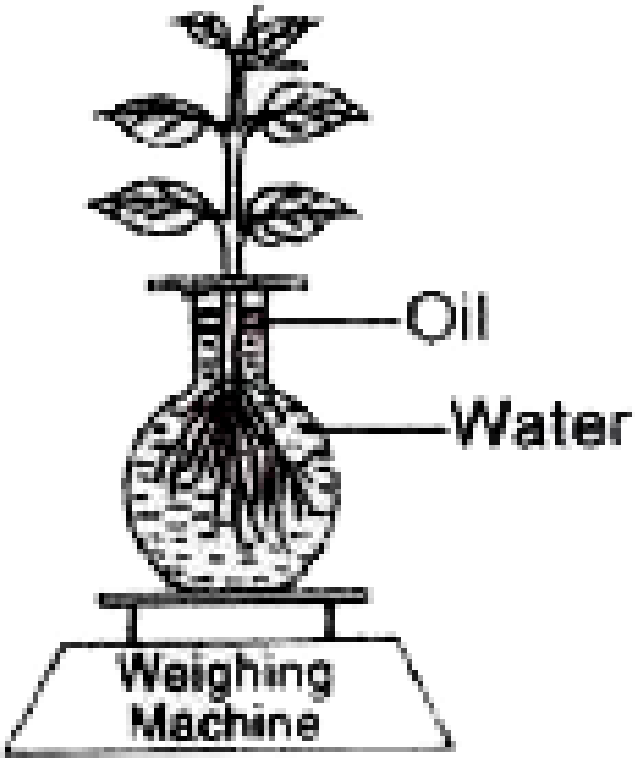
98. Give biological reason for the following statements :

Plants growing in fertilized soil are often

found to wilt if the soil is not adequately watered.

Watch Video Solution

99. The diagram below represents a process in plants. The setup was placed in bright sunlight. Answer the following questions :



Name the physiological process depicted in the diagram .

Why was oil added to the water?

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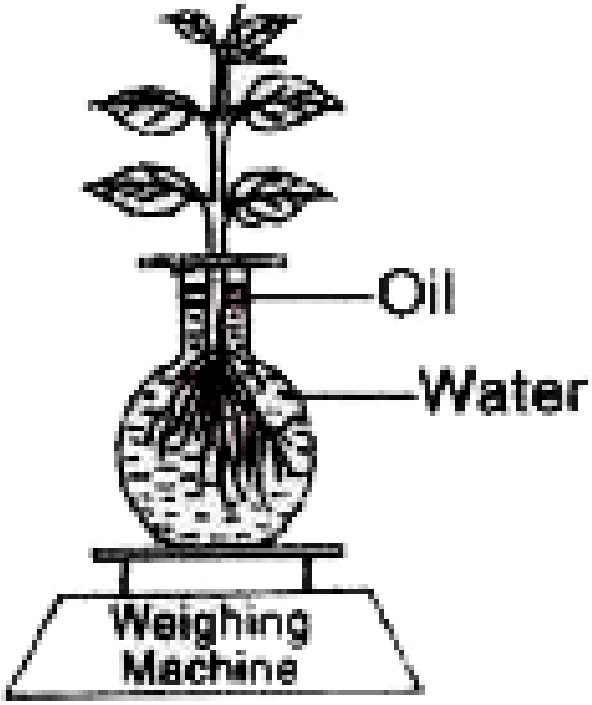
100. The diagram below represents a process in plants. The setup was placed in bright sunlight. Answer the following questions :



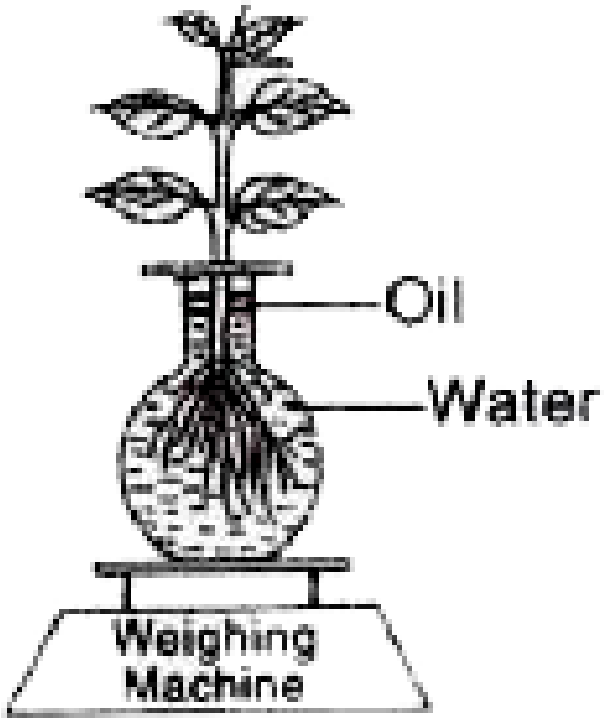
When placed in bright sunlight for four hours, what do you observe with regard to the initial

and final weight of the plant?

Give a suitable reason for your answer.

Watch Video Solution

101. The diagram below represents a process in plants. The setup was placed in bright sunlight. Answer the following questions :

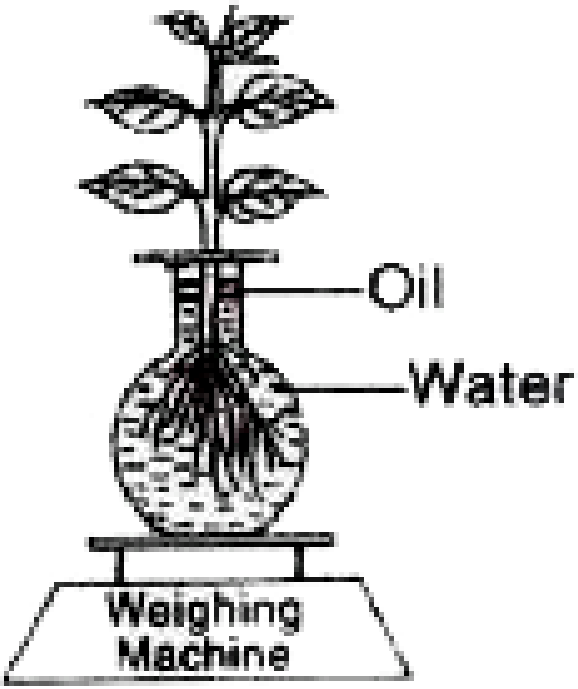


What happens to the level of water when this setup is placed in:

1. Humid conditions? 2. Windy conditions?

Watch Video Solution

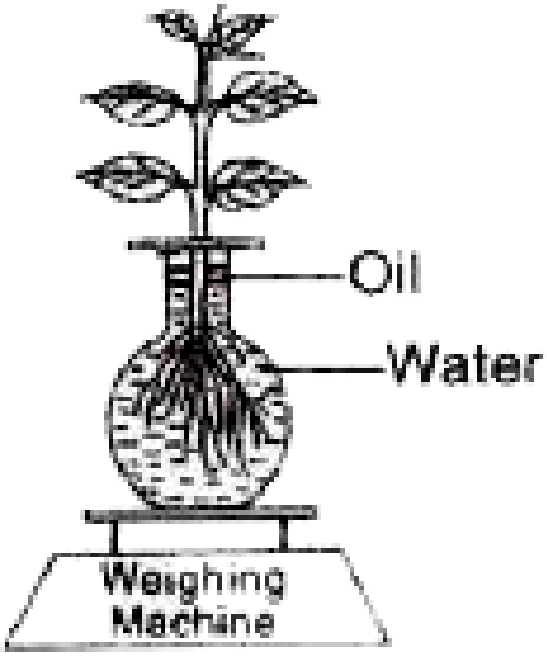
102. The diagram below represents a process in plants. The setup was placed in bright sunlight. Answer the following questions :



Mention any three adaptations found in plants to overcome this process?

Watch Video Solution

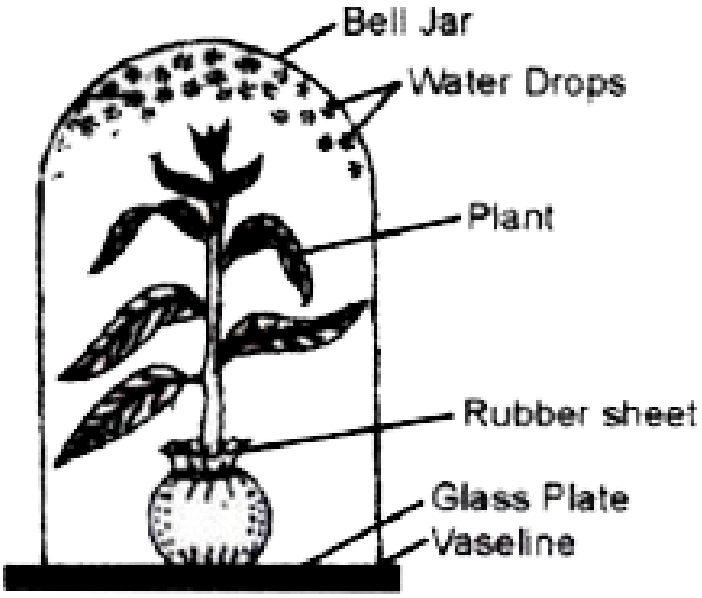
103. The diagram below represents a process in plants. The setup was placed in bright sunlight. Answer the following questions :



Explain the term 'Guttation'

Watch Video Solution

104. Given below is an apparatus which was setup to investigate a physiological process in plants. The setup was placed in bright sunlight. Answer the questions that follow:



Name the process being studied. Define the process.

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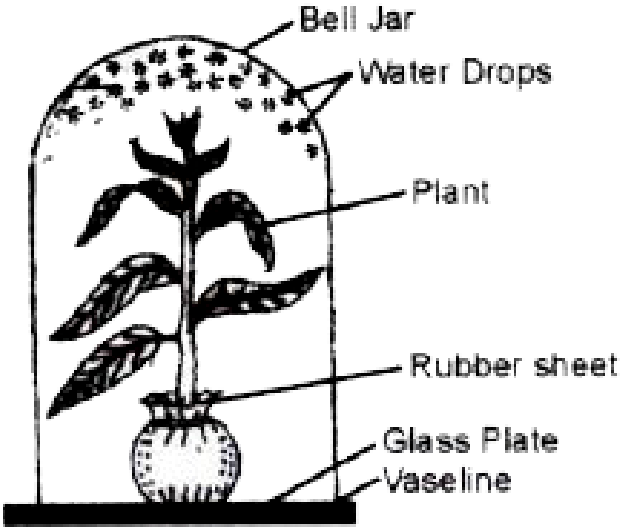
105. Given below is an apparatus which was setup to investigate a physiological process in plants. The setup was placed in bright sunlight. Answer the questions that follow:

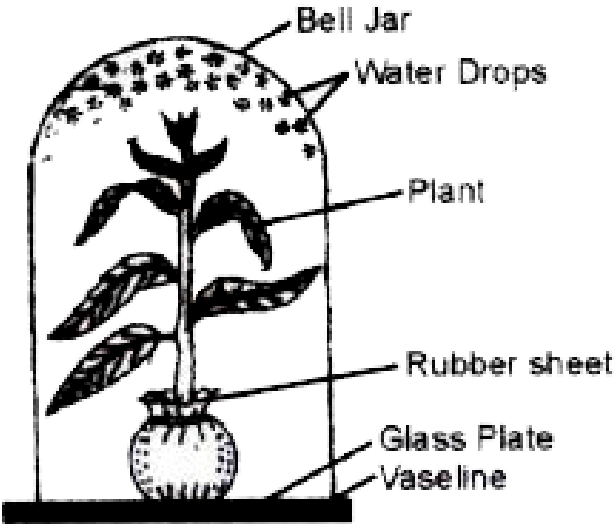


Why was the pot enclosed in a rubber sheet ?

Watch Video Solution

106. Given below is an apparatus which was setup to investigate a physiological process in plants. The setup was placed in bright

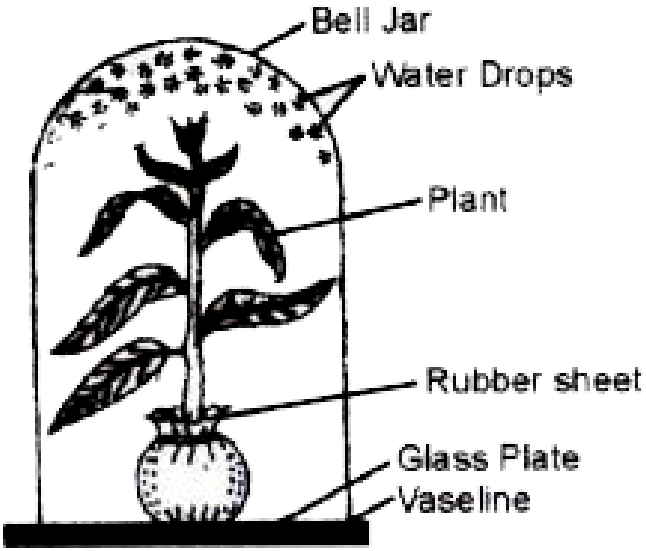
sunlight. Answer the questions that follow:



Mention two external factors which can accelerate the above process.

Watch Video Solution

107. Given below is an apparatus which was setup to investigate a physiological process in plants. The setup was placed in bright sunlight. Answer the questions that follow:

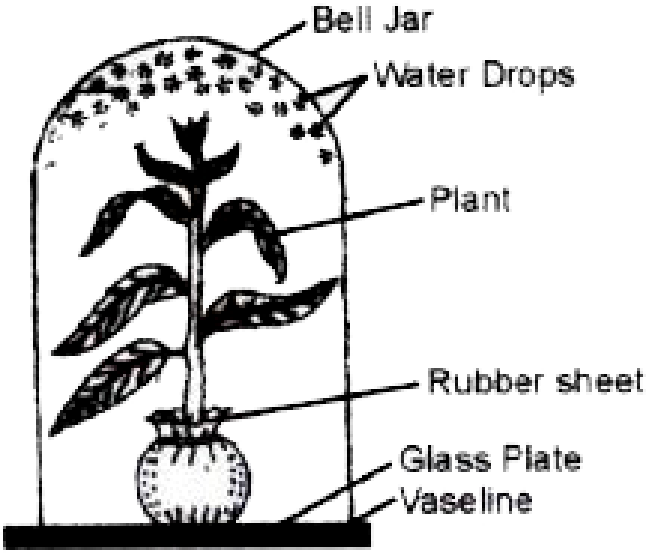


List two adaptations in plants to reduce the above process.

Watch Video Solution

Watch Video Solution

108. Given below is an apparatus which was setup to investigate a physiological process in plants. The setup was placed in bright sunlight. Answer the questions that follow:



Draw a neat, labelled diagram of a stomata!

apparatus.

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Choose The Correct Answer

1. Most transpiration in herbaceous plant occurs through:

A. Stomata

B. Lenticels

C. Cuticle

D. Hydathodes

Answer: A

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2. On a dry, sunny day, how does water vapour move through the stomata of a leaf?

A. Into the leaf by diffusion

B. Into the leaf by respiration

C. Out of the leaf by diffusion

D. Out of the leaf by respiration

Answer: C

View Text Solution

3. Transpiration is highest during:

A. Rainy season

B. Winter

C. Summer

D. Autumn

Answer: C

View Text Solution

4. Which one of the following does not affect the rate of transpiration?

A. Light

B. Humidity

C. Wind

D. Age of the plant.

Answer: B

View Text Solution

5. The rate of transpiration increase with:

A. Increase in humidity

B. Increase in wind velocity

C. Reduced light intensity

D. Increase in the CO_2 level

Answer: B

View Text Solution

6. Which of the following is not true for transpiration?

A. It cools the plant

B. Water lost has minerals

C. Water is lost as vapours

D. Maximum through stomata

Answer: B

View Text Solution

7. Lenticels are present on:

A. Green stem

B. Woody stem

C. Leaves

D. Flowers

Answer: B

View Text Solution

8. The rate of transpiration is more when:

A. Atmosphere is dry

B. Temperature is high

C. Atmosphere is dry and temperature is high

D. Humidity is high

Answer: B

View Text Solution

9. Transpiration pull will be maximum under which condition?

A. Open stomata, dry atmosphere and moist soil.

B. Open stomata, dry atmosphere and dry soil.

C. Open stomata, high humidity and moist soil.

D. Open stomata, high humidity and less temperature.

Answer: A

View Text Solution

10. Given below is an example of a certain structure and its special functional activity. Which one of the following pair is incorrect?

A. Hydathodes : Guttation

B. Stomata : Diffusion of gases

C. Leaf spines: Prevents transpiration by reducing leaf lamina

D. Lenticels : Diffusion of gases on the green stem

Answer: D

View Text Solution

11. What is a description of transpiration?

A. Exchange of gases between the leaf and the atmosphere.

B. Loss of water vapour from the leaves and stems of a plant.

C. Movement of water from the roots to the leaves.

D. Movement of water through the cells of the leaf.

Answer: D

View Text Solution

12. From which part of a leaf does most water evaporate during transpiration?

A. The cuticle

B. The guard cells

C. The spongy mesophyll cells

D. The xylem vessels

Answer: C

View Text Solution

13. A decrease in which factor normally causes transpiration rate to increase?

A. Humidity

B. Light intensity

C. Stomatal opening

D. Temperature

Answer: A

View Text Solution

14. What will not affect the rate of transpiration?

A. Humidity of the atmosphere

B. Number of open stomata

C. Rate of respiration

D. Temperature

Answer: C

View Text Solution

Complete The Following Statements

1. If a plant is kept covered with a polythene sheet, we notice some water drops on the inner side of the sheet after sometime. This is due to _____.

A. Evaporation

B. Transpiration

C. Translation

D. Transportation

Answer: B

View Text Solution

2. Transpiration is the evaporative loss of water from_____.

A. Roots

B. Leaves

C. Stem

D. Both b and c

Answer: B

View Text Solution

3. _____ is used as an indicator for a demonstration of transpiration.

A. Litmus paper

B. Cobalt chloride paper

C. Both a and b

D. None of the above

Answer: B

View Text Solution

4. _____is the change observed in the indicator-dry cobalt chloride in the experimental set up after keeping it in the sunlight.

A. No change

B. Red to Blue

C. Blue to Pink

D. Pink to Blue

Answer: B

View Text Solution

5. _____takes place directly from the surface of the leaves and stems.

A. Transpiration

B. Lenticular Transpiration

C. Stomata transpiration

D. Cuticular Transpiration

Answer: B

View Text Solution

6. ____are minute openings in the epidermal layer of leaves.

A. Lenticels

B. Cuticle

C. Stomata

D. Stroma

Answer: D

View Text Solution

7. The water vapour diffuses through the air space between the mesophyll cells into the

A. Intercellular space

B. Stomata

C. Sub-stomatal space

D. Epidermis

Answer: C

View Text Solution

8. In a leaf, the cell sap in each cell exerts a outward on the cell wall. _____.

A. Wall pressure

B. Turgor Pressure

C. Osmotic Pressure

D. Both a and b

Answer: C

View Text Solution

9. More transpiration occurs from the ___ of a leaf.

A. Dorsal surface

B. Under surface

C. Upper surface

D. both a and b

Answer: B

View Text Solution

10. Opening and closing of stomata is regulated by_____.

A. Epidermal cells

B. Mesophyll cells

C. Guard cells

D. both (a) and (b)

Answer: B

View Text Solution

11. The_____ serves to prevent evaporation of water from the leaf surfaces.

A. Lenticels

B. Stomata

C. Cuticle

D. both (b) and (c)

Answer: C

View Text Solution

12. Desert plants tend to have_____.

A. Thick cuticle

B. Thin cuticle

C. No cuticle

D. More stomata

Answer: C

View Text Solution

13. Lenticels allow diffusion of gases for _____.

A. Respiration

B. Transpiration

C. Photosynthesis

D. Both (a) and (c)

Answer: A

View Text Solution

14. Transpiration decreases with increase in _____.

A. Temperature

B. Wind velocity

C. Atmospheric pressure

D. All of the above

Answer: D

View Text Solution

15. If the water content of the leaves decreases the rate of transpiration_____.

A. Increases

B. Depends on other sector

C. Remains same

D. Decreases

Answer: C

View Text Solution

16. The adaptation of in Nerium to reduce transpiration_____.

A. Sunken stomata

B. Stomata covered by hairs

C. Folding of leaves

D. both (a) and (b)

Answer: D

View Text Solution

17. _____is observed in most evergreen trees.

A. Sunken stomata

B. Leaves covered by thick cuticle

C. Rolled leaves

D. Spines

Answer: C

View Text Solution

18. Given below are the advantages of transpiration, except for_____.

A. Cooling

B. Suction force

C. Distributing water

D. Provides oxygen

Answer: B

View Text Solution

19. The_____ generated by a plant assists in bleeding.

A. Turgor Pressure

B. Suction force

C. Root Pressure

D. Capillarity

Answer: D

View Text Solution

20. In a weighing experiment using a test-tube, we will _____to prevent evaporation.

A. Cover test tube with paper

B. Pour oil on the surface

C. Cover it with polythene bag

D. Keep it in air-tight container

Answer: C

View Text Solution

21. _____is a device which measures the rate of water intake by a plant.

A. Manometer

B. Thermometer

C. Potometer

D. Lactometer

Answer: B

View Text Solution

22. With respect to the Ganong's potometer,____ is incorrect.

A. Coloured water is used

B. Air bubble is introduced

C. Reading on the capillary tube indicates the volume of water lost.

D. None of the above

Answer: C

View Text Solution

23. Each one of the following indicates a method used to measure the rate of transpiration except for_____

A. Weighing method

B. Potometer

C. Bell-jar experiment

D. Both (a) and (b)

Answer: C

View Text Solution

Match The Following

1. Match the items of Column A with those in Column B and select the correct option:

Column I	Column II
(A) Cactus	(i) Exudation of sap from injured part
(B) Banana leaf	(ii) Special pores at the tip of veins
(C) Hydathodes	(iii) Water droplets along the margin of the leaf only in the morning.
(D) Bleeding	(iv) Leaf spines

A. (A) - (iv), (B)-(iii), (C) - (ii), (D) - (i)

B. (A)-(iv), (B) - (ii), (C)-(iii), (D) - (i)

C. (A)-(iv), (B) – (iii), (C)-(i), (D) - (ii)

D. (A)-(iv), (B)-(i), (C)-(iii), (D) - (ii)

Answer: C

View Text Solution

2. Match the items of Column A with those in Column B and select the correct option:

Column I	Column II
(A) Lenticels	(i) An indicator of moisture
(B) Cobalt chloride paper	(ii) Sunken stomata
(C) *Nerium*	(iii) Minute openings on the woody stems
(D) Guard cells	(iv) Kidney shaped cells that surround the stoma

A. (A) - (ii), (B)-(i), (C)-(iii), (D)-(iv)

B. (A)-(iii), (B) - (ii), (C)-(i), (D)-(iv)

C. (A)-(ii), (B) - (iii), (C)-(ii), (D)-(iv)

D. (A) - (i), (B) –(iii), (C)-(i), (D)-(iv)

Answer: A

View Text Solution

Name The Following

1. Special pores at the tips of veins through which guttation occurs.

A. Hydathodes

B. Lenticels

C. Stomata

D. Cuticle

Answer: C

View Text Solution

2. The tissue that conducts water.

A. Phloem

B. Xylem

C. Companion cells

D. Transfusion tissue

Answer: A

View Text Solution

3. Exudation of sap from injured parts.

A. Guttation

B. Secretion

C. Bleeding

D. Active transport

Answer: C

View Text Solution

4. A plant with sunken stomata.

A. Mango

B. Nerium

C. Neem

D. Shrubs

Answer: B

View Text Solution

5. Leaf modification in cacti to check transpiration.

A. Thorns

B. Phylloclade

C. Prickles

D. Spines

Answer: D

View Text Solution

6. The factor that does not affect the rate of transpiration.

A. Intensity of light

B. Velocity of wind

C. Carbon dioxide

D. Oxygen

Answer: D

View Text Solution

Explain The Following Terms

1. Guttation

A. The loss of water in the form of water droplets from the surface of the leaf.

B. The loss of water in the form of water droplets through the stomata.

C. The loss of water in the form of water vapour along the leaf margin.

D. The loss of water in the form of water droplets along the leaf margin

Answer: D

View Text Solution

2. Transpiration.

A. It is the loss of water as water vapour from the aerial parts/stems and leaves of the plants.

B. The process of removal of water as water droplets from the aerial parts/ leaf/stomata of a plant.

C. Exudation of sap from injured parts of a plant.

D. The loss of water in the form of water vapour from the surface of the leaf only.

Answer: A

View Text Solution

3. Bleeding.

A. It is a natural process that takes place through cut/ ruptured surface of the plant.

B. Loss of water from the uninjured part or leaves of the plant in the form of water.

C. Natural process that takes place through the margins of the plant surface.

D. The diffusion of water vapour from the surface of the cell into the outside atmosphere.

Answer: A

View Text Solution

State The Exact Location Of The Following

1. Lenticels .

A. They are present on the surface of leaves and stem.

B. They are present on the surface of newly formed woody stem.

C. They are present on the surface of older leaves and old woody stem.

D. They are present on the surface of hard, old woody stem.

Answer: D

View Text Solution

2. Hydathodes

A. Located along the margin and on the upper or lower surfaces of leaves.

B. Located along the margin and on the upper or lower surfaces of leaves and green stem.

C. Into pits on leaves margin which may be covered by multicellular hair.

D. Present on the epidermis of herbaceous stem and leaves.

Answer: A

View Text Solution

State The Function Of The Following

1. Stomata:

A. Stomata help in diffusion of gases in the leaves and in transpiration.

B. Reduce the amount of water lost during transpiration

C. Regulate the opening and closing of guard cells

D. Reduce the intensity of incident light.

Answer: A

View Text Solution

2. Leaf spines

A. Prevents loss of water from the leaves due to evaporation

B. Reduce the surface area so that the loss of water due to transpiration is reduced.

C. Causes the leaf to roll and prevent evaporation of water.

D. Allow for exchange of respiratory gases and prevent from browsing animals

Answer: B

View Text Solution

3. Guard cells

A. Regulate the closing of stomata

B. Regulate the opening and closing of stomata

C. Regulate the opening of stomata

D. Regulate the process of photosynthesis

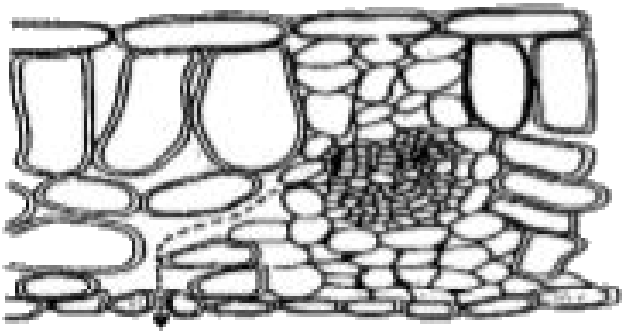
Diagram Based Questions

Answer: B

View Text Solution

Diagram Based Questions

1. The diagram below shows part of a section through a leaf during day time.



What substance follows the path of the arrow out of the leaf?

A. Carbon dioxide

B. Energy

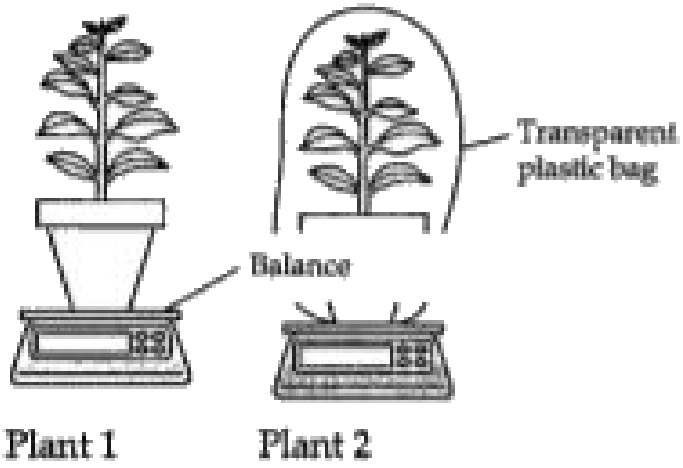
C. Oxygen

D. Water

Answer: D

View Text Solution

2. The diagram shows an experiment to investigate transpiration.



Plant 1 is not covered . Plants 2 and its pot are covered by a transparent plastic bag. The mass of each plants and its pot is measured . The

masses are measured again two hours. What is the result ?

A. The mass of both plants decreases by the same percentage.

B. The mass of both plants stays the same.

C. The mass of plant 1 decreases more than the mass of plant 2.

D. The mass of plant 2 decreases more than the mass of plant 1.

Answer: C

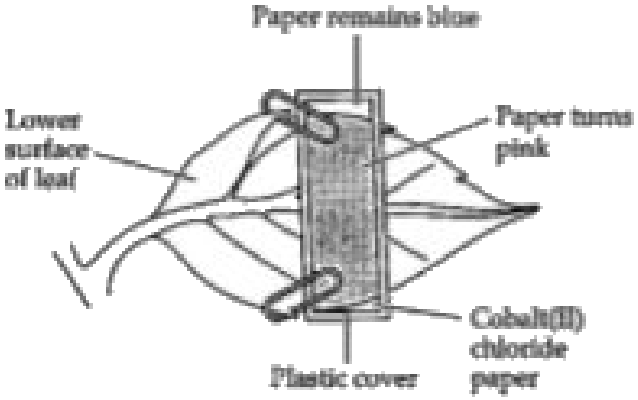
View Text Solution

3. A student is investigating the effect of temperature on the rate of transpiration. Which environmental conditions should be kept constant during this investigation?

	Wind speed	Light intensity	Humidity	Temperature
(a)	✓	✓	✓	✓
(b)	✓	✓	✓	X
(c)	✓	✓	X	X
(d)	X	X	X	✓

View Text Solution

4. A piece of blue cobalt chloride paper is clipped to the lower surface of a fresh leaf and is then covered with plastic, as shown. After a few minutes, part of the paper turns pink, showing that water is present.



Which process carried out by leaves causes the paper to turn pink?

A. Absorption

B. Photosynthesis

C. Respiration

D. Transpiration

Answer: D

View Text Solution

5. A plant shoot is placed in a solution of a dye. The dye moves up the stem. Under which

conditions will the dye move slowest?

	Temperature	Humidity
(a)	high	high
(b)	high	low
(c)	low	low
(d)	low	high

View Text Solution

6. The diagram shows a potted plant and the same plant 24 hours later.

What cause the change in the appearance of the plants ?

A. Water loss is greater than water uptake

B. Water moves from the leaves to the stem

C. Water uptake is equal to water loss

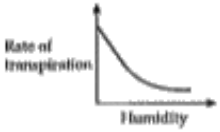
D. Water uptake is greater than water loss

Answer: A

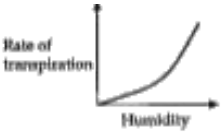
View Text Solution

7. Which graph shows most clearly what will happen to the rate of transpiration as humidity increases?

A. 

B. 

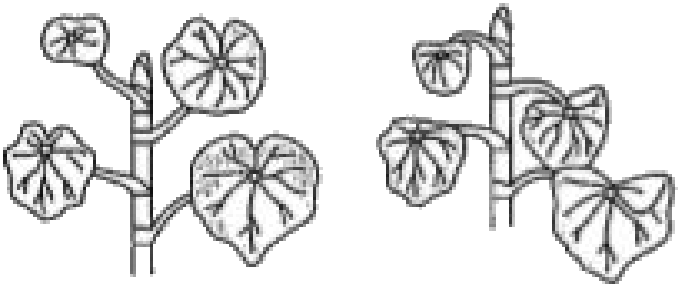
C. 

D. 

Answer: B

View Text Solution

8. The diagram shows a plant shoot and the same shoot five hours later.



Which change in environmental conditions could cause this change in the shoot?

A. A decrease in available water

B. A decrease in light intensity

C. A decrease in wind speed

D. An increase in humidity

Answer: A

View Text Solution

9. The diagram shows how water is lost from a leaf.

By which process is the water lost?

A. Osmosis

B. Photosynthesis

C. Translocation

D. Transpiration

Answer: D

View Text Solution

10. The graph shows how the rate of transpiration is affected by X.

What is X?

A. Humidity

B. Soil moisture

C. Light intensity

D. Temperature

Answer: A

View Text Solution

Assertion Reason Questions

1. Assertion: Transpiration cools the plant .

Reason: Evaporation of water vapours reduces the temperature of the leaf surface.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true, but reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A

View Text Solution

2. Assertion: Leaves are reduced to spines in cactus.

Reason: Leaves are modified to form spines to reduce the leaf lamina.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true, but reason is not the correct

explanation of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A

View Text Solution

3. Assertion: In hot summer months most herbaceous plants wilt at noon and recover in the evening.

Reason: Plant shows wilting due to loss of turgidity.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true, but reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A

View Text Solution

4. Assertion: Transpiration occurs through stomata .

Reason: Guttation is due to root pressure.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true, but reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: B

View Text Solution

5. Assertion: Light is one of the important factor in transpiration.

Reason: Transpiration increases in light and decreases in dark.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true, but reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A

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6. Assertion: Transpiration is a necessary evil.

Reason: It causes water loss but helps in absorption and upward movement of water and minerals.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true, but reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A

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7. Assertion: Stomata remain open during the day time.

Reason: Stomata helps in exchange of gases.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true, but reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: B

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8. Assertion: The potometer does not measure the transpiration rate accurately.

Reason: Potometer usually measures the rate of water uptake.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true, but reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: B

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9. Assertion: Deciduous trees have to shed their leaves during autumn.

Reason: This is an adaptation to check loss of water by transpiration.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true, but reason is not the correct

explanation of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: A

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10. Assertion: Lenticels functions as a pore, providing a pathway for the direct exchange of gases between the internal tissues and atmosphere through the bark.

Reason: Lenticular transpiration amounts to 10% of the total transpiration.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true, but reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false.

Answer: C

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