



BIOLOGY

BOOKS - MAXIMUM PUBLICATION

TRANSPORT IN PLANTS

Exercise

1. Which of the following statements does not apply to reverse osmosis?

A. it is used for water purification

B. In this technique, pressure greater than osmotic pressure is applied to the system

C. It is a passive process

D. It is an active process

Answer: C



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2. Which one of the following will not directly affect transportation?

A. Light

B. wind speed

C. temperature

D. chlorophyll content of leaves

Answer: D



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3. The lower surface of leaf will have more number of stomata in a

- A. isobilateral leaf
- B. dorsiventral leaf
- C. both a and b
- D. none of the above

Answer: B



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4. The form of sugar transported through phloem is

A. Fructose

B. Sucrose

C. glucose

D. ribose

Answer: B



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5. The process of guttation takes place

A. when the root pressure is high and the rate of transpiration is low

B. when the root pressure is low and the rate of transpiration is high

C. when the root pressure equals the rate of transpiration

D. when the root pressure as well as rate of transpiration are high

Answer: A



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6. Which of the following is an example of imbibition

- A. uptake of water by root hair
- B. exchange of gases in stomata
- C. swelling of seed when put in soil
- D. opening of stomata

Answer: C



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7. What will happen to a plant cell when kept in hypotonic solution?



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8. How are protoplasm of adjacent cells connected to each other?



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9. Plants could be grown in nutrient solution in complete absence of soil. Name the technique.



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10. Name the hormone which signals the closure of stomata during severe drought or severe solar radiation.



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11. Name the physical phenomena associated with the first step of seed germination.



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12. What causes the leaves of grasses to roll in dry weather?



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13. The excess of one element may inhibit the uptake of another element. what is this effect called as?



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14. Name the type of obligatory association found in Pincus seeds that promote germination.



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15. A plant cell when kept in a certain solution got plasmolysed. What was the nature of this solution?



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16. Why turgidity of the essential for plant?



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17. Absorption of water from soil by dry seeds increases the _____ thus helping seedlings to come out of soil.



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18. A flowering plant is planted in an earthen pot and irrigated. Urea is added to make the plant grow faster but after some time the plant does give reason.



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19. Identify a type of molecular movement which is highly selective and requires special membrane proteins, but does not require energy.



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20. Smaller, lipid soluble molecules diffuse faster through cell membrane, but the movement of hydrophilic substances are

facilitated by certain bimolecules named
as _____



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21. It is difficult to open and close wooden doors and windows during rainy season.

What is the reason?



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22. Differences between the flowering
Diffusion and Osmosis.



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23. Differences between the flowering
Guttation and Transpiration.



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24. Both the xylem and phloem are tubular structures one is uni directional and other is bi-directional. comment on it.



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25. Ramu while observing the root nodules of pea plant he noticed the pink colour. Sita said that it is due to the presence of a substance. Can you name the substance and write its role.



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26. Water is absorbed by the hairs it can move deeper into root layers by two distinct pathways. Write the name of the path ways.



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27. Root pressure is inadequate to lift the water molecules in taller plants like Eucalyptus . which theory is successfully explaining the ascent of sap in plant like Eucalyptus?



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28. Root pressure is inadequate to lift the water molecules in taller plants like Eucalyptus . who proposed this theory?



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29. Fresh mangoes can survive for a prolonged period of time when they are placed in highly concentrated salts solution. Soke physiological

changes take place in the cell. comment on the changes.



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30. Pure honey check the growth of micro organisms justify based on your knowledge in osmosis.



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31. A fresh mango piece is placed in water containing high concentrations of sodium chloride. Exomosis, Plasmolysis, Deplasmolysis, Imbibition. what is plasmolysis?



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32. $\psi_w = \psi_s + \psi_p$. why solute potential is always negative?



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33. When a freshly collected Spirogyra filament is kept in 10% potassium nitrate solution, it is observed that the protoplasm shrinks in size.

What is this phenomenon called?



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34. When a freshly collected Spirogyra filament is kept in 10% potassium nitrate solution, it is observed that the protoplasm shrinks in size.

What will happen if the filament is replaced in distilled water?



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35. In an experiment Deepa put a piece of raw mango in 0.5M salt solution and another piece in 1M salt solution. Which mango piece will get plasmolysed fast?



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36. An unavoidable waste mechanism is found in higher plants during high temperature.

Name the processes



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37. An unavoidable waste mechanism is found in higher plants during high temperature.

Why is it said so?



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38. Water moves up against gravity and even for a tree of 20 m height. The tip receives

water within two hours . Which is the most important physiological phenomenon responsible for the upward movement of water is



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39. Osmosis is a special kind of diffusion, in which water diffuses across the cell membrane. What are the factors influence rate and direction of osmosis?



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40. When a tea bag is placed in a cup of water, which phenomenon is observed? Explain the phenomenon.



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41. Both the xylem and phloem are tubular structures one is uni directional and other is bi-directional. comment on it.



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42. Write the suitable term in each pair

apoplast: through cell wall , __: through cytoplasm



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43. Write the suitable term in each pair

endosmosis: turgid , exosmosis: __



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44. Write the suitable term in each pair

__: unidirectional , phloem transport :
bidirectional



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45. Write the suitable term in each pair

Mg : macroelement : __ : microelement



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46. $\Psi_w = \Psi_s + \Psi_p$ Expand the equation.



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47. Bacteria cannot live in highly salted pickle.

Why?



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48. A few pieces of potato were weighed and kept in salt water overnight, in the morning

they are weighed again.

What will be the change in weight?



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49. Why is energy required to develop root pressure?



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