BIOLOGY

BOOKS - SUPER COMPANION 5 IN 1

TRANSPORT IN PLANTS

One Mark Questions And Answers

1. Define diffusion.

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2. Define osmosis.

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3. Define imbibition.

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4. What type of osmosis takes place in a living cell that is immersed in a hypotonic solution?

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5. What type of osmosis is involved during plasmolysis?

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6. What is turgor pressure?

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7. What is wall pressure?

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8. What is a hypertonic solution?

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9. Define water potential.

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10. Why does a wooden door swell during humid weather?

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11. What is the value of water potential of pure water?

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12. Which is the actual part of the root system that absorbs water?

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13. What is ascent of sap?

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14. Which is the most convincing theory that explains ascent of sap?

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15. Who proposed mass flow hypothesis?

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16. Name the tissue that is involved in the translocation of solutes?

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17. Define transpiration.

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18. Name the process by which plants lose water in the form of liquid through water stomata?

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19. What is epithem?

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20. Define translocation of solutes

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21. What is endosmosis?

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22. What is exosmosis?

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23. What are imbibants?

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24. What is plasmolysis >

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25. What is deplasmolysis?

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26. Mention the different types of transpiration?

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27. What is guttation?

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28. What is vein loading?

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29. What are anti transpirants?

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30. Why do fresh grapes shrink, when they are soaked in a strong salt solution?

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31. Differentiate between the following:

Diffusion and Osmosis.

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32. Differentiate between the following:

Transpiration and Evaporation.

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33. Differentiate between the following:

Osmotic Pressure and Osmotic Potential.

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34. Differentiate between the following:

Imbibition and Diffusion.

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35. Differentiate between the following:

Apoplast and Symplast pathways of movment of water in plants.

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36. Differentiate between the following:

Guttation and Transpiration.

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37. What happens when a pressure greater than the atmospheric pressure is applied to pure water or a solution?

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38. How is the mycorrhizal association helpful in absorption of water and minerals in plants?

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39. In a passive transport across a membrane, when two protein molecules move in opposite directions, and are independent of each other, it is called...

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40. Osmosis is a special kind of diffusion in which water diffuses across the cell membrane. The rate, and direction of osmosis depends upon both...

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41. A flowering plant is planted in an earthern pot, and irrigated. Urea is added to make the plant grow faster, but after some time the plant dies. This may be due to...

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42. How does most of the water move within the root?

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Two Mark Questions And Answers

1. Distinguish between osmosis and diffusion.

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2. Differentiate between turgor pressure and wall pressure.

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3. Differentiate between endosmosis and exosmosis.

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4. Differentiate between plasmolysis and deplasmolysis.

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5. Mention any four factors which inflyence the rate of transpiration in plants.

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6. Sketch and label the Dicot Stomatal apparatus.

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7. Give any four differences between transpiration and guttation.

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8. Write any four significant points of osmosis.

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9. Define water potential. Mention its components.

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10. Write any two significances of diffusion in plants.

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11. Write any four significances of Transpiration?

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12. What are the factors affecting the rate of diffusion?

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13. What are porins? What role do they play in diffusion?

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14. Describe the role played by protein pumps during active transport in plants.

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15. What role does root pressure play in water movement in plants?

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16. What is solute potential negative? Explain $\psi_w = \psi_s + \psi_p$.

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17. Differentiate between apoplast and symplast pathways of water movement. Which of these need active transport?

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18. What causes the opening, and closing of guard cells of stomata, during transpiration?

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Three Marks Questions And Answers

1. Briefly describe water potential. What are the factors affecting it?

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2. What essential role does the root endodermis play during mineral absorption in plants?

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3. Explain why xylem transport is unidirectional, and phloem transport is bi-directional.

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Five Mark Questions And Answers

1. Explain the Transpiration pull theory of ascent of sap. Add a note on its merits of demerits.

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2. Explain mass flow hypothesis?

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3. Explain the factors influencing the rate of transpiration?

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4. With the help of well-labelled diagrams, describe the process of plasmolysis in plants, giving appropriate examples.

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5. Explain what will happen to a plant cell if it is kept in a solution having higher water potential.

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6. Describe transpiration pull model of water transport in plants. What are the factors influencing transpiration? How is it useful to plants?

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7. Discuss the factors responsible for transpiration in plants.

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8. Explain pressure flow hypothesis of translocation of sugars in plants.

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