



PARISHRAMA NEET ACADEMY

TARGET NEET - 2022

BIOLOGY

TOPIC: TRANSPORT IN PLANTS

11. (2)

Molarity of a solution

$$= \frac{\text{Number of moles of solute}}{\text{Number of litres of solution}} = \frac{W}{m \times V}$$

Here V is taken in mL

∴ Molarity of 2% NaOH

$$= \frac{W}{m \times V} \times 1000 \text{ mol L}^{-1}$$

$$= \frac{2}{40} \times \frac{1000}{100} = 0.5 \text{ M NaOH}$$

Likewise, molarity of 18% solution of

$$\text{glucose} = \frac{18}{180} \times \frac{1000}{100} = 1 \text{ M}$$

So, 0.5 M NaOH solution is less concentrated as compare to 1 M glucose solution. Hence, 2% solution of NaOH is hypo-osmotic as compared to 18% solution of glucose.

12. (3)

The space between the plasma membrane and the cell wall of a plasmolysed cell is surrounded by a hypertonic solution.

13. (2)

Glucose is not stored in plants as it dissolves in the cell sap to increase the osmotic pressure of the cell. Glucose is converted to starch which is stored in plants.

14. (4)

Transpiration pull is responsible for ascent of sap in plants. Cohesion, adhesion and surface tension are the forces responsible for movement of water up the tracheary elements. Water molecules remain attached to one another by a strong mutual force of attraction called cohesion force.

On account of cohesion force, the water column can bear a tension or pull of upto 100 atm.

Therefore, the cohesion force is also called tensile strength. Its theoretical value is about 15000 atm but the measured value inside the tracheary elements ranges between 45 atm to 207 atm.

Water column does not further break its connection from the tracheary elements because of another force called adhesion force between their walls and water molecules. Another force called surface tension accounts for high capillarity through tracheids and vessels.

15. (2)

Hygroscopic water is the water adsorbed or imbibed by the soil colloids. It is not available to the plants as the water is held very firmly by the soil particles.

16. (4)
17. (2)
Root pressure is positive pressure that develops in the xylem sap of the root of some plants. It is manifestation of active water absorption.
18. (2)

19. (3)
High temperature, light and CO_2 concentration affect opening and closing of stomata while O_2 concentration has negligible effect on stomatal opening and closing
20. (4)



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