YAKEEN-2022

Transport in plant -DPP -03

1. The net direction and rate of osmosis depends on both:
   (a) Pressure gradient and concentration gradient
   (b) Pressure gradient only
   (c) Concentration gradient only
   (d) Facilitated diffusion only
2. If the external solution balances the osmotic pressure of the cytoplasm is said to be _____
   (a) Hypertonic (b) Isotonic
   (c) Hypotonic (d) Antiport
3. Water potential of pure water is:
   (a) 0 (b) More than 1
   (c) 1 (d) All are incorrect
4. Water potential is affected by:
   (a) Solute concentration (b) Pressure
   (c) Temperature (d) All of these
5. Which one is correct statement?
   (a) Osmotic pressure is the positive pressure
   (b) Osmotic potential is negative
   (c) Movement of water in and out from cell depends upon nature of external solution.
   (d) All are correct
6. Water molecules possess kinetic energy which is also called:
   (a) Solute potential
   (b) Pressure potential
   (c) Water potential
   (d) All of these
7. Which of the following statements are correct?
   (a) Solute potential and pressure potential are the two main components that determine water potential.
   (b) The greater the concentration of water in a system, the greater is its 'water potential'
   (c) Pure water will have the greatest water potential
   (d) All of the above
8. If two systems containing water are in contact, random movement of water molecules will result in net movement of water molecules from the system with:
   (a) Higher energy to the one with lower energy
   (b) Higher water potential to the one having low water potential
   (c) Lower water potential to the one having high water potential
   (d) Both (a) and (b)
9. If some solute is dissolved in pure water, the concentration of water decreases, there result is:
   (a) Increasing its water potential
   (b) Reducing its water potential
   (c) No effects on water potential
   (d) All of these
10. Which statement is correct?
    (a) Solute potential always negative.
    (b) Water potential of solution at atmospheric pressure is equal to solute potential
    (c) Positive pressure potential is greater than atmospheric pressure
    (d) All of these
11. The magnitude of lowering of water potential due to a solute is called:
    (a) Solute potential (b) Pressure potential
    (c) Imbibition potential (d) All of these
12. The value of solute potential is:
    (a) Always positive

(b) Always negative
(c) Sometime negative
(d) Sometime negative or positive

13. The more the solute molecule in solution value of solute potential is
(a) More positive (b) More negative
(c) Increase (d) More than one

14. If a pressure greater than atmospheric pressure is applied to pure water or a solution, its water potential:
(a) Increases (b) Decreases
(c) No effect (d) Increase or decrease

15. Pressure can build up in a plant system when water enters a plant cell due to diffusion causing a pressure built up against the cell wall, it makes the cell turgid this increases the:
(a) Solute potential
(b) Pressure potential
(c) Water potential
(d) Both (a) and (b)

16. The value of pressure potential is:
(a) Always positive
(b) Always negative
(c) Usually negative
(d) Usually positive

17. The net direction of osmosis depend upon:
(a) Pressure gradient
(b) Concentration gradient
(c) Both the pressure gradient and concentration gradient
(d) None of the above

18. Which of the following determine solute amount in plant cell-
(a) Cell membrane
(b) Tonoplast
(c) Cell wall
(d) Both a and b

19. Mark the incorrect statement -
(a) Cell wall is permeable for solute and solvent
(b) Water potential of normal cell is negative
(c) Garden hose show positive pressure
(d) Water potential decrease with increase in temperature

20 Semipermeable membrane different from selective permeable as it lack
(a) Channel (b) Pump
(c) Both a & b (d) Lipid

21. Which is incorrect about reverse osmosis -
(a) Require semipermeable membrane
(b) Require external pressure
(c) Pressure potential is greater than osmotic pressure
(d) Pressure potential is equal to solute potential

22. What will be probable value of pressure potential for reverse osmosis if solute potential is -20.
(a) 20 (b) 15
(c)- 22 (d) 22

23. Plasmolysis occur for ……. type of cell
(a) Parenchyma (b) Vessels
(c)Both a & b (d) RBC

24. Turgor pressure is zero in-
(a) Flaccid (b) Turgid
(c) Plasmolyzed (d) All of these

25. Pressure potential in plant cell is positive when it is
(a) Flaccid (b) Turgid
(c) Plasmolyzed (d) None of the above

26. In …….. type of solution pressure potential or Turgor pressure is Zero
(a) Isotonic (b) Hypotonic
(c) Hypertonic (d) All of these

27. Mark the incorrect-
(a) Reverse osmosis direction is high water potential to low

(b) In fully turgid cell pressure potential is positive

(c) In plasmolysis, first water lost from vacuole than from cytoplasm

(d) Reverse osmosis direction is from hypertonic to Hypotonic

28. Imbibition of water depend upon

(a) Difference in water potential

(b) Affinity between solid and water

(c) Both a and b

(d) Osmosis

29. A water in an open beaker have water potential -2 Pascal, when solute is further added than which probably correct -

(a) Water potential can become -4 Pascal

(b) No solute was already present in beaker

(c) Increase in solute potential occur

(d) Increase in random motion of water molecule occur

30. Water potential is dependent on-

(a) K.E of water molecules

(b) Concentration of water molecules

(c) Random motion of water

(d) All of the above

ANSWERS

1(a)	**11(a)**	**21(d)**
2(b)	**12(b)**	**22(d)**
3(a)	**13(b)**	**23(a)**
4(d)	**14(a)**	**24(a)**
5(d)	**15(b)**	**25(b)**
6(c)	**16(d)**	**26(a)**
7(d)	**17(c)**	**27(c)**
8(d)	**18(d)**	**28(c)**
9(b)	**19(d)**	**29(a)**
10(d)	**20(c)**	**30(d)**

Note - If you have any query/issue

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