YAKEEN-2022

Transport in Plants -DPP -04

1. Which is most permeable for water-

(a) Plasma membrane (b) Cork layer

(c) Primary cell wall (d) Parchment membrane

2. When osmotic pressure of cytoplasm is equal to osmotic pressure of beaker than solution of beaker is -

(a) Hypertonic (b) isotonic

(c) Hypotonic (d) heterotonic

3. Mark the incorrect statement-

(a) Vacuole in plant cell is hypertonic to cytoplasm

(b) Vacuolar sap mainly contributes in solute potential of cell having large vacuole

(c) Diffusion of water is called osmosis under some driving force

(d) Osmosis occur only through semi-permeable membrane not through differentially permeable membrane

4. Which is wrong about osmosis-

(a) Direction depend upon pressure gradient and concentration gradient

(b) Direction is determined by value of chemical potential

(c) At equilibrium when osmosis stop water potential is same in two chambers

(d) At equilibrium when osmosis stops solute potential always equal in both side in two chambers

5. In a fully turgid cell, which is necessary condition-

(a) High osmotic pressure

(b) High turgor pressure

(c) Turgor pressure is zero

(d) Turgor pressure is positive

6. Consider the following statement-

(1) Osmotic pressure of root is greater than leaf.

(2) Halophytes if grow in normal soil means low osmotic pressure condition will absorb more water.

How many statements is correct-

(a) Only 1 (b) Only 2

(c) Both correct (d) Both wrong

7. Three cell A, B and C have O.P and T.P values given, Cell A have O.P =10 atm and T.P = 2atm, cell B have O.P = 12 atm and T.P =9atm and in cell C have O.P = 18atm and T.P = 8atm than which is wrong-

(a) Cell C can absorb most water when placed in pure water

(b) Cell B have highest turgor pressure

(c) Highest value of DPD is in C

(d) Cell A have highest value of DPD

8. When Bean seed are placed in water it develop -

(a) Imbibition pressure

(b) osmotic pressure

(c) Turgor pressure

(d) Root pressure

9. Mark the incorrect statement -

(a) In young roots water enters directly into xylem vessels and tracheid

(b) In cytoplasmic streaming organelles also move

(c) In apoplast movement not involve crossing of membrane

(d) Symplastic movement is active

10. During opening of stomata all occur except -

(a) Guard cell become turgid

(b) Malate concentration increase in guard cell

(c) Outer wall of guard cell bulge out and inner wall become crescent shape

(d) Cell becomes flaccid

11. During day when leaf is transpiring, and stomata is open

then all are correct except-

(a) Higher concentration of water vapour in substomatal cavity

(b) Rate of transpiration is highest in afternoon

(c) Rate of mineral absorption is also highest in afternoon

(d) Transpiration generate pull for only water transport not mineral transport.

12. Consider the following statement-

(1) Ions are absorbed by roots both active and passive transport

(2) Amount and type of mineral are adjusted in root through endodermis

How many correct-

(a) Only 1 (b) Only 2

(c) Both correct (d)Both wrong

13. In water logged condition plant dies after some time which event occur first out of events given below-

(a)Decrease in absorption of minerals

(B) Death of shoot

(c) Death of root

(d) Death of young leaf

14. Which is probable value of solute potential if we add solute in solution with -5atm solute potential-

(a) -2atm (b)10 atm

(c) Zero (d) -12atm

15. Which is probable values of water potential if positive pressure and solute also present in water

(a) Positive, negative and zero

(b) Positive and zero

(c) Negative and zero

(d) Zero only

16. Solute potential become less negative, which is probable reason-

(a) Pressure potential show increase

(b) Amount of solute decrease

(c) Amount of solute increase

(d) Pressure increases

17. Which is correct about transport in phloem except-

(a) Can be bidirectional

(b) Through bulk flow and apoplast

(c) Positive pressure act

(d) Passive process

18. Which is not short distance transport -

(a) Cytoplasmic streaming

(b) Simple diffusion

(c) Phloem transport

(d) Active transport

19. Which of the following is unidirectional transport -

(a) Transport of water

(b) Transport of mineral

(c) Transport of sucrose

(d) Transport of hormone

20. Consider the following and mark the correct-

(a) Phloem connected to young leaf have transport direction towards young leaf

(b) Phloem connected to old leaf transport direction away from old leaf

(c) Xylem is always unidirectional

(d) All of the above

21. Which of following is positive pressure-

(a) Transpiration pull (b)Root pressure

(c) Suction pressure (d)Solute potential

22. Mark the incorrect statement-

(a) Channels show saturation at high concentration gradient.

(b) Potassium channel not allow glucose to pass

(c) Absorption of minerals are only passive

(d) Mineral can move by bulk flow in plant

23. Consider the following-

(1) Osmotic pressure and osmotic potential both are function of solute

(2) Solute potential is inversely proportional to amount of solute

How many correct-

(a) Only 1 (b) Only 2

(c) Both correct (d) Both wrong

24. Consider the following –

(1) Inhibitor stop transport across membrane channel.

(2) Pumps are responsible for generation of Gradient.

How many correct-

(a) Only 1 (b) Only 2

(c) Both correct (d) Both wrong

25. Which of the following is wrong-

(a) Imbibition is type of diffusion

(b) Pressure potential is mostly positive

(c) Water potential is positive inside cell

(d) In pure water lowest value of DPD is present

26. Which is probable value of osmotic pressure in a cell having water potential -5 pascal, and no other pressure is present-

(a) -2pascal (b) 5 pascal

(c) Zero (d) -5pascal

27. Which is probable values of solute potential if solute present in water-

(a) Positive, negative and zero

(b) Positive and zero

(c) Negative

(d) Zero only

28. Osmotic pressure become more positive, which is probable reason-

(a) Pressure potential show decrease

(b) Amount of solute decrease

(c) Amount of solute increase

(d) All of the above

29. Which is correct about transport in xylem –

(a) Can be bidirectional

(b) Through bulk flow and symplast

(c) Positive pressure act

(d) Unidirectional

30. Which of following examples are completely passive except this-

(a) Bulk flow (b) Imbibition

(c) Mineral absorption (d) Osmosis

ANSWER KEY

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

Note - If you have any query/issue

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