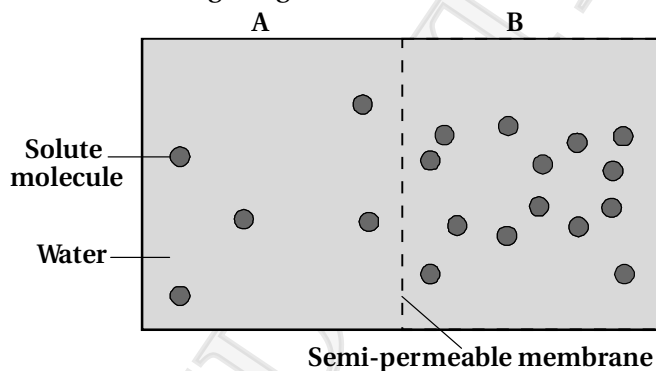


Section A

- Write the answer of the following questions. [Each carries 1 Mark]

[20]

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
2. Which one of the following will not directly affect transpiration ?
  - (A) Temperature
  - (B) Light
  - (C) Wind speed
  - (D) Chlorophyll content of leaves
3. The form of sugar transported through phloem is
  - (A) glucose
  - (B) fructose
  - (C) sucrose
  - (D) ribose
4. 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.
5. When a plant undergoes senescence, the nutrients may be
  - (A) accumulated
  - (B) bound to cell wall
  - (C) translocated
  - (D) None of these
6. Water potential of pure water at standard temperature is equal to
  - (A) 10
  - (B) 20
  - (C) zero
  - (D) None of these
7. Based on the figure given below which of the following statements is not correct ?



- (A) Movement of solvent molecules will take place from chamber A to B.
  - (B) Movement of solute will take place from A to B
  - (C) Presence of a semipermeable is a pre-requisite for this process to occur.
  - (D) The direction and rate of osmosis depends on both the pressure gradient and concentration gradient.
8. Choose the correct option mycorrhiza is a symbiotic association of fungus with root system which helps in
    - (a) absorption of water
    - (b) mineral nutrition
    - (c) translocation

(d) gaseous exchange

(A) Only (a)

(B) Only (b)

(C) Both (a) and (b)

(D) Both (b) and (c)

9. Match the following and choose the correct option.

Column-I	Column-II
(a) Leaves	(i) Anti-transpirant
(b) Seed	(ii) Transpiration
(c) Roots	(iii) Negative osmotic potential
(d) Aspirin	(iv) Imbibition
(e) Plasmolysed cell	(v) Absorption

(A) (a - ii)(b - iv)(c - v)(d - i)(e - iii)

(B) (a - iii)(b - ii)(c - iv)(d - i)(e - v)

(C) (a - i)(b - ii)(c - iii)(d - iv)(e - v)

(D) (a - v)(b - iv)(c - iii)(d - ii)(e - i)

10. Mark the mismatched pair.

(A) Amyloplast – Store protein granule

(B) Elaioplast – Store oil or fats

(C) Chloroplasts – Contain chlorophyll pigments

(D) Chromoplasts – Contain coloured pigments other than chlorophyll

11. Opening of stomata is aided due to

(A) epidermal cells.

(B) the orientation of the microfibrils in the cell walls of stomata.

(C) the orientation of the microfibrils in the cell walls of guard cells.

(D) the orientation of the microfibrils in the epidermal cells.

12. Control points, where a plant adjusts the quantity and types of solutes that reach the xylem are

(A) Transport proteins of pericycle.

(B) Transport proteins of cortex.

(C) Transport proteins of endodermal cells.

(D) Transport proteins of xylem vessels.

13. The element which cannot be remobilised

(A) S

(B) N<sub>2</sub>

(C) Ca

(D) K

14. Bulk flow can be achieved by

(A) negative hydrostatic pressure gradient like garden house.

(B) positive hydrostatic pressure gradient.

(C) Negative hydrostatic pressure gradient like suction through straw.

(D) All of these.

15. Time taken for movement of a molecule in 50 µm sized plant cell is

(A) 2.5 min

(B) 2 hrs

(C) 2.5 sec

(D) 1 hour

16. Statement A : Active transport of molecules is an uphill movement.

Statement B : Simple diffusion is non-selective process.

(A) Both the statements are true

(B) Both the statements are false

(C) Statement A is true but Statement B is false

(D) Statement B is true but Statement A is false

17. The value of water potential of pure water is .....

(A) 100

(B) -1

(C) 0

(D) -2

18. The unit of water potential is .....

(A) psi

(B) no unit

(C) pascal

(D) mmole per kg

19. A : In dorsiventral leaf, the loss of water from lower surface is comparatively much higher than the upper surface

R : The number of stomata (per unit area) are more in lower surface than in upper surface.

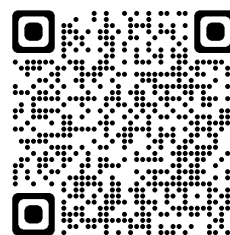
- (A) A and R both are correct and R is correct explanation of A.  
(B) A and R are correct but R is not correct explanation of A.  
(C) A is correct and R is false.  
(D) Both A and R are false.

20. Match List-I with List-II :

List-I	List-II
(a) Cohesion	(i) More attraction in liquid phase
(b) Adhesion	(ii) Mutual attraction among water molecules
(c) Surface tension	(iii) Water loss liquid phase
(d) Guttation	(iv) Attraction towards polar surfaces

Choose the correct answer from the options given below.

- (a) (b) (c) (d)  
(A) (iii) (i) (iv) (ii)  
(B) (ii) (i) (iv) (iii)  
(C) (ii) (iv) (i) (iii)  
(D) (iv) (iii) (ii) (i)



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