

QB365 Question Bank Software Study Materials

Bio - Botany - Transport in Plants 50 Important 1 Marks Questions With Answers (Book Back and Creative)

11th Standard

Biology

Total Marks : 50

Multiple Choice Question

50 x 1 = 50

- 1) In a fully turgid cell ____.
- (a) DPD = 10 atm; OP = 5 atm; TP = 10 atm **(b) DPD = 0 atm; OP = 10 atm; TP = 10 atm**
(c) DPD = 0 atm; OP = 5 atm; TP = 10 atm (d) DPD = 20 atm; OP = 20 atm; TP = 10 atm
- 2) Which among the following is correct?
- i. Apoplast is fastest and operate in nonliving part.
ii. Transmembrane route includes vacuole.
iii. Symplast interconnect the nearby cell through plasmadesmata.
iv. Symplast and transmembrane route are in living part of the cell
- (a) i and ii (b) ii and iii (c) iii and iv **(d) i, ii, iii, iv**
- 3) What type of transpiration is possible in the xerophyte Opuntia?
- (a) Stomatal (b) Lenticular **(c) Cuticular** (d) All the above
- 4) Stomata of a plant open due to ____.
- (a) Influx of K⁺** (b) Efflux of K⁺ (c) Influx of Cl⁻ (d) Influx of OH⁻
- 5) Munch hypothesis is based on ____.
- (a) Translocation of food due to TP gradient and imbibition force **(b) Translocation of food due to TP**
(c) Translocation of food due to imbibition force (d) None of the above
- 6) Which among the following are common to facilitated diffusion and active transport?
- (a) depend on respiratory energy** (b) transport along concentration gradient (c) involvement of carrier proteins
(d) all the above
- 7) Which of the following physical force is responsible for ascent of sap?
- (a) Imbibition (b) Capillary force **(c) Transpiration pull and cohesion** (d) Root pressure
- 8) Embolism during ascent of sap refers _____
- (a) cavitation in phloem **(b) gas bubble replacing the water in xylem** (c) disappearance of gas from xylem
(d) undisturbed water column
- 9) Water potential of pure water is _____
- (a) 0** (b) -2 (c) 2 (d) +2
- 10) Experiment with Balsam demonstrates
- (a) Translocation of solute (b) Plasmolysis (c) Transpiration pull **(d) Ascent of Sap**

11)

1. J C Bose	(i)	phosphorylase
2. Strasburger	(i)	Cohesive force
3. Dixon	(iii)	Crescograph
4. Hanes	(iv)	Oak tree

- (a) 1-iii , 2-iv , 3-i, 4-ii **(b) 1-iii, 2-iv, 3-ii, 4-i** (c) 1-iv, 2-iii,3-ii, 4- i (d) 1-i , 2-iv , 3-ii ,4-iii
- 12) Choose the correct statement.
 (i) In guard cells starch is converted to malic acid.
 (ii) Stomata open in dark and close in light.
 (iii) Accumulation of CO₂ in guard cells lowers the pH level.
 (iv) CO₂ is a natural antitranspirant
 (a) i, ii, iii (b) i, ii, iii, iv (c) none **(d) i, iii, iv**
- 13) _____ is a natural antitranspirant.
 (a) O₂ **(b) CO₂** (c) NO₂ (d) SO₂
- 14) _____ observed correlation between respiration and anion absorption.
(a) Lundegardh (b) Donnan (c) Bennet (d) Overton
- 15) Cobalt chloride strips are used to find _____
 (a) Presence of stomata in leaf **(b) Rate of transpiration** (c) Guttation (d) All the above
- 16) _____ is a large transporter protein found in outer membrane of plastids mitochondria etc.,
 (a) Aquaporin (b) Uniport **(c) Porin** (d) Cellulose
- 17) The concept of water potential was introduced by _____
(a) Slatyer (b) Dixon (c) Bose (d) Lundegardh
- 18) In pure water Osmotic potential is _____
 (a) equal to solute potential **(b) zero** (c) less than solute potential (d) decreases with increase of solutes
- 19) In a turgid cell _____ is seen
 (a) TP = WP (b) TP- WP = Turgid **(c) TP +WP = Turgid** (d) As TP increases WP decreases
- 20) DPD is also called _____
 (a) Turgor pressure (b) Osmotic pressure **(c) Suction pressure** (d) Wall pressure
- 21) Immersion of dry raisins in water is an example of _____
 (a) Plasmolysis (b) Osmosis **(c) Deplasmolysis** (d) Suction pressure
- 22) The term root pressure was coined by _____
(a) Stephen Hales (b) Bose (c) Stras burger (d) Boehm
- 23) The electro-osmotic theory explains _____
 (a) ascent of sap **(b) translocation** (c) stomatal movement (d) water movement
- 24) _____ protein and _____ protein are two types of transport proteins present in the cell membrane.
 (a) Carrier, channel **(b) Channel, carrier** (c) Permeable, carrier (d) Channel, permeable
- 25) Find out the odd pair.
 (a) Impermeable - Suberised (b) Permeable - Cellulosic cell wall (c) Semi-permeable - Parchment paper
(d) Selectively permeable - Lignified cell organelles
- 26) _____ is a Universal Solvent.
 (a) Sugar solution (b) Salt solution **(c) Water** (d) Absorbed water
- 27) _____ maintains the internal temperature of the plants as well as the turgidity of the cell.

(a) **Water** (b) Cell wall (c) Cell membrane (d) Osmosis

28) The concept of _____ was introduced by Slatyer & Taylor.

(a) Pressure potential (b) Hypotonic (c) Solute potential (d) **Water potential**

29) The term Diffusion pressure Deficit (DPD) was given by _____.

(a) **Meyer** (b) Atkins (c) Priestley (d) Bennet-clark

30) The zone of rapid water absorption is _____.

(a) Xylem (b) **Root hairs** (c) Xylem vessels (d) Root cap

31) Match the following:

A) Relay pump Theory	1. J.C. Bose
B) Pulsation Theory	2. Boehm
C) Capillary Theory	3. Unger
D) Imbibition Theory	4. Godlewski

(a) A-1, B-3, C-4, D-2 (b) A-2, B-3, C-1, D-4 (c) A-3, B-4, C-1, D-2 (d) **A-4, B-1, C-2, D-3**

32) Find out the mismatch pair.

Plant - Transpiration per day

(a) Corn Plant - 2 litres (b) Sunflower - 5 litres (c) Maple tree - 200 litres (d) **Date palm - 550 litres**

33) The thickness of cuticle in xerophytes leads to _____.

(a) Cuticular transpiration (b) **Reduced transpiration** (c) Increased transpiration (d) Significant transpiration

34) The water may move through the xylem at a rate as fast as _____ /min.

(a) 55 cm (b) **75 cm** (c) 85 cm (d) 95 cm

35) Find the correct pair.

(a) **Theory of photosynthesis in guard cells - Von Mohl** (b) Starch - Sugar interconversion theory - Levit

(c) Active potassium transport ion concept - Sayre (d) Opening of stomata - Curtis

36) Based on starch-sugar interconversion theory match the column I with column II.

	Column I	Column II
a)	Turgidity of guard cell	1. Hanes
b)	pH of guard cells	2. Steward
c)	Phosphorylase	3. Lloyd
d)	Glucose I - phosphate	4. Sayre

(a) A-2, B-1, C-4, D-3 (b) A-4, B-2, C-3, D-1 (c) A-1, B-3, C-2, D-4 (d) **A-3, B-4, C-1, D-2**

37) _____ induces stomatal closure and acts as a natural antitranspirant.

(a) Wilting (b) **CO₂** (c) SO₂ (d) Hydathodes

38) _____ highly induces the closing of stomata & _____ induces partial stomatal closure.

(a) PMA, ABA (b) Succinic acid & ABA (c) **ABA, PMA** (d) ABA & Succinic acid

39) _____ is an example for guttation.

- (a) **Potato** (b) Lady's finger (c) Hibiscus (d) Mango

40) Match the following:

A) Activated diffusion theory	1. Fenson & Spanner
B) Mass flow theory	2. Lundegardh & Burstrom
C) Electro-osmotic theory	3. Mason & Maskell
D) Cytochrome pump theory	4. Munch & crafts

- (a) A-4, B-3, C-2, D-1 (b) A-3, B-4, C-1, D-2 **(c) A-2, B-1, C-3, D-4** (d) A-1, B-2, C-4, D-3

41) The term "Oscillation Volume" is related to _____.

- (a) Influx **(b) Contact Exchange theory** (c) Carbonic acid exchange theory (d) Mass flow Theory

42) Carrier concept was proposed by _____.

- (a) Van Mohl (b) Burstrom **(c) Van den Honert** (d) Lundegardh

43) Diffusion rates are affected by the _____.

- (a) Gradient of Concentration (b) Permeability of the membrane (c) Temperature and pressure **(d) All the above**

44) The 96% of water absorption in plants is due to _____.

- (a) Passive absorption** (b) Active absorption (c) Symplastic pathway (d) Mostly active sometimes passive

45) The plant factor which affects the rate of transpiration is _____.

- (a) Root-shoot ratio** (b) Temperature (c) Humidity (d) Wind speed

46) Plant seeds when sown in soil, germinate and come out of it, due to _____.

- (a) Turgor pressure **(b) Imbibition Pressure** (c) Osmotic pressure (d) Atmospheric pressure

47) Select the correct events leading to the opening of the stomata.

- A) Decline in guard cell solutes
 B) Lowering of osmotic potential of guard cells
 C) Rise in potassium levels in guard cells
 D) Movement of water from neighbouring cells into guard cells.
 E) Guard cells becoming flaccid.

- (a) A and E only **(b) B, C and D only** (c) A, C and D only (d) B, D and E only

48) Which one of the following is not a purpose of transpirations?

- (a) Helps in absorption and transport in plants **(b) Prevents loss of water**
 (c) Maintains shape and structure of plants by keeping the cell turgid (d) Cools leaves surfaces

49) Which of the following criteria does not pertain to facilitated transport?

- (a) High selectivity (b) Transport saturation **(c) Uphill transport** (d) Requirement of special membrane proteins

50) Select the correct statement:

- (a) Absorption of water by seeds and dry wood is example of facilitated diffusion.
 (b) The apoplast is the system of interconnected protoplasts
(c) Pinus seeds cannot germinate and establish without the presence of mycorrhizae
 (d) In plants, the water loss in liquid phase is known as transpiration