

PARUL UNIVERSITY
PARUL INSTITUTE OF APPLIED SCIENCES
MID SEMESTER INTERNAL EXAMINATION, APRIL 2023
BSC SEMESTER II
Subject Name: Plant Physiology
Subject Code: 11102154

Date: 03/04/2023

Time: 08:00 am to 09:30 pm

Maximum Marks: 40

Instructions:

- 1. All questions are compulsory and options are given in first and second question only.**
 - 2. Numbers to the right of question indicate the marks of respective question.**
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Q-1. Attempt any one question of the following. (08)

1. Enumerate : Mechanism of Transpiration in Plants.
2. Write about mechanism of Water Absorption in Plants

Q-2. Attempt any three questions of the following. (12)

1. Write a note on : ascent of sap
2. Write about Factors affecting diffusion in plant.
3. Define a term plasmolysis and enumerate its importance.
4. How the Turgor pressure is very important for plants?
5. Difference between Transpiration and Guttation.

Q-3. Do as directed. Attempt all five questions. (05)

1. When the weather is hot, water evaporates lesser which is due to opening of stomata. **True / False**
2. Water flows into root cells by osmosis. **True / False**
3. Nutrients diffuse into pericycle cells through plasmodesmata. **True / False**
4. The cuticle serves to protect and reduce water loss from the plant. **True / False**
5. The epidermis is made up of specialized waterproof cork cells. **True / False**

**Q-4. Write correct option in your answer sheet for following (15)
fifteen multiple choice Questions.**

1. Transpiration takes place through —
(A) fruit (B) Seed
(C) Flower (D) Stomata
2. In plants, ____ is responsible for guttation.
(A) Root Pressure (B) Photosynthesis
(C) Transpiration (D) Osmosis

3. Which is the selectively permeable membrane of the cell?
 - (A) Cell wall
 - (B) Cytoplasm
 - (C) Plasmalemma
 - (D) None of the above
4. The chemical used as an antitranspirant is _____.
 - (A) Salicylic acid
 - (B) Abscisic acid
 - (C) Phenylmercuric acid
 - (D) All of the above
5. Subepidermal evaporation of water exhibit in plants during _____.
 - (A) Photosynthesis
 - (B) Guttation
 - (C) Respiration
 - (D) Transpiration
6. During high velocity of wind, stomataof plants _____.
 - (A) Remains open
 - (B) Close down
 - (C) Open more widely
 - (D) Remain unaffected
7. Optimum temperature of water absorption in plants is _____.
 - (A) 0-5 °C
 - (B) 20-25 °C
 - (C) 45-65 °C
 - (D) 5-20 °C
8. Transport of sap from root to top of the dicot plant is _____.
 - (A) Transport
 - (B) Translocation
 - (C) Ascent of Sap
 - (D) All of the above
9. Absorption of water and minerals takes place in which part of the plant root?
 - (A) Root cap tip
 - (B) Root hairs
 - (C) Root epidermis
 - (D) Root endodermis
10. In which method, ions are absorbed by plants?
 - (A) By carrier and pumps
 - (B) By carrier
 - (C) By molecular diffusion
 - (D) None of the above
11. Bidirectional translocation of minerals occurs in plants by _____.
 - (A) Phloem
 - (B) Xylem
 - (C) Cambium
 - (D) Perenchyma and Phloem
12. Transpiration is mostly affected by _____.
 - (A) Humidity
 - (B) Temperature
 - (C) Light
 - (D) Wind
13. The physical process involved in the release of molecular oxygen from leaves is
 - (A) diffusion
 - (B) transpiration
 - (C) osmosis
 - (D) capillarity
14. If a cell swells, after being placed in solution, the solution is _____.
 - (A) neutral
 - (B) hypotonic
 - (C) hypertonic
 - (D) isotonic
15. Respiration in plants _____.
 - (A) occurs only during day
 - (B) results in the formation of vitamins
 - (C) is characteristic of all living cells
 - (D) often requires CO₂