2025/11

SET A

M.Sc. BOTANY
THIRD SEMESTER
BIOCHEMISTRY AND PLANT PHYSIOLOGY
MSB-304(B)

[USE OMR FOR OBJECTIVE PART]

Duration: 1.30 hrs. **Full Marks: 35**

Objective

Time: 15 min. **Marks: 10**

Choose the correct answer from the following: *1X10=10*

1. Diffusion of water from one cell to another cell in plants is maintained by _____.
   a. Endosmosis. b Exosmosis.
   c. Osmosis. d Diffusion.

2. The exchange of CO_2 and O_2 from the atmosphere by leaves is called _____.
   a. Osmosis. b Diffusion
   c. Imbibition. d Endosmosis

3. The value of DPD in the flaccid stage will be _____.
   a. Zero b Equal to OP.
   c. Less than OP. d More than OP.

4. Transpiration is regulated by the movements of _____
   a. Parenchyma cells b Epithelial cells
   c. Guard cells d Meristematic cells

5. Mineral Nutrients are taken up by _____
   a. Leaves b stems
   c. Branches d Roots

6. Who is the Father of Plant Physiology?
   a. Stephan Hales Schwendener
   c. Melvin Calvin Lipmann

7. Which element is located at the centre of the porphyrin ring in chlorophyll?
   a. Magnesium b Manganese
   c. Calcium d Potassium

8. Which of the following is not a product of the light reaction of photosynthesis?
   a. Oxygen b NADPH
   c. NADH d ATP

9. CAM helps the plant in

a. Reproduction
b Disease resistance
c. Secondary growth
d Conserving water

10. In the leaves of C4 plants malic acid formation during carbon dioxide fixation occurs in the cells of

a. Mesophyll
b Phloem
c. Epidermis
d Cortex

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(Descriptive)

Time : 1 hrs. 15 min. **Marks : 25**

[Answer question no.1 & any two (2) from the rest]

1. Write the physico chemical properties of water. **5**

2. Write the difference between C3 andC4 plants. **10**

3. What is ion uptake.Describe any one theory explaing the mechanism of ion exchange. **3+7=10**

4 Write the difference between **5+5=10**
   a. Cyclic and Non Cyclic Photophosphorylation
   b. Chlorophyll a and Chlorophyll b

5. Write the mechanism of opening and closing of stomata with the help Starch-Glucose interconversion theory. **10**

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