

2023
B.A./B.Sc.
Fifth Semester
CORE – 12
BOTANY
Course Code: BOC 5.21
(Plant Physiology)

Total Mark: 70
Time: 3 hours

Pass Mark: 28

Answer five questions, taking one from each unit.

UNIT-I

1. Write notes on the following: 7×2=14
 - (a) Components of water potential
 - (b) Water absorption by roots
2. What is transpiration? Explain the factors affecting transpiration. 2+12=14

UNIT-II

3. What are essential elements? What are the criteria for essentiality? List out the roles of nitrogen and potassium. 1+3+5+5=14
4. What are chelating agents? Explain the two strategies for Fe (iron) uptake by chelation. List out the role of Fe (iron) in plants. 2+8+4=14

UNIT-III

5. Explain active transport and its components with the help of appropriate diagrams. 14
6. Explain with appropriate diagram, translocation in the phloem as per the pressure flow model. 14

UNIT-IV

7. Discuss on the chemical nature and physiological effect of auxin. 6+8=14
8. Discuss on the discovery and physiological effect of ethylene. 6+8=14

UNIT-V

9. Explain with appropriate diagram, the mechanism of flowering in short day plants and long day plants in relation to phytochrome (Pr & Pfr) concentration and their interconversion. 14
10. What is vernalization? List out five causes of seed dormancy and five methods to break seed dormancy. 2+10=14
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