

2022
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. What is water potential? Explain the pathways of water movement in plants. 2+12=14
2. What is guttation? Write a note on the theories of ascent of sap. 2+12=14

UNIT-II

3. Write in detail the mineral deficiency symptoms of macronutrients and micronutrients in plants. 14
4. Write a note on the methods and use of nutrient solutions for study of macro and micronutrients. 14

UNIT-III

5. Write a note on active transport and passive transport. 14
6. Write a note on source-sink relationship. Give two experimental evidences which support phloem as the site of sugar translocation. 7+7=14

UNIT-IV

7. Explain the 'barley aleurone layer α -amylase test' for bioassay of gibberellins. 14

8. Give two physiological roles each of: 2×7=14
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|---------------------|-----------------------|
| (i) Auxin | (ii) Gibberellins |
| (iii) Cytokinin | (iv) Abscisic acid |
| (v) Ethylene | (vi) Brassinosteroids |
| (vii) Jasmonic acid | |

UNIT-V

9. Write a note on photoperiodism. Explain the photoreversibility of phytochromes. 7+7=14
10. Write short notes on the following: 7×2=14
- (a) Flowering stimulus and florigen concept
 - (b) Cryptochromes and phototropins
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