

(Pages : 4)

L – 2527

Reg. No. :

Name :

Fourth Semester B.Sc. Degree Examination, May 2021

First Degree Programme Under CBCSS

Botany

Complementary Course

**BO 1431 – PLANT PHYSIOLOGY, PLANT ECOLOGY, HORTICULTURE AND
PLANT BIOTECHNOLOGY**

(2019 Admission Regular)

Time : 3 Hours

Max. Marks : 80

(Draw diagrams wherever necessary)

SECTION – A

I. Answer **all** questions in one word or one sentences. Each question carries **1** mark.

1. Define callus.
2. What is water potential?
3. What is R.Q.?
4. What is explant?
5. Name any two antitranspirants.
6. What is plasmolysis?
7. What is action spectrum?

P.T.O.

8. What is Kranz anatomy?
9. What is Hydrosere?
10. Give any one example for detritus food chain.

(10 × 1 = 10 Marks)

SECTION – B

- II. Answer **any eight** questions not exceed a paragraph. Each question carries 2 marks.
11. Describe the role of Cohesion and Adhesion in water transport.
 12. What is D.P.D?
 13. Distinguish between Macronutrients and Micronutrients.
 14. Comment on Fluorescence and Phosphorescence.
 15. What is Donnan equilibrium?
 16. What is Osmotic potential?
 17. Differentiate Passive absorption and Active absorption.
 18. List out the factors affecting Transpiration.
 19. Write four major differences between C₃ and C₄ pathways.
 20. Write adaptations of xerophytes.
 21. Write a note on physiological effects of Auxin.
 22. Write note on Layering.
 23. What are the advantages of Meristem culture?

24. Distinguish between Primary succession and secondary succession.
25. Write the characteristics of Desert ecosystem.
26. Differentiate Parasites and Epiphytes.

(8 × 2 = 16 Marks)

SECTION – C

III. Answer **any six** questions, not to exceed 120 words. Each question carries **4** marks.

27. Explain the different phases of growth.
28. How plant cell act as an osmotic system?
29. Explain the structure of chloroplast with diagram.
30. Explain Red drop and Emerson's enhancement effect.
31. Write a note on Senescence.
32. What is grafting?
33. What are the different types of ecological pyramids?
34. Explain the role of Phytochrome in flowering.
35. Explain Photorespiration.
36. Explain Xerosere.
37. List out adaptations of Halophytes.
38. Write significance of Anther culture.

(6 × 4 = 24 Marks)

SECTION – D

- IV Write essay on **any two** of the following, not more than three pages. Each question carries **15** marks.
39. Explain Light reaction. List out the differences between Cyclic photophosphorylation and Non cyclic photophosphorylation.
 40. Define callus and how it is produced? Explain somatic enbyogenesis..
 41. What is ecological succession? Describe kinds of succession and mechanisms of succession.
 42. Explain Krebs cycle and write a brief note on its significance.
 43. Explain Calvin cycle with the help of schematic diagram.
 44. What is Ascent of sap? Explain vital and physical theories.

(2 × 15 = 30 Marks)