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Reg. No. : .....

Name : .....

Fourth Semester B.Sc. Degree Examination, July 2023

First Degree Programme Under CBCSS

Botany

Complementary Course for Home Science, Zoology, Bio-Chemistry

BO 1431 : PLANT PHYSIOLOGY, PLANT ECOLOGY, HORTICULTURE AND PLANT BIOTECHNOLOGY

(2019 Admission Onwards)

Time : 3 Hours Max. Marks : 80

(Draw digrams wherever necessary)

SECTION – A

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

1. What is imbibitional pressure?
2. What are anti-transpirants?
3. What are macronutrients?
4. What are quantasomes?
5. What are C_3 plants?
6. What is aerobic respiration?
7. What is alcoholic fermentation?

8. What is compost?
9. What is explant?
10. What is totipotency?

(10 × 1 = 10 Marks)

SECTION – B

II. Answer **any eight** of the following. **Each** question carries **2** marks.

11. What is root pressure?
12. What is ion exchange theory?
13. What is transpiration? Mention different types of transpiration.
14. List any four factors affecting photosynthesis.
15. What is photorespiration?
16. Comment on absorption spectra.
17. What is SDP?
18. List the abiotic components of an ecosystem.
19. What is secondary succession? Give an example.
20. What are phosphatic fertilizers? Give an example.
21. What is a hand trowel? Mention the function.
22. What is meristem culture? Add a note on its applications.

(8 × 2 = 16 Marks)

SECTION – C

III. Answer **any six** of the following. **Each** question carries **4** marks.

23. Explain active absorption of water.
24. Describe cohesion tension theory.
25. Draw the schematic representation of C_4 Pathway.
26. Explain the mechanism of translocation by protoplasmic streaming theory.
27. Explain physiological effects of auxin.

28. With diagram explain pyramid of biomass.

29. Write a brief account of characteristic features of a grass land ecosystem.

30. Explain sphagnum moss and vermiculite media for propagation.

31. What is anther culture? Explain its procedure.

(6 × 4 = 24 Marks)

SECTION – D

IV. Write essay on any **two** of the following. Each question carries **15** marks.

32. With a Schematic representation explain non-cyclic phosphorylation in detail.

33. With a labelled diagram explain terminal oxidation in plants.

34. How artificial seeds are prepared? Add a note on its advantages and disadvantages.

35. Discuss the anatomical adaptations of xerophytes with examples.

(2 × 15 = 30 Marks)