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Reg. No. : .....

Name : .....

**Fifth Semester B.Sc. Degree Examination, December 2022**

**Career Related First Degree Programme Under CBCSS**

**Botany and Biotechnology**

**BB 1541 – PLANT PHYSIOLOGY**

**(2015-2017 Admission)**

Time : 3 Hours

Max. Marks : 80

**SECTION – A**

Answer **all** the questions in a word or one or two sentences. Each question carries **1** mark.

1. What is Kranz anatomy?
2. Define coenzymes.
3. What is DPD?
4. Name the mobile electron carriers in Electron Transport Chain.
5. What are Nif genes?
6. Define an apoplast.
7. Write the R. Q. value for fat.
8. What are micro elements? Give an example.
9. Define verbalization.
10. What is circadian rhythm?

**(10 × 1 = 10 Marks)**

P.T.O.

## SECTION – B

Answer any **eight** questions. Each question carries **2** marks. (Answer not to exceed one paragraph)

11. What is lactic acid fermentation?
12. Discuss the importance of seed dormancy in plants.
13. What is osmotic potential?
14. Mention the enzymes involved in Krebs's cycle.
15. Explain Cohesion-tension theory.
16. What is z scheme? Explain.
17. Explain the specific role of phosphorus in plants.
18. What is induced fit hypothesis?
19. How does leghaemoglobin protects nitrogenase enzyme?
20. What is fluorescence?
21. State protoplasm streaming theory.
22. What is thigmonasty? Give an example.

**(8 × 2 = 16 Marks)**

## SECTION – C

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

23. List the physiological effects of auxins.
24. What is aeroponics? List its advantages.
25. Explain Pentose Phosphate pathway.

26. Discuss the role of *Rhizobium* in nitrogen fixation.
27. Comment on photoperiodism.
28. Describe the mechanism of water absorption in plants.
29. What is allosteric inhibition of enzymes?
30. Discuss the ecological significance of CAM plants.
31. Brief a note on plant response to salt stress.

**(6 × 4 = 24 Marks)**

SECTION – D

Answer any **two** questions. Each question carries **15** marks. (Answer not to exceed three pages)

32. Explain the different phases of Calvin cycle in photosynthesis.
33. What is Oxidative Phosphorylation? Explain Electron Transport Chain with a schematic diagram.
34. Explain the mechanism of translocation of solutes in plants.
35. What is transpiration? Explain the mechanism of stomatal movement and transpiration by K<sup>+</sup> transport theory.

**(2 × 15 = 30 Marks)**

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