(Pages : 4) **M – 1807**

Reg. No. : .....

Name : .....

Fifth Semester B.Sc. Degree Examination, December 2021

Career Related First Degree Programme under CBCSS

Group 2(a) Botany and Biotechnology

Core Course

BB 1541 PLANT PHYSIOLOGY

(2019 Admission)

Time : 3 Hours Max. Marks : 80

SECTION – A

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

1. What are quantasomes?

2. Name two antitranspirants.

3. What is vernalization?

4. Give an example for nyctinasty.

5. What is ammonification?

6. Define photorespiration.

7. Name a fatty acid.

P.T.O.

8. What is DPD?

9. Define Respiratory quotient.

10. What is Hydroponics?

(10 × 1 = 10 Marks)

SECTION – B

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

11. What is protoplasm streaming theory?

12. Differentiate between abscission and senescence.

13. What is osmotic adjustment?

14. Explain Donnan equillibrium.

15. What is thigmotropism? Give an example.

16. What are nif genes?

17. Distinguish between macro and micro nutrients.

18. What is TCA cycle?

19. Discuss the significance of pentose phosphate pathway.

20. Define plasmolysis.

21. List the phases of growth in plants.

22. What is chemiosmotic coupling hypothesis?

23. Explain Kranz anatomy.

24. What is ‘Red drop'?

25. Brief a note on circadian rhythm.

26. What is Nitrogen cycle?

(8 × 2 = 16 Marks)

SECTION – C

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

27. What are CAM plants? What is its significance?

28. Explain beta oxidation of fats.

29. Mention the physiological effects of auxins.

30. What are the factors affecting transpiration?

31. Differentiate between cyclic and non cyclic photophosphorylation.

32. Write a note on plant response to salt stress.

33. What is glycolysis?

34. Explain the specific role of Nitrogen and Magnesium in plants.

35. What is seed dormancy? Explain various factors causing seed dormancy.

36. Explain the mechanism of active absorption of water in plants.

37. What are the major sources of nitrogen in plants?

38. Brief a note on ascent of sap giving explanations on transpiration pull theory

(6 × 4 = 24 Marks)

SECTION – D

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

39. Give an account on Electron Transport System and oxidative phosphorylation.

40. What is photoperiodism? How the flowering plants are classified based on their photoperiod?

41. What is the role of phytochrome in photoperiodic response?

42. Explain the mechanism of translocation of solute in plants.

43. What is transpiration? Explain the mechanism of stomatal movement and transpiration by K+ transport theory.

44. Explain the process of symbiotic nitrogen fixation in plants. Add a note on rotation of crops.

45. Discuss the different phases of Calvin cycle in photosynthesis.

(2 × 15 = 30 Marks)

———————