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M – 1799

Reg. No. :

Name :

Fifth Semester B.Sc. Degree Examination, December 2021

Career Related First Degree Programme under CBCSS

Group 2(a) Botany and Biotechnology

BB 1541 : PLANT PHYSIOLOGY

(2018 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.

Define the following :

1. Imbibition
2. Water potential
3. ETS
4. Guttation
5. Nitrogen fixation
6. Aeroponics
7. Coenzyme
8. Grana

P.T.O.

9. RUBP
10. Oxysomes.

(10 × 1 = 10 Marks)

SECTION – B

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

11. Write a brief account on Rotation of crops.
12. Comment on Seed dormancy.
13. Explain Circadian rhythm.
14. What is Respiratory Quotient?
15. What are CAM plants?
16. Explain Hill reaction.
17. Comment on Hydroponics.
18. What are Essential elements?
19. Distinguish between endosmosis and exosmosis.
20. What is meant by Morphogenesis?
21. What is Stress physiology?
22. Comment on differentially permeable membrane.
23. What is Fermentation?

24. Distinguish between epigeal and hypogeal germination.
25. Comment on the raw materials of photosynthesis.
26. Briefly explain the phases of growth.

(8 × 2 = 16 Marks)

SECTION – C

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

27. Point out the significance of water to plants.
28. Comment on the theories of Ascent of sap.
29. Explain the mechanism of mineral absorption.
30. Write the IUB system of classification of enzymes.
31. Give a brief account on photorespiration.
32. Comment on the tropic movements in plants.
33. Describe the Nitrogen cycle.
34. Write a brief account on photoperiodism.
35. Explain the mechanism of phloem transport.
36. Distinguish between competitive and non competitive inhibitors.
37. Write a brief account on Oxidative pentose pathway.
38. Explain the mechanism of Oxidation of fats.

(6 × 4 = 24 Marks)

SECTION – D

Answer **any two** questions. Each questions carries **15** marks. Answer not to exceed **3** pages.

39. Give a detailed account of transpiration. Comment on its significance and the factors affecting the process.
40. Explain the events in Calvin cycle and enlist the factors affecting photosynthesis.
41. Write an account of Growth hormones and their practical applications.
42. Describe Kreb's cycle and add a note on the factors affecting respiration.
43. Describe the structure of photosynthetic apparatus and explain cyclic and non cyclic photophosphorylation.
44. Explain the mechanism of water absorption and comment on the factors affecting the process.

(2 × 15 = 30 Marks)
