

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MAY 2015

Second Semester

Complementary Course—Botany

PLANT PHYSIOLOGY

(For Model I Zoology)

[2013 Admission onwards]

Time : Three Hours

Maximum : 60 Marks

Part A (Short Answer Questions)

Answer all questions.

Each question carries 1 mark.

1. What is DPD ?
2. What are *nif* genes ?
3. Define Stratification.
4. What is stenohaline ?
5. Define Quantasomes.
6. What are PGRs ?
7. Define Guttation.
8. What is assimilatory power ?

(8 × 1 = 8)

Part B (Brief Answer Questions)

Answer any six questions.

Each question carries 2 marks.

9. What is a sigmoid curve ?
10. Differentiate between two pigment systems.
11. What are antitranspirants ? Give examples.
12. What is Hill reaction ?
13. List the practical applications of vernalization.
14. Enumerate the factors causing seed dormancy.
15. What is seismonasty ?
16. Differentiate between Endosmosis and Exosmosis.

Turn over

17. What is florigen ?
18. What is impacection ?

(6 × 2 = 12)

Part C (Problems/Derivations)

*Answer any four questions.
Each question carries 4 marks.*

19. Draw a schematic representation of photorespiration.
20. Give an account of discovery, structure, function and mode of action of phytochromes.
21. Discuss the role of auxins in plants.
22. Explain why and how plants usually bend towards the sources of light.
23. What is the mechanism underlying the translocation of organic solutes from leaves to storage organs ?
24. How plants can be adapted to combat water stress ?

(4 × 4 = 16)

Part D (Long Answer/Problem Questions)

*Answer any two questions.
Each question carries 12 marks.*

25. Give a account of Calvin cycle.
26. "Transpiration is a necessary evil." Justify the statement.
27. Describe the nitrogen cycle and throw light on the importance of nitrogen in plants.
28. Explain the process of absorption of water in plants.

(2 × 12 = 24)