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Reg. No. : .....

Name : .....

Sixth Semester B.Sc. Degree Examination, April 2018
First Degree Programme under CBCSS
BOTANY
Core Course IX
BO 1641 : Plant Physiology and Biochemistry
(2014 Admission Onwards)

Time : 3 Hours Max. Marks : 80

Write **all** questions in **one** or **two** sentences. **All** questions are **compulsory**.

1. What is imbibition ?
2. Explain apoplastic pathway of water transport.
3. Give the general equation of photosynthesis.
4. Explain Munch hypothesis.
5. Define R.Q.
6. What is phytochrome ?
7. What is auxin ?
8. Explain glycosidic bonds.
9. Illustrate the structure glucose.
10. What are amino acids ? **(1×10=10 Marks)**

Answer **any eight** of the following.

11. Explain allosteric inhibition of enzymes.
12. Differentiate oil and wax.
13. Give an account on phospholipids.
14. Explain the functions of monosaccharaides.
15. What are Nif genes ?

P.T.O.

16. Briefly explain the process of fermentation.

17. Give an account on phloem loading and unloading.

18. Explain Emerson effect.

19. Explain water potential.

20. Give an account on starch sugar hypothesis.

21. What is meant by aeroponics ?

22. Explain plasmolysis and its significance.

(2×8=16 Marks)

Answer **any six** of the following.

23. Explain the mechanism of water absorption.

24. Give an account on any 4 essential mineral elements and their deficiency symptoms.

25. Give an account on the two photosystems involved in photosynthesis.

26. Give an account on C_3 cycle.

27. Briefly explain biological nitrogen fixation.

28. Explain the mechanism and role of vernalization.

29. Give an account on the classification and functions of carbohydrates.

30. Explain the factors affecting enzyme action.

31. What are secondary metabolites ? What are the various types of secondary metabolites ?

(4×6=24 Marks)

Write an essay on **any two** of the following.

32. Explain theories to explain ascent of sap in plants.

33. Give a comparative account on CAM and C_4 pathways of photosynthesis.

34. Give an account on classification of lipids. Explain β-oxidation.

35. Briefly explain classification of amino acids. Give an account on amino acid metabolism.

(15×2=30 Marks)