



MAR IVANIOS COLLEGE (AUTONOMOUS)
THIRUVANANTHAPURAM

Reg. No. :.....

Name :.....

Fifth Semester Career Related B.Sc. Degree Examination, November 2016

First Degree Programme under CBCSS

Core Course – VII: (for Botany and Biotechnology)

AUBB541: Plant Physiology

Time: 3 Hours

Max. Marks: 80

SECTION – A

Answer ALL the following in a word or one or two sentences.

1. Define Guttation.
2. Explain Hydroponics.
3. Define Osmosis.
4. What is Chromatography ?
5. Why C4 plants are given that name ?
6. Define 'Plasmolysis'.
7. What is the source of Oxygen evolved during Photosynthesis ?
8. Define 'Respiratory Quotient'.
9. Explain Denitrification.
10. What is 'RuBisCO' ?

(10 × 1 = 10 Marks)

SECTION – B

Answer any EIGHT questions, not exceeding a paragraph.

11. Explain Nastic Movements in plants.
12. What are essential fatty acids ? List out any two examples.
13. Explain Photorespiration. Add a note on the organelles involved in Photorespiration.
14. Explain Cofactors in Enzymology.

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15. What is 'Crop Rotation' ? What is its significance ?
16. What is Vernalization ?
17. What is the use of Auxanometer ?
18. Briefly explain different Tropic Movements in plants.
19. Define Photophosphorylation.
20. Briefly explain the methods to break Seed Dormancy.
21. What is 'Kranz Anatomy' ? Give an example of plant with Kranz anatomy.
22. Mention various factors affecting Respiration.

(8 × 2 = 16 Marks)

SECTION – C

Short essay type : Answer any SIX questions.

23. Write down five differences between Respiration and Photosynthesis.
24. What is Pentose Phosphate Pathway ?
25. Differentiate between Physical and Biological Nitrogen Fixation.
26. Explain the synthesis of Glycerol from Dihydroxy Acetone Phosphate.
27. Briefly explain Photoperiodism.
28. Briefly explain theories of 'Solute Translocation Mechanism'.
29. What are 'Essential elements' ? Write a note on the diseases caused by the deficiency of some of the important Essential elements.
30. Differentiate Passive Absorption and Active Absorption of minerals.
31. Describe various theories on 'Ascent of Sap'.

(6 × 4 = 24 Marks)

SECTION – D

Long essay type : Answer any TWO questions.

32. What is 'Blackman's reaction' ? Explain how is it different from Light Reaction ?
33. Write an essay on 'Mode of Enzyme Action'. Add short notes on 'Competitive' and 'Noncompetitive Inhibitors'.
34. Write an essay on different Growth hormones and their practical applications.
35. Write an essay on Krebs Cycle of Respiration.

(2 × 15 = 30 Marks)

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