

Third Year B.Sc., Degree Examination

August/September 2010

DIRECTORATE OF CORRESPONDENCE COURSE

BOTANY (Freshers)

**Paper - IV: PLANT PHYSIOLOGY, PLANT BREEDING
AND TISSUE CULTURE**

Time: 3 hrs]

[Max.Marks: 85

Note:

1. Answer all questions.
2. Draw diagrams wherever necessary.

I. Simple answer question. Answer in a word, Phrase or sentence:

10 X 1 = 10 Marks

1. What is callus?
2. Expand C A M.
3. What is plasmolysis?
4. Mention any two micronutrients that you have studied.
5. Define osmotic pressure.
6. What is emasculation?
7. Which organelle is called as power house of the cell?
8. Mention any two theories for passive absorption of minerals.
9. What is denitrification?
10. What do you mean by non – active absorption of water?

II. Short answer question. Answer any FIVE of the following:

5 X 3 = 15 Marks

11. Explain transcellular streaming theory.
12. Draw a neat labeled diagram of chloroplast.
13. Give an account of guttation.
14. What are short day plants? Explain.
15. Explain the 2nd law of thermodynamics.

16. With the help of diagram, explain carrier concept.
17. Give an account of vernalization.

III. Medium answer question. Answer any FIVE of the following: 5 X 6 = 30 Marks

18. Explain the cyclic photophosphorylation.
19. Give an account of bud dormancy.
20. What are the disadvantages of transpiration.
21. Explain the significance of plant breeding in the production of medicinal plants.
22. Explain the physical method of nitrogen fixation.
23. Explain terminal oxidation.

IV. Long Answer questions. Answer any THREE of the following. 3 X 10 = 30 Marks

24. What is hybridization? Explain the steps.
25. Explain the types of plant movement.
26. What are plant hormones? Explain role of auxins.
27. Briefly explain: (a) C₃ cycle.
(b) Embryo culture.

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