

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY

FIFTH SEMESTER – NOVEMBER 2016

PB 5521/PB 5515/PB 5509/PB 5500 – PLANT PHYSIOLOGY

Date: 01-11-2016

Dept. No.

Max. : 100 Marks

Time: 09:00-12:00

PART – A

Answer the following, each within 50 words.

(10 x 2 = 20 marks)

1. Distinguish between guttation and transpiration?
2. Define diffusion.
3. What are the deficiency symptoms of phosphorous in plants?
4. What is aeroponics?
5. What is Emmerson's enhancement effect?
6. Explain phosphorescence.
7. What is photo phosphorylation?
8. What is transamination?
9. What are the biological effects of ethylene?
10. What is seed dormancy?

PART – B

(5 x 7 = 35 marks)

Answer the following, each answer within 500 words. Draw diagrams and flow charts wherever necessary.

11. a. Explain the mechanism of stomatal movement.
[OR]
b. Summarise the properties of water and their biological importance.
12. a. Explain symplast and apoplast.
[OR]
b. Write an account on soilless growth of plants.
13. a. Explain the events in non-cyclic photophosphorylation.
[OR]
b. Explain the significance of photosynthesis in CAM plants.
14. a. Describe the events in glycolysis.
[OR]
b. Briefly describe symbiotic nitrogen fixation.
15. a. Describe the physiological importance of cytokinin.
[OR]
b. Write an account on vernalization.

Answer any three of the following, each within 1200 words. Draw diagrams and flow charts wherever necessary.

16. Describe water absorption and ascent of sap in plants.
17. Write an essay on the importance and deficiency symptoms of any five minerals in plants.
18. Differentiate CO₂ fixation in C₄ plants from C₃ plants.
19. Describe Kreb's cycle.
20. Describe the physiology of flowering and the effect of light on flowering.

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