



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FIFTH SEMESTER – APRIL 2023

UPB 5501 – PLANT PHYSIOLOGY

Date: 29-04-2023

Dept. No.

Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

PART-A

Answer the following, each within 50 words

(10 x 2 = 20 Marks)

1. Comment on water potential.
2. What is diffusion?
3. Comment on Hoagland's solution.
4. State the theory on water absorption.
5. What are quantosomes?
6. What are CAM plants?
7. Define Glycolysis.
8. What is Gluconeogenesis?
9. Write a note on apical dominance.
10. Write an account on photoperiodism.

PART- B

Answer the following, each within 500 words, Draw Diagrams and flow chart wherever necessary

(5 x 7 = 35 Marks)

11(a) Describe the law of thermodynamics.

(OR)

(b) What is water potential? How is it determined?

12(a) Give an account on essential and non-essential elements.

(OR)

(b) Give a brief account on aeroponics and hydroponics.

13(a) Write short notes on chloroplast and its pigments.

(OR)

(b) Write a brief note on light reactions of photosynthesis.

14(a) Briefly explain about Krebs's cycle.

(OR)

(b) Describe chemiosmotic regeneration of ATP.

15(a) Write short note on the role of cytokinins.

(OR)

(b) Explain the mechanism of seed germination.

PART-C

Answer any **THREE** of the following, each within 1200 words, Draw Diagrams and flow charts wherever necessary (3 x 15 = 45 Marks)

16. Write an essay on ascent of sap in plants.
17. Describe absorption and translocation of solutes.
18. Explain in detail about dark reactions of photosynthesis in C3 plants.
19. Discuss the process of biological nitrogen fixation.
20. Write an essay on abiotic stress in plant physiology.

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