

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



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

FIFTH SEMESTER – NOVEMBER 2023

UPB 5501 – PLANT PHYSIOLOGY

Date: 30-10-2023

Dept. No.

Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

PART A

(10 × 2 = 20 Marks)

Answer the following, each within 50 words.

01. What is imbibition?
02. Distinguish between diffusion and osmosis.
03. What is ascent of sap?
04. Enlist the importance of NPK in plants.
05. Mention the CO₂ acceptor in C₃ and C₄ plants.
06. Comment on Kranz Anatomy.
07. What is RQ? Mention the RQ value for sugar.
08. What is transamination?
09. Define Photoperiodism.
10. What is cytochrome?

PART B

(5 × 7 = 35 marks)

Answer the following, each within 500 words. Draw diagrams and flowcharts wherever necessary.

- 11a. Write notes on diffusion, DPD and types of osmosis.
or
b. Explain the theories on opening and closing of stomata.
- 12a. Explain the theories on active absorption of solutes from the soil.
or
b. Mention the importance of any five micronutrients in plants. Add a note on their deficiency symptoms.
- 13a. Explain in detail about the process of cyclic and non-cyclic photophosphorylation.
or
b. Give a brief account on Red Drop and Emerson Enhancement Effect.
- 14a. Write notes on Electron Transport System in respiration.
or
b. Explain the physiology of nitrogen fixation in plants.
- 15a. Enlist the physiological effect of auxin and gibberellin.
or
b. Write notes on vernalization.

