



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FIFTH SEMESTER – APRIL 2022

UPB 5501 – PLANT PHYSIOLOGY

Date: 15-06-2022

Dept. No.

Max. : 100 Marks

Time: 09:00 A.M. - 12:00 NOON

PART A

(10 × 2 = 20 Marks)

Answer the following, each within 50 words.

01. Distinguish between end and exosmosis.
02. What is Guttation?
03. Mention the importance of NPK in plants.
04. What are hydroponics?
05. Comment on RUBISCO.
06. Define transamination.
07. Write the energy budget of glycolysis.
08. Comment on ATP.
09. Mention the factors responsible for seed dormancy.
10. Define Vernalization.

PART B

(5 × 7 = 35 Marks)

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

- 11 a) Write notes on properties of water.

OR

- b) Explain the physiology of transpiration.

- 12 a) Mention the importance of any five minerals in plant growth. Add a note on symptoms due to deficiency.

OR

- b) Explain the process of active absorption of solutes in plants.

- 13 a) Distinguish between C₃ and C₄ cycle.

OR

- b) Write notes on Red drop and Emerson Enhancement Effect.

- 14 a) Give a brief notes on Nitrogen assimilation.

OR

- b) Explain the steps involved in Glycolysis.

- 15 a) Define seed dormancy. Explain the methods to break the seed dormancy.

OR

- b) Explain the types of photoperiodism.

PART C

(3 × 15 = 45 Marks)

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

16. Explain in detail about the absorption of water from soil by roots.
17. Describe soilless culture technique. Add a note on its merits and demerits.
18. Explain in detail about the process of light reaction.
19. Write in detail about the physiology of nitrogen fixation.
20. Enlist the physiological effect of Auxin and Gibberellin.

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