



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FIFTH SEMESTER – APRIL 2017

PB 5521 / PB 5515 - PLANT PHYSIOLOGY

Date: 20-04-2017
01:00-04:00

Dept. No.

Max. : 100 Marks

PART – A (10 x 2 = 20 marks)

ANSWER THE FOLLOWING, EACH WITHIN 50 WORDS.

01. Define Osmosis
02. What is Plasmolysis?
03. Mention any two deficiency symptoms of Nitrogen.
04. Comment on aeroponics.
05. Define phosphorescence.
06. What is red drop phenomenon?
07. What is ATP? How many ATPs are produced in one Krebs cycle?
08. What is denitrification?
09. Define Vernalization.
10. Give any two uses of Gibberellic acid.

PART – B (5 x 7 = 35 marks)

ANSWER THE FOLLOWING, EACH WITHIN 500 WORDS. DRAW DIAGRAMS AND FLOW CHARTS WHEREVER NECESSARY.

11a. Explain the mechanism of active absorption of water.

(OR)

b. Write an account on ascent of sap in Plants

12a. What is Hydroponics? Explain its types & significances.

(OR)

b. Write notes on Donnan's equilibrium.

13a. Explain 'Z' scheme of photosynthesis.

(OR)

b. Describe Hatch & Slack pathway.

14a. Write an account on TCA cycle.

(OR)

b. Give a concise account on amino acid synthesis

15a. Describe the various methods adopted in breaking seed dormancy

(OR)

b. Explain the phenomenon of Photoperiodism

PART – C (3 x 15 = 45 marks)

ANSWER ANY THREE OF THE FOLLOWING, EACH WITHIN 1200 WORDS. DRAW DIAGRAMS AND FLOW CHARTS WHEREVER NECESSARY.

16. Explain the process of stomatal transpiration.

17. Write an account on the role and deficiency symptoms of any five essential elements.

18. Explain the path of carbon in Calvin cycle.

19. Write notes on:

(i). Glycolysis.

(ii). Symbiotic nitrogen fixation.

20. Discuss the mechanism of action and the physiological role of Auxins and Cytokinin in Plants.
