

Unique Paper Code : 42164401

Name of the Course : B.Sc. Life Sciences

Name of the Paper : Plant Physiology and Metabolism

Semester : IV

Time: 3 Hours +1 hour

Maximum Marks: 75

Attempt any four questions. All questions carry equal marks (18.75).

1. Explain the process of ascent of sap in xylem. Briefly discuss the factors affecting the rate of transpiration. Differentiate between transpiration and guttation.
2. Describe the pathway of photoassimilate translocation with experimental evidences. What is the composition of phloem sap? With the help of well labelled diagram explain phloem loading and unloading.
3. Compare C₃, C₄ and CAM pathways of carbon fixation. What is the significance of photorespiration?
4. With the help of schematic diagram describe the process of oxidation of glucose in glycolysis and TCA cycle.
5. Give a detailed account of discovery and physiological roles of auxins and gibberellins.
6. Write a short note on phytochrome discovery, structure and its role in controlling physiological responses.