

B. Sc. General Examination
(Under CBCS Pattern)
Semester: IV
Sub: Botany
Paper: DSC-1D(Theory and Practical)
(Plant Physiology and Metabolism)

Part A: Plant Physiology and Metabolism (Theory)

Answer any **one question** from the following (Within 200 words):

1. What is guttation? Differentiate between guttation and transpiration.
2. What are macroelements? Write the physiological role of potassium.
3. Write some properties of enzymes.
4. What is apical dominance? What is the role of auxin in it?
5. What are Long day plants and Short day plants? Give two examples of each.
6. What is anaerobic respiration and where it is found? Write the formula of the same.
7. Briefly explain the process of photophosphorylation.
8. Briefly explain the process of biological nitrogen fixation.
9. What are the physiological roles of cytokinin?
10. Why C4 plants are called so? Draw the flow chart of C4 cycle.

Part B: Plant Physiology and Metabolism (Practical)

Answer any **one question** from the following (Within 200 words):

1. Briefly describe an experiment to show suction force is formed during transpiration.
2. What is stomatal frequency? How can it be calculated in a leaf?
3. What is plasmolysis? Draw a plasmolysed cell.
4. Briefly explain an experiment to study the effect of bicarbonate concentration on O₂ evolution in photosynthesis.
5. Why xerophytes have less number of stomata than mesophytes?
6. What is bolting? Which hormone is related to this process?