

B. Sc (H) Botany VI semester

Plant Metabolism (Units 1,3,4,5,8)

- Q1. Explain in detail why Kreb's cycle is more efficient in terms of ATP production than the EMP pathway.
- Q2. Describe the chemiosmotic hypothesis of ATP formation. Give experimental evidences in its support.
- Q3. Compare the process of ATP synthesis in two major organelles in plants.
- Q4. Describe in detail the different complexes in the mitochondrial membrane which are involved in electron transport.
- Q5. Describe various metabolic pathways for glucose and how are they regulated.
- Q 6. Explain the anapleurotic reactions giving example of TCA .
- Q7. Elaborate on the role of various enzymes involved in the metabolism of sucrose in higher plants.
- Q8. Give a stepwise description of the cleavage and formation of α (1-4) and α (1-6) glycosidic linkages and the enzymes involved in the starch metabolism.
- Q9. Describe the mechanism of signal transduction and amplification via any two secondary messengers.
- Q10. Explain how the signal is perceived at the Plasma Membrane of a plant cell, classifying the various types of receptors and their functioning.
- Q11. How is the signal transduced by phospholipids/cGmp/NO/Ca.
- Q 12. Discuss the mode of enzyme regulation and various factors affecting enzyme action.