CSIR NET UNIT 6 SYLLABUS

SYSTEM PHYSIOLOGY - PLANT

Under CSIR NET UNIT 6 one can find topics like - photosynthesis, respiration, nitrogen metabolism, plant hormones, sensory photobiology, solute transport, photoassimilate translocation, secondary metabolites, and stress physiology in plants. Topics include light harvesting complexes, nitrogen assimilation, hormone effects, and plant responses to various stresses.

CSIR NET UNIT 6	Topics
A) Photosynthesis	- Light harvesting complexes - Mechanisms of electron transport - Photoprotective mechanisms - CO2 fixation - C3, C4, and CAM pathways
B) Respiration and Photorespiration	- Citric acid cycle - Plant mitochondrial electron transport and ATP synthesis - Alternate oxidase - Photorespiratory pathway
C) Nitrogen Metabolism	- Nitrate and ammonium assimilation - Amino acid biosynthesis
D) Plant Hormones	- Biosynthesis, storage, breakdown, and transport - Physiological effects and mechanisms of action
E) Sensory Photobiology	- Structure, function, and mechanisms of action of phytochromes, cryptochromes, and phototropins - Stomatal movement - Photoperiodism and biological clocks
F) Solute Transport and Photoassimilate Translocation	- Uptake, transport, and translocation of water, ions, solutes, and macromolecules - Transpiration - Mechanisms of loading and unloading of photoassimilates
G) Secondary Metabolites	- Biosynthesis of terpenes, phenols, and nitrogenous compounds - Roles of secondary metabolites

H) Stress Physiology	- Responses of plants to biotic (pathogen and insects) and abiotic (water, temperature, and salt) stresses

Study tips for CSIR NET UNIT 6: Utilize visual aids for understanding complex pathways, focus on key steps in photosynthesis and respiration, create flashcards for hormone actions, and relate stress responses to specific physiological changes. Regularly practice with diagrams and models to reinforce concepts.