Plant anatomy and physiology

The rough estimation of the topics that may be discussed during the exam.

General topics:


4. Water management in plants. Mechanisms and water movement pathways in plants – water uptake and loss in plants, symplastic and apoplastic transport ways, important physical and chemical properties of water and water solutes. Water potential. Transpiration, the function of stomata and the regulation of transpiration. Root pressure, plant behaviour during water deficiency and ecophysiological adaptations to drought. The importance of plants for water and energy cycles in nature.


8. Classical phytohormones (auxin, cytokinins, ABA, ethylene, gibberellins) and other endogenous signalling compounds (brassinosteroids, jasmonates, peptides, etc.) – origin, functions, fate, signalling pathways.


18. The role of plants in biogeochemical cycles. Symbioses of plants with other organisms, root symbioses. Climate change and plants, factors of climate changes and their effects on plants, plants in a solution of global problems of human civilisation.