

Syllabus for Sandip University Joint Entrance Exam(SU-JEE)

Exam Name – SU-JEE M.Sc. Botany

Title	Syllabus	No of Questions
Bryophytes Pteridophytes and Gymnosperm	<p>General characters. Range of thallus organization, classification, ultrastructure of eukaryotic algal cell and cyanobacterial cell, economic importance of algae.</p> <p>Lichens, classification, thallus organization, reproduction role in environmental pollution</p> <p>Bryophytes, general characters, classification, reproduction and affinities. Gametophytic and sporophytic organization</p> <p>Pteridophytes: General features, classification</p> <p>Comparative study of morphology, anatomy</p> <p>Gymnosperms: General characters, classification. Comparative study of morphology, anatomy, development of vegetative</p>	20
Plant Biochemistry	<p>Carbohydrates: Classification, structure and function of carbohydrates a) monosaccharides b) oligosaccharides c) polysaccharides, storage polysaccharides, structural polysaccharides, glycoproteins.</p> <p>Lipids: Classification of lipids – simple lipids, compound lipids, sterols and terpenoids, biosynthesis of fatty acids, polyunsaturated fatty acids, lipoproteins, oxidation of fats, α-oxidation, β-oxidation, glyoxylate cycle, gluconeogenesis.</p> <p>Amino acids: a) General properties b) Classification and characteristics c) non protein amino acids d) peptide bonds e) Biosynthesis of amino acids with reference to GS and GOGAT. Proteins: a) Classification of proteins, b) Structure of proteins and Ramachandran plot</p> <p>Nucleic acids: a) Structure of DNA and types – B, A and Z forms and DNA b) Structure of RNA – m-RNA, t-RNA, r-RNA</p>	30

Plant Physiology	<p>Water uptake, conduction, transpiration, mechanism of ion uptake and translocation. Photosynthesis and Chemosynthesis : photosynthetic pigments, O₂ evolution, photophosphorylation, CO₂ fixation - C₃- C₄ and CAM plants.</p> <p>Respiration : aerobic and anaerobic respiration photorespiration</p> <p>Nitrogen metabolism : atmospheric nitrogen fixation, nitrogen cycle, Growth hormones</p>	20
Plant Biotechnology	<p>Plant Biotechnology Definition, Scope & Importance Biotechnology in India Safty measures(Social, Moral, Ethical) in Biotechnology Intellectual property right, Patent & Copy right law Biomass Production Biofertilizers & Biomass Energy Fermentation Technology Introduction, Scope and Importance -Principles of Microbial growth-Batch culture, Continuous culture and Synchronous culture Microbes, Substrate, Process, Optimum conditions, Product recovery and uses of Following----a) Citric Acid, b) Alcoholic beverages-Beer production</p>	30
Total		100