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## MPPSC Botany Syllabus

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The Madhya Pradesh Public Service Commission has published syllabus for the State Services Preliminary Examination 2010 of the MPPSC. The Syllabus of the exam is as follows:

- 1. Origin and Evolution of Life Basic ideas about the origin of Earth. Origin of life, chemical and biological evolution, geological time scale and types of fossils.
- 2. Cell Biology Cell, structure and functions of cell organelles, chromosomes: Structure and types, Mitosis and meiosis.
- 3. Genetics Concept of gene, DNA, RNA, laws of inheritance. Cytoplasmic inheritance, mutation and polyploidy, Plant breeding.
- 4. Plant Diversity A general account of structure and reproduction of virus, bacteria, cyanobacteria, algae, fungi, lichens, bryophytes, pteridophytes and gymnosperms. Concept of alternation of generations.
- 5. Angiosperms Morphology, anatomy, types of tissues and their functions. Modifications of root, stem and leaf. Reproduction: Pollination, fertilization and development of seed.
- 6. Taxonomy Principles of nomenclature, classification and identification of plants. Salient features and importance of following families: Malvaceae, Fabaceae (Leguminosae), Solanaaceae, Lamiaceae, Euphorbiaceae and Poaceae.
- 7. Plant physiology Water relations of plant, mineral nutrition, enzymes, photosynthesis, nitrogen metabolism, respiration, growth, hormones, physiology of flowering, seed germination.
- 8. Plant pathology A general account of important diseases of crop plants of India and their control.
- 9. Plants and human welfare Role of plants in human life. Plants yielding food, fibers, wood and medicines.
- 10. Plants and environment Ecosystem, ecological adaptations, natural resources and pollution, Global warming, acid rains and ozone layer depletion.
- 11. Biotechnology

Recombinant D. N. A. Technique, tissue culture, biofertilizers, Application of biotechnology in agriculture, horticulture, medicine and industry.