

M. Sc. Botany Program

Program Outcomes (POs)

The M.Sc. (Botany) NEP-2020 curriculum is designed to equip students with subject domain knowledge and technical skills pertaining to plants in a holistic manner. It aims to train the students in all the areas of plant sciences with a unique combination of core and elective papers with significant interdisciplinary components. Students have exposure to cutting-edge technologies that are currently used in the subject. They are made aware about the social and environmental issues, significance of plants and their relevance to the national economy.

After the completion of the M.Sc. Botany Program, the students will have:

P01	Domain knowledge	Demonstrate knowledge of basic concepts, principles and applications of the specific science discipline.
P02	Resource Utilization	Cultivate the skills to acquire and use appropriate learning resources including library, e-learning resources, ICT tools to enhance knowledge-base and stay abreast of recent developments.
P03	Analytical and Technical Skills	Ability to handle / use appropriate tools / techniques / equipment with an understanding of the standard operating procedures, safety aspects/limitations
P04	Critical and Problem solving	Identify and critically analyze pertinent problems in the relevant discipline using appropriate tools and techniques as well as approaches to arrive at viable conclusions/solutions.
P05	Project Management	Demonstrate knowledge and scientific understanding to identify research problems, design experiments, use appropriate methodologies, analyze and interpret data and provide solutions. Exhibit organizational skills and the ability to manage time and resources.
P06	Individual and team work	Exhibit the potential to effectively accomplish tasks independently and as a member or leader in diverse teams, and in multidisciplinary settings.
P07	Effective Communication	Communicate effectively in spoken and written form as well as through electronic media with the scientific community as well as with society at large. Demonstrate the ability to write dissertations, reports, make effective presentations and documentation
P08	Environment and Society	Analyze the impact of scientific and technological advances on the environment and society and the need for sustainable development.
P09	Ethics	Commitment to professional ethics and responsibilities.
P010	Life-long learning	Ability to engage in life-long learning in the context of the rapid developments in the discipline.

Program Specific Outcomes (PSOs):

By the end of the Program, the students will be able to:

PSO 1: Develop critical understanding on morphology, anatomy and reproduction of Algae, Fungi Bryophytes, Pteridophytes and Gymnosperms.

PSO 2: Understand plant evolution and their transition to land habitat.

PSO 3: Understand morphology, anatomy, reproduction and developmental changes there in through typological study and create a knowledge base in understanding the basis of plant diversity, economic values & taxonomy of plants.

PSO4: Understand the details of external and internal structures of flowering plants.

PSO 5: Develop critical understanding cell and molecular biology of plants.

PSO 6: Know about the importance of Medicinal plants and its useful parts, economically important plants in our daily life and also about the traditional medicines and herbs, and its relevance in modern times.

PSO 7: Understand about the factors leading to Environmental degradation, their reasons and their impact on the Environment.

PSO8: Learn about molecular and technical skills along with applications of the instrumentation.

PSO 9: Know about the Concepts, tools and techniques related to *in vitro* propagation of plants.

PSO 10: Know about the Different methods used for genetic transformation of plants, use of *Agrobacterium* as a vector for plant transformation, components of a binary vector system.

PSO11: Understand the various applications of plants to human welfare

PSO12: Understand the advance concepts of Biochemistry and Physiology.