

Pune District Education Association's

Waghire College of Arts, Commerce and Science,

Saswad, Purandar, Pune.

DEPARTMENT OF BOTANY

Course: Master of Science in Botany (NEP - 2020)

Duration: 2 Years

Credit Framework: [M.Sc. Credit Framework \(NEP - 2020\)](#)

AIMS AND OBJECTIVES

- The Board of Studies in Botany, Savitribai Phule Pune University, Pune believes that a curriculum designed according to NEP 2020, employability-oriented diversified course content, and rigorous and critical assessment of educational achievements by the students play complementary roles in shaping their education.
- The current curriculum, revised per the guidelines of NEP 2020 for the postgraduate program of Botany (M.Sc. Botany), proposes up-to-date higher education as a combination of subject-cored generalized and skill-oriented specialized education by introducing in-depth learning concepts.
- The students will achieve lifelong learning goals and become confident enough by illustrating courtesy to the immense world of basic and applied knowledge of plants and introducing them to the methodology of systematic academic inquiry.
- Students will receive wide exposure to the applied aspects of various branches of botany and their implications for achieving the sustainable goals of the nation.

SYLLABUS

[M.Sc.-I \(NEP 2020\)](#)

[M.Sc.-II \(NEP 2020\)](#)

PROGRAM OUTCOMES (PO's)

The curriculum of Post Graduate degree in Botany (M.Sc. Botany) as per the guidelines of NEP-2020 at the PDEA's Waghire College, Saswad affiliated to Savitribai Phule Pune University, Pune is designed to equip the students of Botany with crucial fundamental as well as advanced subject domain knowledge and 21st century technical, practical and communication skills universally related to plant world. Students would be trained and acquire the basic and progressive knowledge from entrepreneurship-based industry-oriented thrust areas of plant sciences through the use of a distinctive combination of mandatory major core courses with in-depth exposure to multidisciplinary components of elective courses, research methodology as well as on job training/internship and research projects. This upgraded curriculum shall develop educated outcome-oriented candidature, nurtured with discovery, and learning, equipped with practice and skills to deal with practical problems, and competent with recent pedagogical trends in education including e-learning, flipped class, and hybrid learning, experiential learning to develop into a responsible citizen with their knowledge gained in the field of plant sciences for nation-building and transforming the country to lead the world in the coming future.

After successful completion of the Post Graduate (PG) Degree program, the students would be able to:

PO1: Attained thoughtful proficiency in the field of plant sciences.
PO2: Acquired ability to perform in multidisciplinary domains.
PO3: Attained ability to exercise intelligence of scientific knowledge for investigation and innovation and sustenance of the world.
PO4: Learnt value based ethical practices and principles and should be committed to professional ethics.
PO5: Incorporated 21st century skill oriented self-directed and life-long learning.
PO6: Obtained ability to inculcate the knowledge of plant science in diverse contexts with global perspective.
PO7: Attained maturity to harness the destiny and responds to one's calling.

PROGRAM SPECIFIC OUTCOMES (PSOs)

<p>PSO1: Recall the diversity, classification, evolution and developmental changes among the plants with reference to lower and higher plant groups and create a knowledge base in understanding the basis of plant diversity, economic values and taxonomy of plants.</p>
<p>PSO2: Understand the advanced concepts of physiology, biochemistry and molecular biology of plants and its implementation for the improvement of crop productivity.</p>
<p>PSO3: Acquire and utilize the skills of post-harvest techniques, landscape designing and various plant processing technologies for developing the economy to the growing world.</p>
<p>PSO4: 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.</p>
<p>PSO5: Inculcate the methodology followed in plant breeding, pharmacognosy, herbal drug technology, plant protection, propagation and improvement.</p>
<p>PSO6: Adapt methods of scientific research in plant improvement program and create entrepreneurships, employment to the society.</p>
<p>PSO7: Analyze the impact of scientific and technological advances on the environment and society and understand the importance of biodiversity conservation, green cover development, carbon sequestration and utilize the knowledge for sustainable development.</p>
<p>PSO8: Explore the knowledge of biotic and abiotic stress tolerance, plant microbe interaction and Integrate pest management for making the revolution in the agriculture.</p>
<p>PSO9: Enrich the ability of critical thinking, development of scientific attitude, handling of problems and generating solutions, improve practical skills, and enhance communication skill.</p>
<p>PSO10: Apply the fruitful knowledge of plant sciences and plant resources for the sustainable development, betterment of society and environment by recognizing the ethical values.</p>
<p>PSO11: Becomes competent enough in various analytical and 21st century technical skills related to plant sciences for their exploration.</p>

PSO12: Exhibit the potential to effectively accomplish tasks independently and as a member or leader in diverse teams, and in multidisciplinary settings.

PSO13: Employ critical thinking based problem solving and practical skills pertaining to botanical techniques and computational knowledge and apply strategies for environmental conservation.

PSO14: 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.