



U/S 2(f) and 12 B of UGC Act 1956, (NAAC Accredited)

**DESH BHAGAT UNIVERSITY, MANDI GOBINDGARH**  
**Faculty of Agriculture and Life Sciences**

**Programme: PhD Botany**

**Programme Educational Objectives (PEOs)**

**PEO-1:** Develop fundamental background and training in research in Botany including specific experimental and research skills and approaches in selected areas of Botany, Molecular Biology and Modern Biology.

**PEO-2:** Provide opportunities to develop transferable skills; inculcate a culture of quality and responsibility in conducting research.

**PEO-3:** Enhance a student's capacity to work effectively with others, to solve problem, to think critically and innovatively in areas chosen.

**PEO-4:** Develop substantive knowledge in their areas of specialization.

**PEO-5:** Master the analytical and methodological skills required to evaluate and conduct research in specialization and related areas.

**PEO-6:** Design and conduct original research problems in their area of specialization.

**PEO-7:** Demonstrate the ability to communicate the results of their research work in a clear and effective manner.

**PEO-8:** Demonstrate the ability to work effectively with other people from various ethnic, educational, and professional backgrounds.

**PEO-9:** Demonstrate an understanding and concern for the high ethical standards in research, teaching, and service.

**PEO-10:** Demonstrate the ability to teach post graduate and graduate courses in their areas of specialization

**Programme Outcomes (POs)**

**PO-1:** Access the primary literature, identify relevant works for a particular topic in life science, and evaluate the scientific content of these works.

**PO-2:** Explain the kinds of data generated by various workers in the field of Zoological research.

**PO-3:** Explain contemporary issues in Life sciences relevant to the area of specialization.

**PO-4:** Exercise critical judgment, independent thinking and problem solving through the research work undertaken.

**PO-5:** Demonstrate critical and creative thinking, with an aptitude for continued self-

directed learning.

**PO-6:** Graduates will be able to summarize major themes and current research problems in their area of specialization (review).

**PO-7:** Possess an ability to identify, formulate, and solve biological problems to contribute to service efforts to the community.

**PO-8:** Apply multidisciplinary fundamentals of statistical tools, software and physical principles (physics, chemistry) to the analysis of relevant biological situations.

**PO-9:** Write scientific reports and communicate results in oral presentations.

**PO-10:** Publish the findings in scientific journal, conference proceedings and books.

**PO-11:** Write thesis in a standard scientific format using the current norms of scientific writings.

**PO-12:** Students master the objectives for learning outcomes in an undergraduate discipline.

### **Programme specific outcomes**

**PSO1:** Students after completing the six month course will have an elementary knowledge about the different disciplines of the subject.

**PSO2:** Students will be able to utilize their knowledge of using instruments and other analytical techniques for solving their research problems.

**PSO3:** Students will be aware of the consequences of deviating from the standard code of conduct in research laboratories, plagiarism, and paraphrasing, ethical aspects and so on.

**PSO4:** Students will be able to access and extract the desired information from the different scientific databases and resources. Students will be able to read and write good scientific papers.

**PSO5:** The programme will motivate the students to take up the challenges of the Ph.D course and make them mentally prepare to excel in the respective field of their research work

### **Course Outcomes (CO)**

**Course Code: M.Ph.D. 101**

**Title of the Course: Research Methodology**

#### **Course Outcomes:**

**CO1:** Knowledge gained: Conceptual understanding of research ethics, plagiarism, laboratory practices and Intellectual property right

**CO2:** Skills gained: Ability to search the internet and scientific databases to accumulate information and latest advances in the field of concerned research topic.

**CO3:** Competency developed: Ability to write and review scientific articles as well as ability to follow good code of conduct for performing research work.

**Course Code: MPhD 006**

**Title of the Course: Advances in Botany**

**Course Outcomes:**

**CO1:** Knowledge gained: Fundamental and advanced knowledge of the subject.

**CO2:** Skills gained: Thorough understanding of the background and recent developments of the subject and ability to understand the concept of any topic and to build up on the existing knowledge.

**CO3:** Competency developed: Ability to utilize the existing knowledge in their own research work and ability to link the core concepts of the subject to the field of their own research work.

**Course Code: MPhD 006**

**Title of the Course: Advances in Botany**

**Course Outcomes:**

**CO1:** Knowledge gained: Fundamental and advanced knowledge of the subject.

**CO2:** Skills gained: Thorough understanding of the background and recent developments of the subject and ability to understand the concept of any topic and to build up on the existing knowledge.

**CO3:** Competency developed: Ability to utilize the existing knowledge in their own research work and ability to link the core concepts of the subject to the field of their own research work.

**Course Code: RPE**

**Title of the course: Research Publications and Ethics**

**Course outcomes:**

CO1: Knowledge gained: In-depth knowledge of the subject chosen for research.

CO2: Skills gained: Review of existing work in the field of choice.

CO3: Competency developed: Research trends in the field of choice. Research trends in interdisciplinary areas.