B.Sc. Botany

Programme Specific Outcomes

PSO1. Knowledge and understanding of:

1. The range of plant diversity in terms of structure, function and environmental relationships.
2. The evaluation of plant diversity.
3. Plant classification and the flora of Maharashtra and India.
4. The role of plants in the functioning of the global ecosystem.
5. A selection of more specialized, optional topics.
6. Statistics as applied to biological data.

PSO2. Intellectual skills – able to:

1. Think logically and organize tasks into a structured form.
2. Assimilate knowledge and ideas based on wide reading and through the internet.
3. Transfer of appropriate knowledge and methods from one topic to another within the subject.
4. Understand the evolving state of knowledge in a rapidly developing field.
5. Construct and test hypothesis.
6. Plan, conduct and write a report on an independent term project.

PSO3. Practical skills:

1. Students learn to carry out practical work, in the field and in the laboratory, with minimal risk. They gain introductory experience in applying each of the following skills and gain greater proficiency in a selection of them depending on their choice of optional modules.

1. Interpreting plant morphology and anatomy.
2. Plant identification.
3. Vegetation analysis techniques.
4. A range of physiochemical analyses of plant materials in the context of plant physiology and biochemistry.
5. Analyze data using appropriate statistical methods and computer packages.
6. Plant pathology to be added for sharing of field and lab data abtained.

PSO4. Transferable skills:

1. Use of IT (word-processing, use of internet, statistical packages and databases).
2. Communication of scientific ideas in writing and orally.
3. Ability to work as part of a team.
4. Ability to use library resources.
5. Time management.
6. Career planning.

PSO5. Scientific Knowledge:

Apply the knowledge of basic science, life sciences and fundamental process of plants to study and analyze any plant form.

PSO6. Problem analysis:

Identify the taxonomic position of plants, formulate the research literature, and analyze non reported plants with substantiated conclusions using first principles and methods of nomenclature and classification in Botany.

PSO7. Design/development of solutions:

Design solutions from medicinal plants for health problems, disorders and disease of human beings and estimate the phytochemical content of plants which meet the specified needs to appropriate consideration for the public health

PSO8. Conduct investigations of complex problems:

Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and development of the information to provide valid conclusions.

PSO9. Modern tool usage:

Create, select, and apply appropriate techniques, resources, and modern instruments and equipments for Biochemical estimation, Molecular Biology, Biotechnology, Plant Tissue culture experiments, cellular and physiological activities of plants with an understanding of the application and limitations.

PSO10. The Botanist and society:

Apply reasoning informed by the contextual knowledge to assess plant diversity, its importance for society, health, safety, legal and environmental issues and the consequent responsibilities relevant to the biodiversity conservation practice.

PSO11. Environment and sustainability:

Understand the impact of the plant diversity in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PSO12. Ethics:

Apply ethical principles and commit to environmental ethics and responsibilities and norms of the biodiversity conservation.

PSO13. Individual and team work:

Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PSO14. Communication:

Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PSO15. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

The Three-year B.Sc. Programme at Gramonnati Mandal's Arts, Commerce & Science College offers courses at First, Second and Third year level in the subjects of Physics, Chemistry, Mathematics, Zoology, Botany, Geography

All of these subjects are designed with a specific aim of introducing students to various laboratory methods thereby exposing them to several laboratory

techniques in handling of state of the art equipment, critical thinking and being independent as well as team learning.

They develop laboratory skills throughout the curriculum via hands-on experiences with diverse experimental techniques and tools. They learn several approaches to data analysis and become confident in using computational methods to analyze and solve various problems. Although the student's long term goals are quite varied, these courses help in drawing many to careers that demand scientific and technical knowhow and strong logical reasoning abilities. The following is a specification of the key Programme Outcomes (knowledge, skills, values and attitude) that highlight important areas in which the students are expected to gain proficiency at the end of the tenure of their undergraduate program.