

# **Government Girls PG College, Ghazipur**

## **Department of Botany**

### **Program outcomes (M. Sc. Botany)**

- Includes approaches to understand benefits derived from the plant world. The entire living world, especially man, is directly or indirectly dependent on plants.
- To know more about the utility of plants which will be useful for further studies in the various fields like Agriculture, Horticulture, Floriculture, Modern Medicine, Ayurveda.
- Programme has been train and enable students to understand the relationship between science and society as well as logical, scientific and ethical issues related to science. In addition to this, the students will be able to think critically for the formulation of hypotheses and experimental designing based on the scientific method, which will make the students readily employable in various streams of teaching, research, civil services and in industries and environment to provide sustainable development.
- Lifelong learning be achieved by drawing attention to the vast world of knowledge of plants and their domestication.

### **Program Specific Outcomes (PSOs 2; M. Sc. Botany)**

- It is expected that after successfully completing M.Sc. Botany, students will develop deeper theoretical & Practical knowledge of different branches of Botany like Phytotechnology, Plant taxonomy, Anatomy, Mycology, Microbiology, Physiology, Biochemistry, Cell biology, Genetics, Molecular biology, Medicinal Botany, Pharmacognosy, Environmental issues etc, making them capable of understanding the societal, environmental issues, demands and their solutions.
- Program has a strong theoretical basis that will help students in evolutionary relationship of lower and higher plants by using the key characters which is expected from a student of Botany to support the other branches of knowledge related to plants.
- Many of the courses in the programme have been carefully designed that will help the students for qualifying competitive exams like IAS, IFS, CSIR NET, SET, TGT, PGT and to write research proposals for grants.

- Continuous internal assessment provides ample opportunity to the students for improvement after every evaluation. Seminar and field visits system grooms the personality of the students and enables them to present oneself with confidence, develop a reasonably well compiled content and discuss. Assignments enable the students to compile the solutions of the given problems with optimal discussion.
- In each semester of the programme, each student is given research project of their own choice to allow students to understand various steps of solving a research problem. Thus, this programme will help to develop research aptitude at PG level with identification of gaps in knowledge and relevance of their solutions for the society.
- The student completing the course will be capable of executing research projects.

### **Course Outcomes (COs 2; M. Sc. Botany)**

#### **M. Sc. Previous Year**

- Helpful in the understanding of lichens and various microorganism (fungi, bacteria and viruses) with their structural differences with establishing the link between the primitive and advanced characters, gives knowledge about multiple plant disease. Also to understand development of prokaryotes as first form of life on Earth. Also, their economic importance and industrial uses for human welfare.
- It will help to understand lower form of Plant life, with their structural and reproductive differences. Also helpful in understanding Evolutionary trend in plant life.
- It will be helpful to understand evolved and fossil forms of Plant life, with their structural and reproductive differences. Also helpful in understanding evolutionary trends, seed habit, Heterospory and missing links of plant life.
- Increase the knowledge regarding highest evolved form of plants, structural knowledge (external and internal), reproductive pattern, pollination habit and economic value to the mankind.
- Helpful in learning process. It engages students, helping them to develop important skills, understand the process of Scientific Research in the field of Taxonomy.
- Acquired knowledge the interactions of living things with their environment. Ecologists ask questions across four levels of biological organization—organism, population, community,

and ecosystem. At the organism level, study of population/community and how they interact with their environments.

- Give insights into the nature of genes and proteins and the relationship between them, whereas time-honoured biochemical and physiological approaches can show how bio-molecules affects function at the level of cells, tissues, organs and individuals.

### **M. Sc. Final Year**

- It helpful in gaining the knowledge of various aspects such as increasing yield and quality, heat and drought resistance, resistance to Phytopathogens, herbicide and insect resistance, increasing biomass for Bio-fuel production, and enhancing the nutritional quality of the crop.
- Enables analysing processes in plants, namely – photosynthesis, mineral nutrition, respiration, transportation, growth and ultimately plant development which are traits displayed by living entities.
- Useful in gaining the knowledge of Bio-molecules and Bio-chemicals. These are important for the plants, environment and humans. Acquired understanding of Macro-molecules and Micro-molecules.
- Helpful in learning process. They engage students, helping them to develop important skills, understand the process of Scientific research.
- Students can use knowledge gained in the production of plants at domestic as well as commercial levels. They can improve the growth, quality and nutritional value of crops grown, which are ultimately related to health benefits. They can undertake landscaping projects as designer.