

## **Botany**

### **Programme Specific Outcome**

- To understand terminology, phenomena, concepts and classification of lower as well as higher plants and its introduction and awareness importance of the related biodiversity. Practical aspects and knowledge of cell division, genetics and growth of plants.

### **Course Outcome**

#### **B.Sc. I**

- To develop understanding regarding microbes, algae, fungi, bryophytes and gymnosperms including general characteristic, classification, morphology, anatomy and reproduction with economic importance.

#### **B.Sc. II**

- Develop knowledge regarding diversity of angiosperms and their systematics with their detailed description
- Economic importance of angiosperms.
- Knowledge of cellular organization, origin, development of the shoot, root systems and leaf and flower and embryology.

#### **B.Sc. III**

- Knowledge of plants water relation, metabolism, growth regulators, lights and temperature effect and fundamental of biotechnology.
- Knowledge regarding ecosystems, plant communities, factors. Cultivation and economic importance of cereals, pulses, vegetables, edible oils, spices, timber and fire wood and medicinal plants

## **Programme Outcome (POs)**

The post graduate programme M.Sc. Botany is running in Dr. Jwala Prasad Mishra Government Science College of Science, since 2016. It provides knowledge to the student, to work on research and developmental problems in the field of plant science like as taxonomy, study of lower plants, plant physiology, ecology, biochemistry and biotechnology. Provides an opportunity to get jobs in different departments like forestry department, Indian forest service examination. Students are trained to develop innovative techniques and ideas. The programme introduces the students to research as an exciting career option in many reputed institutes in the India and abroad.

## **Programme Specific Outcome (PSO)**

- After completion of M.Sc. Botany students may like job in different fields or go for higher studies.
- They may appear in NET, SET examination for getting job in college as they became eligible to appear in college P.S.C. exam.
- They may appear in competition exam for forest services through P.S.C. or I.F.S.
- They may get job in higher secondary school after completion of B.Ed. exam.
- They may take an opportunity to become scientist in several fields like environmental studies, plant taxonomy, plant pathology, cytology, genetics, and molecular biology.

## **Course specific outcome**

**Cs1 :** - Develop knowledge in the field of, prokaryotic & eukaryotic microbes in respect of structure & their economic importance.

**Cs 2:-** Develop knowledge regarding structure of algae, bryophyte, pteridophyte.

**Cs 3:-** Develop knowledge in the field of structure of all cell organelles and techniques in cell biology.

**Cs 4:-** Study related to taxonomy & diversity of plants including their anatomy & embryology of angiosperm.

**L.C.I** Culture of microbes, study of bacteria, virus and fungi. Slide preparation and study of morphology of algae, study of morphological and anatomical structure of bryophytes and pteridophyte.

**L.C.II** Skill development regarding describe different angiospermic plant families.

**Cs5:-** Development of knowledge of structure of chromosome. Skill development in respect of molecular cytogenetics, gene structure and expressions.

**Cs6:-** study of gymnosperms and their diversity including fossil gymnosperms.

**Cs7:-** Development of knowledge in respect of translocation of water and solutes, signal transduction, stress physiology and fundamentals of enzymology, metabolism in photosynthesis, respiration.

**Cs8:-** organization & development .protein sorting and mutation. and lipid metabolism nitrogen and sulphur metabolism.

**L.C.III:-** Skill development regarding experiment related to cytology.

**L.C.IV:-** Skill development in respect of experiment related to plant physiology & plant metabolism.

**Cs9:-** Development of knowledge in development of root, shoot, leaf and flowering hormone and plant growth elicitors.

**Cs10:-** Development of knowledge in the field of plant reproduction.

**Cs11:-** Skill development in the field of Ecosystem organization, Ecosystem stability and management.

**Cs12:-** Development of knowledge about plant diseases, control, defense mechanism and study of plant disease caused by different pathogens, virus, bacteria microbes, fungi and nematodes.

**L.C.V:-** Skill development in respect of plant development plant and reproduction

**L.C.VI:-** Skill development in the field of ecological experiments and study of plant diseases.

**Cs13:-** Development of knowledge and technique of cell and tissue culture, somatic embryo, application of plant tissue culture.

**Cs14:-** Development of knowledge in plant resource, utilization and conservation.

**Cs15:-** Understanding genetic engineering of plant and microbes and biostatistics.

**Cs16:-** Study of different plant pathogens and disease cycle.

**L.C.VII:-** Skill development and techniques related to plant tissue culture, cell culture and organ culture and study of plant resource and their conservation.

**L.C.VIII:-** Skill development in the field of biotechnology and study of plant pathology and their disease cycle.