

Shri Shivaji Arts Commerce and Science College, Motala.

Department of Botany

Programme Outcome, Programme Specific Outcome and Course Outcome

Programme Outcome

- At the end of the B.Sc. Programme, graduates will be able to
- Understood the basic concepts, fundamental principles, and scientific theories related to various scientific phenomena and their relevance in routine life.
- To inculcate Scientific Aptitude among the students.
- To make them aware of Environment and living things.
- To make them to use scientific logics and Soft Skills.
- Developed various communication skills such as reading, listing, speaking, etc., which will help in expressing ideas and views clearly and effectively.
- Acquired skills in handling scientific instruments, planning and performing laboratory experiments noting down the observations and drawing logical inferences from them.

Programme Specific Outcome

- Identify and become familiar with the scope, methodology and application of modern botany and learn to appreciate its ability to explain various aspects.
- Understand theoretical and practical concepts of instruments that are commonly used in practical of botany.
- Design and carry out scientific experiments and record the results of such experiments.
- Understand safety use of instruments like autoclave, laminar air flow etc, and how they are applicable in botanical study in various fields.
- It explains how botany is useful for social, economic and environmental problems and issues facing our society regarding pollution, toxic food, energy, medicine and health etc.

Course Outcome

B.Sc.-I Semester-I

- Knowledge of diversity of plants including all microorganisms.
- Knowledge of classification, diversity and importance of algae.
- Knowledge of classification, diversity and importance of fungi.
- Knowledge of classification, diversity and importance of Bryophytes.
- Knowledge of classification and diversity of Pteridophytes.
- Knowledge of Application of Microbes Cryptogams.

P1: Study of preparation of temporary mount, identification and classification of algae, bryophyte, and pteridophytes materials.

P2: study of permanent slides of various materials plant pathology with the help of field study and excursion tour.

B.Sc.-I Semester-II

- Information of fossils study using geological time scale.
- Knowledge of classification, general studies and economic importance of gymnosperm plants.
- Studied the diversity on the basis of morphology of flowering plants.
- Studied the morphology of flowers and inflorescence.
- Information of fruit morphology and utilization of plants.
- Knowledge of Medicinal plants and other economically important plants.

P1: Morphology, anatomy, double stains, permanent mount preparation of gymnosperm plants and fossils study.

P2: Detailed morphological study of root, stem, leaf flower its modification of various plants and utilization of plants study.

B.Sc.-II Semester-III

- Knowledge of nomenclature, herbarium and biodiversity concept.
- Study of Classification and systematic of angiosperms.
- Knowledge of systematic studies and economic importance of angiosperm families.
- Knowledge of anatomical studies of various angiosperm plants.
- Information of anatomical behavior in plants.
- Knowledge of embryology.

P1: study of embryology, pollination, and mounting of parts of flower in angiospermic plants.

P2: To study the anatomy and taxonomy of angiosperm plants with the help of laboratory study, field study by conducting excursion tours.

B.Sc.-II Semester-IV

- Study of cell biology.
- Knowledge of structure and function of various cell organelles.
- Genetics study related to chromosomes.
- Understand the Mendelian genetics and problems related to genetics.
- Study of linkage, crossing over and mutation in genes of genetics.
- Biochemical study of various molecules like enzymes, protein, lipid, DNA, RNA etc.

PI: Study the isolation of cell organelles using various techniques and study the stages of mitosis and meiosis.

P2: study of genetics using monohybrid and Dihybridization with its related problems and demonstrate various tests for biochemical compounds.

B.Sc.-III Semester-V

- Knowledge of plants and its relation with water.
- Study of how glucose is formed and its utilization in plants.
- Ideas about the role of nitrogen, its fixation and growth hormone.
- Knowledge about various plant responses with respect to various factors. study of ecology, environments and factors.
- Knowledge of population, succession in various Ecosystems.

P1: Studied major and minor experiments of plant physiology.

P2: Studied major and minor experiments of ecology and environment.

B.Sc.-III Semester-VI

- Study of DNA as genetic material.
- Study of gene structure and how it has been expressed in the cell system.
- Understand how to regulate gene expression in the cell system.
- Understand that by using various technical tools how to manipulate genes, or genetic engineering.
- Information about plant tissue culture.
- Gives ideas about how biotechnology is applicable in agriculture, industry and health care.

P1: studied various major and minor experiments on molecular biology.

P2: studied working principle and application of various biotechnological instruments and techniques.