

## **DEPARTMENT OF BOTANY**

### **PROGRAMME OUTCOMES:**

After completing the graduation in B.Sc. in Botany, Zoology and Chemistry the students are able to;

- PO1. Take up further advanced studies in the respective subjects
- PO2. Understand the various external and internal morphology and origin and evolution of different plant and animal species.
- PO3. Explain the problems of environmental problems including pollution and their control measures.
- PO4. Analyse the chemical composition regarding plant and animal bodies.
- PO5. Develop a deeper understanding of natural laws inquiring about the reasons and logics which govern them through established methods of observation, experimentation and calculation.
- PO6. Undergo future studies, research as well as lucrative employment opportunities across the globe.
- PO7. Understand and appreciate relationship between man and Environment.
- PO8. Perform the practical experiments of Botany, Zoology and Chemistry.

### **B.Sc. BOTANY: SEMESTER-I**

#### **COURSE OUTCOMES:**

After completing B.Sc. Botany Semester-I the students are able to;

- CO1. Understand clearly the theoretical and practical knowledge of the structure, composition classification, nomenclature of viruses and bacteria.
- CO2. Explain the general characters, classification, reproduction and economic importance of fungi and lichens.
- CO3. Learn in detail the structures, classification, reproduction, life cycles and economic importance of algae.
- CO4. Understand the general characters, classification and alternation of generation of bryophytes.
- CO5. Explain in detail the general characters, classification, anatomy of sporophytes, reproductive methods and life cycles of pteridophytes.
- CO6. Perform the practical experiments viz gram staining of bacteria and microscopic studies of algae, fungi, lichens, bryophytes and pteridophytes.

## **SEMESTER- II**

### **COURSE OUTCOMES:**

After completing BSc. Botany Semester-II the students are able to;

- CO1. Understand the general account, classification, morphology, reproduction, life cycles, economic importance and fossil formation of gymnosperms.
- CO2. Explain in detail the identification, nomenclature, classification and taxonomic structures of various families of plants.
- CO3. Understand the origin of Cultivation, History characteristics and uses of various economically important plant species.
- CO4. Learn easily the anatomical structures of cells and other parts of the plant body.
- CO5. Understand the development of the embryology and endosperm as well as pollen and spore morphology.
- CO6. Perform the stained slide preparation of reproductive structures and pollen grains of angiosperms & gymnosperms.

## **SEMESTER- III**

### **COURSE OUTCOMES:**

After completing B.Sc. Botany Semester -III the students are able to;

- CO1. Understand the Phytogeographical regions of India.
- CO2. Explain clearly the concept of different types of ecosystems with the structures and functions along with ecological factors.
- CO3. Understand in detail the physiological activities of plants viz absorption and translocation of water and mineral elements, transpiration, photosynthesis, respiration and growth.
- CO4. Learn easily the structures, classification and function of biomolecules and enzymes.
- CO5. Understand clearly the gene organization of prokaryotes and eukaryotes as well as the structure and physical properties of DNA and RNA.
- CO6. Perform the ecological, physiological and biochemical experiments as well as experiments regarding structures, properties, biosynthesis and replication of DNA and RNA.

## **SEMESTER- IV**

### **COURSE OUTCOMES:**

After completing BSc. Botany Semester-IV the students are able to;

- CO1. Understand the general account, of organisation and function of cell its components as well as structure and function of chromosome.
- CO2. Understand in detail about the Mendel's laws of hereditary, gene interaction, protein synthesis, crossing over, sex chromosome etc.
- CO3. Explain the principle of plant breeding, breeding behaviour, breeding methods etc.
- CO4. Understand the basic aspects of plant tissue culture and genetic engineering in plant improvement.
- CO5. Analyse the collection of data and their calculation of mean, mode, median, standard deviation and probability.
- CO6. Perform the experiments of various stages of mitosis and meiosis, callus induction and analysis of mean, median, mode and standard deviation.

## **SEMESTER- V**

### **COURSE OUTCOMES:**

After completing B.Sc. Botany Semester -V the students are able to;

- CO1. Understand the various microbial forms and characteristic features of viruses, bacteria, algae, fungi and protozoa.
- CO2. Explain the role of microbes in industry for manufacture of antibiotics, vitamins, protiens, enzymes, biofertilizers and biopesticides.
- CO3. Understand the symptoms, disease cycle and control measures of various diseases of plants.
- CO4. Study well about the concept of plant disease management.
- CO5. Understand clearly about the origin, evolution, ecology, and economic importance of briophytes and pteridophytes.
- CO6. Explain about primitive seed plants and palaeobotany.
- CO7. Understand the objective, principles and practices of advanced plant taxonomy.
- CO8. Learn easily about plant resources and their management and utilization.
- CO9. Understand the anatomical characteristics of Angiosperms.

CO10. Perform the experiment for the microscopic study of bacteria and viruses and anatomical study of bryophytes & pteridophytes and taxonomical study of angiosperms as well as their anatomical study.

### **SEMESTER- VI**

#### **COURSE OUTCOMES:**

After completing BSc. Botany Semester-VI the students are able to;

- CO1. Understand the vegetation, floristic regions of India, natural resources and their conservation.
- CO2. Understand the basic components of ecosystem, environmental pollution and their central measures.
- CO3. Explain clearly the physiological activities of plants viz absorption of water and mineral elements, growth and growth hormones, photosynthesis and biological nitrogen fixation.
- CO4. Understand the structure, classification and function of carbohydrates, proteins enzymes etc.
- CO5. Study and learn easily about the genetic organization and structure and properties of DNA and RNA.
- CO6. Explain about the structures, functions and composition of cell and their organelles.
- CO7. Understand the in detail knowledge of genetics.
- CO8. Understand the modern and advanced the techniques of plant breeding methods.
- CO9. Learn and study easily about the application of plant biotechnology in medicine Agriculture and human welfare.
- CO10. Understand well about bioinformatics and application of computer in life science.
- CO11. Perform the ecological experiments and physiological experiments as well as experiments in relation with molecular biology i.e. simple test for carbohydrate, protein, fats and nucleic acids and isolation of DNA from plant seedlings.

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