A.D.B. First Grade College, Harapanahalli
Course Outcomes (CO's)

DEPARTMENT OF BOTANY

BSc I Semester

Paper: 01. Microbial Diversity

At the end of the course the student should be able to know

- History of microbiology, contributions of microbiologists to the field of microbiology.
- Microbial diversity along with its mode of nutrition, reproduction and its economic importance.
- Role of microbes in the maintenance of the ecological balance.
- The importance of microbes in modern research and its application.
- Knowledge on the systematic of viruses, bacteria, fungi and their various metabolic processes.
- The difference between beneficial and harmful viruses and bacteria.
- The industrial applications of microbes based on the metabolites produced which are useful for the human application in various fields of medicine and nutrients.
- Role of beneficial or harmful viruses in research, medicine and diagnostics, as causal organisms of plant diseases.
- About the lifecycle of various fungi.
- About the special plant community called lichens & their role in environment.
- Preparations of bio fertilizers.

BSc II Semester

Paper: 02. Diversity of Non flowering plants

At the end of the course the student should be able to know

- About algae, their classification, lifecycles and economic importance.
- Identification of algae based on their structure & their behavior.
- Plant communities like Bryophytes, Pteridophytes & Gymnosperms along with their ecological & evolutionary significance.
- Paleobotanical evidences supporting origin of non vascular plants.
- Economic importance of non-flowering plants.

BSc III Semester

Paper: 03. Histology, Anatomy, Embryology of angiosperms and Palynology

At the end of the course the student should be able to know

- About cells, tissues, their classifications along with functions.
- Clear understanding about the most advanced plants i.e. Angiosperms.
- The floral morphology of angiosperms and different theories related to the evolution of advanced floral parts of the plants.

- About the historical perspective of palynology and its aspects and prospects.
- The process of development of micro and mega spores and its involvement in the process of plant development.
- The process of embryo, endosperm development and various features.

BSc IV Semester

Paper: 04. Ecology and Environmental Biology

At the end of the course the student should be able to know

- The structure of an ecosystem, functions and its various components.
- The concept of Population and Community ecology along with its characteristics and structure.
- About the measures to study population or community.
- About different phytogeographic regions of India, factors serving for the geographic divisions and its vegetation.
- About the factors responsible for evolution and as a whole the mechanism for various evolutionary processes.

BSc V Semester

Paper: 05. Plant taxonomy and morphology of flowering plants

At the end of the course the student should be able to know

- The Objectives, Principles and Evolutionary Trends in Taxonomy.
- The different system of taxonomic classification of plants proposed by different renowned taxonomists and the system of classification followed in the present.
- The principles and rules of binomial nomenclature i.e. ICBN.
- About the modern trends in plant taxonomy.
- About the affinities, phylogeny, economic importance and comparative studies of different plant families both monocotyledons and dicotyledons.

BSc VI Semester

Paper-6A. Plant breeding and Biotechnology

At the end of the course the student should be able to know

- The basic processes of plant breeding and crop development using different breeding techniques.
- About Modern biotechnological and genetic engineering tools and techniques, their application and limitations.
- The development of new molecular biological techniques and their use for human benefit.
- About plant tissue culture and transgenic production.

BSc VI Semester

Paper-7 Cell Biology and Genetics

At the end of the course the student should be able to know

- The structure and chemical composition of chromatin and concept of cell division.

- About Cell Science& the new discoveries in the same field.
- The composition, formation, structure & functions of Cell wall, Plasma membrane, Cell organelles and mechanism cell division.
- About the basic principles of cytogenetic and various mechanism of inheritance of characters generation after generation.
- The various mechanisms of chromosomal aberrations and structural changes followed by their significant role in the characteristics of an individual.
- A clear view of the mechanism of heredity and transfer of genetic material.

BSc VI Semester

Paper-8: Plant physiology

At the end of the course the student should be able to know

- The physiological processes involved in the plant sciences.
- About information on metabolic processes in plants.
- Mineral nutrition energy conservation through photosynthesis, breakdown of stored foods through respiration.
- About nitrogen metabolism with special reference to assimilation of nitrogen in amino acids and protein.
- Role of plant growth regulators and their application in agriculture and horticulture.
- Growth and other related physiological aspects such as circadian rhythm, photoperiodism and vernalization.
- Movements, responses to light, water and gravity.