

B. Sc. BOTANY

PROGRAMME OUTCOME:

1. To impart Knowledge and skill in the fundamentals of Plant Science.
2. To develop scientific attitude.
3. To make the students open minded, critical and curious.
4. To understand scientific terms, concepts, facts and phenomenon's.
5. Understand the need for conservation of nature and natural resources.
6. Understand the complexity of evolution takes place in plants.
7. Apply the knowledge of Botany in real life situations.

PROGRAM SPECIFIC OUTCOMES:

1. Gains scientific temper and to develop a research attitude.
2. Analyse the connection between various group of plants and their evolutionary relationships.
3. Understand and appreciate the role of biology in societal issues, such as the environment and biological resources, biodiversity, ethics etc.
4. Understand the applications of plant sciences in Mushroom cultivation, horticulture, plant breeding, genetics etc.
5. To make the students aware of natural resources and environment.
6. To develop ability for the application of the acquired knowledge to improve agriculture and other related fields to make the country self-reliant and sufficient.

COURSE OUTCOME:

Department of Botany conducted Seminars and Invited Lectures for enriching the students with a self-reliance, skills in communication, leadership qualities, skill in academic writing and presentation, etc.

To strengthen the moral uprightiness and ethical nobility of Botany students, we conduct invited expert talks on nationally significant days; environmentally important days to achieve the personality of our students.

SEMESTER-I CORE

BO 1141: ANGIOSPERM ANATOMY AND REPRODUCTIVE BOTANY

- CO 1. Students get basic knowledge of Angiosperm anatomy and Reproductive botany.
- CO 2. Gain the skill of identifying fundamental plant tissues, Vascular tissues and various plant organs.

- CO 3. Gain practical experience in the identification of primary, secondary and anomalous growth in plants.
- CO 4. Understand the correlation between palynology and plant taxonomy.

SEMESTER-II CORE

BO 1221: METHODOLOGY AND PERSPECTIVES IN PLANT SCIENCES

- CO 1. Understand the various micro techniques in Plant science.
- CO 2. Attain scientific interest in the field of Biology.
- CO 3. Gain the skill of various evaluation tools like Mean, Median, Mode etc.
- CO 4. Gain practical experience and applications of Colorimeter, Spectrophotometer, Centrifuge, Colorimeter etc.

SEMESTER-III CORE

BO 1341: MICROBIOLOGY, PHYCOLOGY, MYCOLOGY, LICHENOLOGY AND PLANT PATHOLOGY

- CO 1. Understand the scientific knowledge about the microbes, algae, fungi and lichens.
- CO 2. Gain the practical experience for the examination of different forms micro and macro organisms.
- CO 3. Attain scientific temper and research attitude about economic importance of various life forms.
- CO 4. Students get the ability to differentiate and identify different plant pathogens and plant diseases.

SEMESTER-IV CORE

BO 1441: BRYOLOGY, PTERIDOLOGY, GYMNOSPERM AND PALAEOBOTANY

- CO 1. Gain knowledge about the life cycle of various groups of plants like Bryophytes, Pteridophytes and Gymnosperms.
- CO 2. Understand the various types of plants life forms and their evolutionary significance.
- CO 3. Gain practical and laboratory skill to identify plant forms.
- CO 4. Students evaluate the evolutionary significance of geological significance and various types of plant fossils.

SEMESTER-V CORE

BO 1541: ANGIOSPERM MORPHOLOGY, SYSTEMATIC BOTANY ECONOMIC BOTANY, ETHANO BOTANY AND PHARMACOGNOSY

- CO 1. Gain knowledge about Systematic position, general organization and affinities of dicots and monocots.
- CO 2. Students equipped to become competent in taxonomic identification of plants.
- CO 3. Understanding the economic importance of plants in human life.
- CO 4. Identifying the relationship between plants and human society.

BO 1542: ENVIRONMENTAL STUDIES AND PHYTOGEOGRAPHY

- CO 1. Gain knowledge about Environment and related concepts.
- CO 2. Understanding about Pollution and related environmental issues.
- CO 3. Acquire knowledge about nature and natural resources.
- CO 4. Awareness about environmental laws and phytogeography.
- CO 5. Develop an attitudinal change to protect and conserve environment.

BO 1543: CELL BIOLOGY, GENETICS AND EVOLUTIONARY BIOLOGY

- CO 1. Students acquire knowledge about the structure and functions of Cells and Tissues.
- CO 2. Understand the basic concepts of Cell division and heredity.
- CO 3. Students acquire concepts behind genetic mutation, variation and evolution.
- CO 4. Students get theories of evolution of species.

BO 1551/0.3 : OPEN COURSE- FORESTRY

- CO 1. Students gain knowledge about the types and role of forest in ecosystem.
- CO 2. Students analyse the relationship between the Plants, animals and human beings.
- CO 3. Students get an understanding about the complex relationship of plants in an ecosystem.
- CO 4. Students make an understanding about various kinds of Plant adaptations, natural resources, seed dormancy etc.

SEMESTER-VI CORE

BO 1641: PLANT PHYSIOLOGY AND BIOCHEMISTRY.

- CO 1. Students learn the concepts of various physiological processes in plants.
- CO 2. Students gain knowledge about various plant physiological, biochemical processes.
- CO 3. Students gain fundamental knowledge of the growth and metabolism in plants.
- CO 4. Students get understanding about the interdependence of physiological and biochemical processes.

BO 1642: MOLECULAR BIOLOGY, GENERAL INFORMATICS AND BIO INFORMATICS.

- CO 1. Gain knowledge about genetic material and its role in heredity.
- CO 2. Students apply the techniques of Molecular biology in research.
- CO 3. Gain knowledge about the various biological databases and its applications.

- CO 4. Get an understanding about the general principles and ideas of Biological information's.

BO 1643: HORTICULTURE, PLANT BREEDING AND RESEARCH METHODOLOGY.

- CO 1. Students develop ability for applying Plant Breeding techniques in agriculture for making Valuable products.
- CO 2. Gain knowledge about various tools and techniques of Horticulture.
- CO 3. Understand various tools and methods of Research Methodology.
- CO 4. Understand the practical works and experiments to improve the crop yield.

SEMESTER-VI ELECTIVE

BO 1651: BIOTECHNOLOGY AND NANOBIOTECHNOLOGY

- CO 1. Students gain fundamental knowledge in the basics of Biotechnology and nanobiotechnology.
- CO 2. Understand about various concepts of Biotechnology like tissue culture, rDNA technology.
- CO 3. Understand the various concepts of DNA isolation.
- CO 4. Students applies the principles and theories of Biotechnology and Nano biotechnology in their day to day life.

**B. Sc. COMPLEMENTARY BOTANY
(for B.Sc. Zoology, Semester-I to Semester-IV)**

Course Outcome

SEMESTER-I

BO 1131 MICROTECHNIQUE, ANGIOSPERM ANATOMY AND REPRODUCTIVE BOTANY

- CO 1. To develop skills for preparation and identification of microscopic structures.
- CO 2. Students get basic knowledge of Angiosperm anatomy and Reproductive botany.
- CO 3. To distinguish various tissue systems and internal structure.
- CO 4. To acquire basic knowledge about embryo development and pollen grains.

SEMESTER-II

BO 1231: PHYCOLOGY, MYCOLOGY, LICHENOLOGY, BRYOLOGY, PTERIDOLOGY, GYMNASPERMS AND PLANT PATHOLOGY

- CO 1. To familiarize characteristic features of microbes and their significance in environment.
- CO 2. To generate idea about types of algae, fungi, lichen and their economic as well as evolutionary significance.

- CO 3. To familiarize the students the characteristic features, life cycle and evolutionary significance of Bryophytes, Pteridophytes and Gymnosperms.
- CO 4. To impart knowledge about diseases in plants.

SEMESTER-III

BO 1331: SYSTEMATIC BOTANY, ECONOMIC BOTANY, ETHNO BOTANY, PLANT BREEDING

- CO 1. To introduce importance of morphological characters in classification and plant identification.
- CO 2. To develop skill in identification of plants.
- CO 3. To acquire knowledge about economic, ethnobotanical significance and pharmacognosy of plants.
- CO 4. To get knowledge about plant breeding techniques.

SEMESTER-IV

BO 1431: PLANT PHYSIOLOGY, PLANT ECOLOGY, HORTICULTURE AND PLANT BIOTECHNOLOGY

- CO 1. To understand physiology of absorption, photosynthesis and respiration.
- CO 2. To study ecosystem and ecological modifications.
- CO 3. To generate awareness about horticultural techniques.
- CO 4. To familiarize plant tissue culture techniques.