

B.Sc. with Botany

Programme Outcomes

- This course helps in understanding of the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevance in the day-to-day life.
- Students learn to carry out practical work, in the field and in the laboratory, interpreting plant morphology, anatomy, Plant identification (according to the principles of plant systematic) and Vegetation analysis techniques.
- Apply techniques like plant propagation methods, organic farming, mushroom cultivation, preparation of biofertilizers, etc. in daily life.
- Acquire the skills in handling scientific instruments, planning and performing in laboratory experiments which helps in developing scientific temper, skills of observation and drawing logical inferences to analyse the given scientific data critically and systematically thus opening the doors of opportunities for them to serve the nation as scientists.
- Understanding the role of plants in sustaining life on earth and the interrelationship between human beings and nature, create awareness on natural resources and their importance in sustainable development.
- Analyze the importance of biodiversity conservation, estimate biodiversity loss and develop conservation strategies for the maintenance of ecological balance.
- After the completion of this programme students have the option to pursue higher studies i.e. M.Sc., M.Phil., Ph.D., etc. and can contribute to the body of research which in turn can help in policy making and for the welfare of mankind.
- They are not confined to Sciences only but this programme also offers them opportunities to join Administrative Services as IAS, IFS, IRS, HAS, HPS and HFS etc.

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Course Outcomes**

NAME OF THE COURSE	COURSE OUTCOMES
Biodiversity (Microbes, Algae, Fungi and Archegoniates)(BOTA 101)	<ul style="list-style-type: none"> ➤ This course introduces students to the biodiversity found in microorganisms (viruses, bacteria), algae, fungi and archegoniates (Bryophytes, Pteridophytes & Gymnosperms). ➤ The students, after completing this course, will be able to understand morphology, structures, distribution patterns, life cycles and the economic importance of biodiversity. ➤ Through field studies, students will be able to understand how these plants grow in nature and they will become familiar with the local diversity of plants.
Plant Ecology and Taxonomy (BOTA 102)	<ul style="list-style-type: none"> ➤ This course is designed to enable the students to understand basic ecological concepts, interactions between the living organisms and with their environment and concepts of taxonomy. ➤ After successful completion of the course, the student will have adequate knowledge about vegetation types and their analysis, ecosystems, nutrient cycling and types of soils. ➤ Through taxonomy, students will be able to understand the basic principles of plant identification, nomenclature and classification. They will also become well-versed with the techniques of herbarium preparation, modern trends in taxonomy and the importance of plant families.
Plant Anatomy and Embryology(BOTA 201)	<ul style="list-style-type: none"> ➤ This course will enable the students to understand the internal organisation of plants and the reproductive methods in the plant kingdom. ➤ After the completion of the course, students will be able to know the kinds of cells and tissues present in different parts and regions of the plants. They will be able to understand the basis of growth and development. ➤ Plant embryology will acquaint the students with pollination syndrome, developments of embryos, seeds

	and the dispersal strategies in flowering plants.
Plant Physiology and Metabolism (BOTA 202)	<ul style="list-style-type: none"> ➤ This course is designed to understand the functional aspects of plant life. ➤ After the completion of the course, students will be able to understand the functional processes such as water and mineral uptake and transport, assimilation of organic food through photosynthesis, generation of energy through respiration, regulation of various life processes through hormonal control and the role of light and temperature in flowering. They will also be able to understand the role of various growth regulators in obtaining higher crop yields, clonal multiplication through rooting and production of off-season flowers and fruits.
Biofertilizers(BOTA 203)	<ul style="list-style-type: none"> ➤ Organic farming has become need of the hour in the present time of increasing soil pollution. ➤ The course is designed to educate the students on the organic farming, biodegradable waste management and production and use of biofertilizers. ➤ After completing this course, students will be able to able to practice organic farming by using organic manures and biofertilizers. They can also set-up their biofertilizer units and market them to earn livelihood.
Gardening and Floriculture(BOTA 204)	<ul style="list-style-type: none"> ➤ Home gardening has become a household activity in the recent times. The demand for cut and loose flowers has grown exponentially, paving a way for the development of multifaceted commercial floriculture industry. ➤ The students of this course will learn about the various ornamental plants for home gardening as well learn methods of cultivation of commercially important ornamental plants. They will also be able to organise various types of floral arrangements and prepare artefacts from dried agricultural wastes. This can provide them opportunities to earn their income by setting up their floricultural farms.
Economic Botany and Biotechnology (BOTA 301)	<ul style="list-style-type: none"> ➤ This course seeks to familiarise the students with various economic plants such as cereals, pulses, vegetables, oil seed crops, beverages, sugar and fibre

	<p>yielding plants, medicinal plants, various molecular biology techniques and crop biotechnology.</p> <ul style="list-style-type: none"> ➤ After completing the course, students will have a thorough understanding of different economic plants, their cultivation methods and conditions required their farming. They will also learn the methods of tissue culture and production of transgenic plants.
Cell and Molecular Biology (BOTA 303)	<ul style="list-style-type: none"> ➤ This course deals with the cellular and molecular organisation of the living organisms. ➤ After completing the course, students will be able to understand the cellular and molecular basis of life and how the various life processes are controlled by the DNA. They will also be able to understand the regulatory mechanisms inside the tiny cells which control the heredity and well-being.
Medicinal Botany and Ethnobotany (BOTA 306)	<ul style="list-style-type: none"> ➤ Plant-based medicines are on the path of revival in the 21st century due to their less side effects. ➤ After completing this course, students will be able to know about the medicinal uses of various plants, their cultivation, significance of traditional knowledge in drug discovery, conservation of biodiversity of medicinal plants and intellectual property rights related to the plant wealth.
Mushroom Cultivation Technology (BOTA 307)	<ul style="list-style-type: none"> ➤ This course is designed to familiarize the students with various aspects of mushrooms. ➤ After completing the course, students will be able to know about the cultivation technology of various mushroom species and how they can be processed for long term storage. They will be able to earn their livelihood through mushroom cultivation.