



JAI HIND COLLEGE

Basantsing Institute of Science & J. T. Lalvani College of Commerce.
and Sheila Gopal Raheja College of Management.

Autonomous

Program Name: Bachelor of Science (B.Sc in Botany)

PROGRAM OBJECTIVES:

PO1: To develop knowledge in Botany

PO2: To inculcate their knowledge into Application

PO3: To empower students with Research aptitude

PO4: To train students with Problem Solving skills

PO5: To train with the concept of Academic Writing

PO6: To polish their Soft Skills in the form of Presentations, video making etc.

PO7: To sensitize students about the importance of Professional Ethics

PO8: To sensitize students for Environment Consciousness/social Issues

PO9: To make them understand and improve Analytical skills and Critically Evaluate scientific data

PO10: To help them in Life Long learning

COURSE OUTCOMES:

CO1: Differentiate between different divisions of Algae, Fungi and Bryophyta and make them useful economically.

CO2: Evaluate, analyze the environmental problems and apply solutions along with adaptive plants in respective areas

CO3: Apply the knowledge of identification of toxic plants and their products in various fields.

CO4: Design various experiments to prove the efficacy of ethnobotanical data.

CO5: Differentiate and compare between different classes of algae, fungi, Bryophyta and understand their life-cycles as well as analyze and comment upon their medicinal and economic importance. They will understand their knowledge of Fossils in the evolution as well as fossilization process.

CO6: Differentiate between different instruments such as Spectrophotometer/Colorimeter as well as apply their knowledge of centrifugation in separation of pigments. They will also be able to predict genetic disorder through karyotyping and aberration studies.

CO7: Apply the knowledge to differentiate regions into different types of forests and their relevance to nature and mankind and also the economic aspects of the forest products and industrial and economic aspects of different plant-based products.

CO8: Classify plants according to the floral morphology and adaptations exhibited by the plants and economic importance of plant families

CO9: Implement the basic concepts in ecology of soil formation and its related factors and they will understand the concept of community ecology and be sensitized about the types of pollution and their impact on environment. with the help of case studies.

CO10: Analyse the strategies involved in gene cloning using different types of vectors as well as the role played by some important enzymes involved in recombinant DNA technology, sterilization and culturing techniques. This will have enhanced their research skills with the aid of projects.

CO11: Identifying and culturing techniques of microbes and apply in identify beneficial and pathogenic microbes. They will also be able to Understand different classes of bryophytes and also understand its evolutionary aspect and apply knowledge for its ecological significance.

CO12: Apply the knowledge of morphology in identification of plants as well as differentiate amongst various anomalies. they will also be able to apply their knowledge in pollen morphology in allergies as well as hybridization.

CO13: Summarize process of protein synthesis (transcription and translation) in both prokaryotes and eukaryotes and apply their physiological role in mechanism in secondary metabolites. They will also understand and comment on different methods of bioremediation and apply the knowledge to combat the major current day problem i.e. pollution.

CO14: Implement knowledge of column chromatography and apply the same for the separation of

specific plant metabolites depending on its properties and also the knowledge of biotechnology and bioinformatics to understand current research articles on most recent developments in recombinant DNA technology. They will also understand its applications in the field of evolutionary studies, medicine and forensic science the significance and construction of genomic, chromosomal and c- DNA libraries and will be able to differentiate between these.

CO15: Manage and operate nurseries as well as fruit and vegetable gardens in a profitable way and comment on different methods of quick and economical propagation of commercial crops with the help of production of new hybrid varieties for better. They will also understand the commercial and market demand of the composition of various manures and fertilizers, thus solve the common problems encountered with soil fertility by optimum use of environment friendly fertilizers and suggest control measures for pests and diseases.

CO16: Differentiate and compare between different classes of Pteridophytes, Gymnosperms and angiosperms as well comment on their morphological and anatomical characteristics.

CO17: Correlate, compare and differentiate between different types of processes, hormones and genetic mutations and aberrations. Also, they will be able to understand the threats and conserve biodiversity and combat environmental crisis through various methods.

CO18: Apply nanotechnology in various fields and also understand the properties and methods of extracting essential oils.

CO19: Suggest solutions in various intellectual property issues as well as adulteration. And also differentiate between nucleic acids and protein databases with various tools such as Bioinformatics

CO20: Implement entrepreneurial skills due to in-depth knowledge about crop cultivation & food preservation technology. The topic on landscape gardening will enlighten students about the importance of the need of space gardening and basic techniques involved in construction of different types of gardens.