



# **RANI CHANNAMMA UNIVERSITY**

VIDYASANGAMA, NATIONAL HIGHWAY-04,  
BELAGAVI-591156

- **PROGRAMME OUTCOMES(POs)**
- **PROGRAMME SPECIFIC OUTCOMES(PSOs)**
- **COURSE OUTCOMES(COs)**

## **DEPARTMENT OF BOTANY**

**(2019-20)**

DEPARTMENT OF BOTANY  
RANI CHANNAMMA UNIVERSITY, BELGAVI

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**Criteria 2.6.2**

• Attainment of Program Outcomes

Botanical knowledge – Use the knowledge of basic and applied botany to improve the methods in the fields of agriculture, horticulture, floriculture, nurseries, environmental and biodiversity conservation.

To understand the importance of the plants in maintaining all other life forms on this earth.

To address the problems in different fields, plant sciences and provide useful plant products to human life.

Applications – To produce new varieties of agricultural and economically important crops using plant breeding and plant tissue culture techniques.

• Program Specific Outcomes

- To discover new products like food and of medicinal importance from the plants, which is of prime important in this era.
- To practice modern techniques of biotechnology and tissue culture in crop improvement.
- To develop new disease resistant plant varieties.
- To apply and to pass on the knowledge of traditional Medicinal Botany.
- To develop the self-employment opportunities through Modern agriculture techniques, Hydroponics, Plant extract industries setting up of nurseries.

• Course Outcomes for each Semester and paper wise

Semester	Course Paper	Course Outcomes
Semester-1 Revised Syllabus	Course Paper I: Microbial Diversity	-Study the life cycle of microbes. -Disease caused by bacteria, viruses, fungi to plants and fungi. -Beneficial aspects of microbes. -To know the different growth forms of different microbes. -Photobionts and mycobionts of lichenized versus non-lichenized forms.
	Course Paper II: Biodiversity and	-levels of Biodiversity of life forms. -Endemism in western ghats, Biodiversity



	Conservation Biology	hotspots, -Biodiversity documentation assessment -Biodiversity database -Environmental laws -CITES, PBR, IPR, Biodiversity bill (2002).
	Course Paper III: Systematic Botany of Angiosperms	-Study of plant classification systems, artificial, natural and phylogenetic system. -Rules and principles of Binomial Nomenclature. -Tools of taxonomy -herbarium methods, floras, monographs, -Botanical survey of India, -use of Chemotaxonomy, cytotaxonomy, embryological in taxonomy.
	Course Paper IV: Evolutionary Biology & Plant Geography	Study of Origin of life forms, Endosymbiotic hypothesis, Lamarckism,-Neo Lamarckism Population genetics, patterns of evolution -plant distribution and plant migration, Theory of plant tectonics, continental drifts. -floristic regions of the world, age and area hypothesis.
Semester-2 Revised Syllabus	Course Paper I: Biochemistry and Bio-Physics	-Study of biochemical principles -study of nucleic acids, proteins, enzymes, -protein sequencing methods, -nucleic acids sequencing methods, -Hydrophobic index -Carbohydrate classification, structure and function -application of UV spectroscopy, CD Spectroscopy, NMR, GCMS, FTIR, LASER MASS spectroscopy in field of plant sciences.
	Course Paper II: Developmental Biology	-Developmental aspects of plant forms, -Study of cytological and histological aspects of leaf, flower development -Androgenesis and gynogenesis -Details of embryogenesis -study of seed development, seed dormancy.



	Course Paper III: Genetics and Plant Breeding	-Study of plant Genetics principles - Study of Sex determination mechanism in plant - Study of linkage and crossing over - Study of Genetic code -Plant breeding principles
	Course Paper IV: Open elective: Medicinal Plants	-To know the various categories of medicinal important plants. -Different herbal medicines extraction. -Study of phytochemicals. -Cultivation study of plants, - Studies of status of medicinal plant in India.
Semester-3 Old Syllabus	Course Paper I: Plant Physiology	-Applications of laws of thermodynamic. -Different Physiological process of plant body. -Role of Phytohormones in plant development. -Importance of nitrogen in maintain plant biochemical processes.
	Course Paper II: Cell Biology and Molecular Biology	-Understating of different tool and techniques used in cell and molecular biology like Microscopy, spectroscopy, chromatography. Centrifugation etc. -Detail mechanism of Molecular processes. -Disorders of plant and human due to chromosome aberrations.
	Course Paper III: Medicinal Plants & Herbal Drug Technology	Understand principles of the medicinal systems in India, Ayurveda, siddha, unani. Important medicinal plants used to treat human diseases. To study the techniques used in extraction of plant-based drugs.
	Course Paper IV: (Open elective) Plant Propagation Techniques	- Address the soil pollution and other issues, -Different plant propagation techniques. -Study and use of budding grafting cutting. -Study of vegetative and reproductive methods of plant propagation. -Study about different soil media.



Semester-4 Old Syllabus	Course Paper I: Mycology and Plant Pathology	Study of mycology and their life cycle. Growth habits of different fungi, Nutritional and biochemical aspects of fungi, Enzymes, antibiotics of fungal origin. Disease cycle of different pathogens Role of microbes in environment.
	Course Paper II: Ecology and Environmental Biology	Biodiversity structure Types of vegetation Role of each biotic and abiotic factor in environmental balance. Food chains, food web, energy flow. Remote sensing.
	Course Paper III: Plant Biotechnology	-Application of plant tissue culture -Industrial byproducts using microbes like vitamin, alcohol, antibiotic production. -Recombinant DNA technology. -Use of rDNA technique to produce disease resistance plants. Production of biofertilizers.
	Course Paper IV: Project work	-Students will be exposed to hands on and field work related work, which is directly related to skill component. -Students are extensively experienced botanical naming, finding new medicinal plant and agriculture product development project. -The skill gained and experienced are directly used for getting their self-employability, entrepreneurship and food and plant industries jobs.



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