

DEPARTMENT OF BOTANY
RAGHUNATH GIRLS' POST GRADUATE COLLEGE, MEERUT
B.Sc. (NEP 2020) Syllabus

Program Outcomes

S.No	Name of the Program	Year & Semester	Name of the paper taught (Theory/Practical)	Code
1.	B.Sc. (NEP) Ist Year	Ist Semester	Microbiology & Plant Pathology	B040101T
			Techniques in Microbiology & Plant Pathology	B040102P
		IInd Semester	Archegoniates & Plant Architecture	B040201T
			Land Plants Architecture	B040202P
	B.Sc. (NEP) IInd Year	IIIrd Semester	Flowering Plants Identification & Aesthetic Characteristics	B040301T
			Plant Identification technology	B040302P
		IVth Semester	Economic Botany, Ethnomedicine & Phytochemistry	B040401T
			Commercial Botany & Phytochemical Analysis	B040402P
	B.Sc. (NEP) IIIrd Year	Vth Semester	Plant Physiology, Metabolism & Biochemistry (Paper 1)	B040501T
			Molecular Biology & Bioinformatics (Paper 2)	B040502T
			Experiments in physiology, Biochemistry & molecular biology	B040503P
			Project-I	B040504R
		VIth Semester	Cytogenetics, Plant Breeding & Nanotechnology (Paper 1)	B040601T
			Ecology & Environment (Paper)	B040602T
Cytogenetics, Conservation & Environment management			B040603P	
Project-II			B040604R	

Programme outcomes

B.Sc. I Year / Certificate course in Microbial Technology & Classical Botany

This Programme imparts knowledge on various fields of plant biology through teaching, interactions and practical classes. It shall maintain a balance between the traditional botany and modern science for shifting it towards the frontier areas of plant sciences with applied approach. This syllabus has been drafted to enable the learners to prepare them for self-entrepreneurship and employment in various fields including academics as well as competitive exams. Students would gain wide knowledge in following aspects:

1. Diversity of plants and microbes, their habitat, morphology, architecture and reproduction.
2. Plant disease causing microbes, symptoms & control.
3. Economic value of plants and their use in Human Welfare.

Programme outcomes

B.Sc. II Year/ (Diploma in Plant Identification, Utilization & Ethnomedicine)

This course provides a broad understanding of identifying, growing and using plants. This course is primarily aimed to introduce people to the richness of plant diversity found in surrounding areas. Lecture sessions are designed to cover fundamental topics concerning classification of plants and their utilization required for understanding the flora and vegetation. Practical sessions are organized following theory for easy understanding of the various parts of the plants, structural organization of floral parts and diversity therein. Participants are taken to different locations covering a variety of habitats and forest types to acquaint them with the native flora. In the long run, will contribute towards building momentum for people's participation in environmental conservation without compromising on academic rigor and our rich wealth of knowledge inherited over generations.

1. The course will cover conventional topics in Field Botany like Evolutionary History & Diversity of plants, Complete Morphology, Nomenclature of plants, Systems of Classification, Keys to important Families of Flowering Plants, Field Data Collection & Herbarium Techniques.

The course is designed to become a commercial crop grower, florist, protected cultivator, green belt plant advisor to industries, pharmacologist & taxonomist.

Programme outcomes

B.Sc. III Year / Bachelor of Science

The learning outcomes of a three years graduation course are aligned with programme learning outcomes but these are specific to-specific courses offered in a program. The core courses shall be the backbone of this framework whereas discipline electives, generic electives and skill enhancement courses would add academic excellence in the subject together with a multi-dimensional and multidisciplinary approach.

1. Understanding of plant classification systematics, evolution, ecology, developmental biology, physiology, biochemistry, plant interactions with microbes and insects, morphology, anatomy, reproduction, genetics and molecular biology of various life-forms.
 2. This course is suitable to produce expertise in conservation biology like ex-situ conservation, response to habitat change, genotype characterization and reproductive biology.
 3. Understanding of various analytical techniques of plant sciences, use of plants as industrial resources or as a human livelihood support system and is well versed with the use of transgenic technologies for basic and applied research in plants.
 4. Understanding of various life forms of plants, morphology, anatomy, reproduction, genetics, microbiology, molecular biology, recombinant DNA technology, transgenic technology and use of bioinformatics tools and databases and the application of statistics to biological data.
 5. Entrepreneurship Skill Development, Understand the issues of environmental contexts and sustainable development, Inculcation of human values,
 6. Strengthen mathematical and computational skills. Enable students to use ICT & AI effectively.
 7. Develop good skills in the laboratory such as observation and evaluation by the use of modern tools and technology.
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