



Swarrnim Startup and Innovation University, Gandhinagar
Aarihant Ayurvedic Medical College and Research Institute
VALUE ADDED COURSE (2021-22)
Department of Dravyaguna Vigyan

Course name – Medicinal Plant Identification Technics

Organizing Department – Department of Dravyaguna Vigyan.

Course code – DGMPIT1

Course co-ordinators – Vd. Avinash Bholane & Vd. V. P. Aralikatti.

Duration – 30 hours

Date – 1st February 2021 to 31st March 2021

Preamble

Identifying medicinal plants accurately is crucial for ensuring their correct use in herbal medicine. Various techniques can be employed, ranging from traditional methods to modern scientific approaches. Medicinal plants have been an integral part of traditional medicine systems across the world. Understanding and identifying these plants is crucial for harnessing their therapeutic potentials. This course on Medicinal Plant Identification Techniques aims to equip participants with the knowledge and skills needed to identify medicinal plants accurately and use them effectively.

The popularity of traditional herb-based health systems has increased, making medicinal plants a profitable venture. By 2050, the global herbal commerce is predicted to have expanded to 7 trillion dollars from its current value of 120 billion dollars. Thus, there is a great chance to get attracted here. However, despite the challenges posed by rising demand, a rapidly growing human population, and widespread habitat degradation in plant-rich areas, no concerted effort has been made to ensure this. A decline in wild herb collection poses a challenge to the sector. Getting the greatest raw materials is one of the main issues the pharmaceutical business is currently dealing with. As a result, herb cultivation is increasingly necessary.

This course provides an in-depth understanding of medicinal plants, their identification, classification, and usage. It is designed for students, researchers, and enthusiasts interested in exploring the field of medicinal botany. The course combines theoretical knowledge with practical skills, ensuring participants can confidently identify and utilize medicinal plants.

Aims

- To provide comprehensive knowledge on medicinal plants and their uses.
- To develop practical skills in identifying medicinal plants.
- To promote the conservation and sustainable use of medicinal plant resources.

Objectives

- Understand the historical and cultural significance of medicinal plants.
- Learn the botanical characteristics of major medicinal plant families.
- Develop the ability to use identification keys and field guides.
- Gain practical experience in identifying medicinal plants in various habitats.
- Understand the ethical considerations and legal aspects of using medicinal plants.

Content of the course

Theory

Sr. No.	Module	Duration
1.	Module 1: Introduction to Medicinal Plants - History and importance of medicinal plants. - Overview of traditional medicine systems - Role of medicinal plants in modern medicine.	02 hours
2.	Module 2: Botanical Basics - Basic plant anatomy and physiology. - Major plant families with medicinal properties. - Plant taxonomy and nomenclature.	02 hours
3.	Module 3: Identification Techniques - Morphological characteristics for plant identification. - Use of dichotomous keys and field guides. - Digital tools and apps for plant identification.	04 hours
4.	Module 4: Habitat and Ecology - Different habitats of medicinal plants. - Factors affecting plant growth and distribution. - Conservation of medicinal plants and sustainable harvesting practices.	02 hours
5.	Module 5: Practical Applications - Case studies of commonly used medicinal plants. - Preparation and use of herbarium specimens.	02 hours

	- Ethical and legal considerations in the use of medicinal plants.	
	Total hours	12 hours

Practical

Sr. No.	Module	Duration
1.	Practical 1: Plant Morphology and Anatomy - Study of plant parts (leaves, stems, roots, flowers). - Identification of key morphological features.	02 hours
2.	Practical 2: Use of Identification Keys - Hands-on practice with dichotomous keys. - Identification of unknown plant samples.	02 hours
3.	Practical 3: Field Trips - Visits to local botanical gardens, forests, and conservation areas. - Identification of medicinal plants in their natural habitats.	04 hours
4.	Practical 4: Herbarium Techniques - Collection, pressing, and preservation of plant specimens. - Preparation and maintenance of a personal herbarium.	01 hours
5.	Practical 5: Digital Tools for Plant Identification - Introduction to plant identification apps and software. - Practical sessions using digital tools in the field.	01 hours
6.	Practical 6: Microscopic Identification - Microscopy basics: types and uses - Microscopic features of medicinal plants - Preparing and examining slides	02 hours
7.	Practical 7: Chemical Analysis for Plant Identification - Phytochemical screening techniques - Chromatography and spectroscopy methods - Interpreting chemical profiles	03 hours
8.	Practical 8: Molecular Techniques in Plant Identification - DNA barcoding and its applications - PCR and sequencing methods - Molecular markers and genetic fingerprinting	03 hours
	Total hours	18 Hours

- **Teaching aids**

Didactic Lectures, AV class, Demonstration & Hands on training.


- **Assessment criteria**

Assessed for Knowledge, Skills, Attitude, Written Activity, Comprehension, and Questionnaire.

- **Eligibility Criteria**

Medical Students – UG, PG students of BAMS.




Principal
Aarohit Ayurvedic Medical
College and Research Institute