



THE NATIONAL COLLEGE
BASAVANGUDI, BANGALORE-560004
[AUTONOMOUS]
DEPARTMENT OF BOTANY

MEDICINAL PLANTS

Duration: 30 Hours

Course code: BT-MP

Course Description:

The Medicinal Plants course provides students with a comprehensive understanding of the botany, cultivation, and applications of medicinal plants. Through theoretical lectures, field visits, laboratory demonstrations, and hands-on activities, students will explore the diversity of medicinal plants, their active compounds, cultivation techniques, and therapeutic uses. Emphasis will be placed on sustainable cultivation practices, traditional knowledge, modern research methodologies, and the integration of medicinal plants into healthcare systems.

Course Objectives:

1. Understand the diversity and classification of medicinal plants.
2. Gain knowledge of the phytochemistry and pharmacology of medicinal plants.
3. Learn cultivation techniques for growing medicinal plants sustainably.
4. Explore traditional and modern uses of medicinal plants in healthcare.
5. Develop skills in identifying, harvesting, processing, and storing medicinal plants.
6. Understand regulatory and ethical considerations in the use of medicinal plants.

Module 1:

7 Hours

Introduction to Medicinal Plants

- Definition and classification of medicinal plants
- Historical perspective and cultural significance
- Importance of medicinal plants in traditional and modern medicine

Phytochemistry of Medicinal Plants

- Active compounds in medicinal plants (e.g., alkaloids, flavonoids, terpenoids)
- Methods for extraction, isolation, and characterization of phytochemicals
- Pharmacological properties and therapeutic effects
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Module 2.

7 Hours

Cultivation Techniques for Medicinal Plants

- Selection of plant species and varieties for cultivation
- Soil preparation, planting, and irrigation methods
- Integrated pest management and disease control strategies

Sustainable Harvesting and Wildcrafting

- Ethical harvesting practices for wild medicinal plants
- Guidelines for sustainable wildcrafting and conservation
- Cultivation as an alternative to wild harvesting



Module 3.	8 Hours
<p>Traditional and Modern Uses of Medicinal Plants</p> <ul style="list-style-type: none"> • Overview of traditional medicine systems (e.g., Ayurveda, Traditional Chinese Medicine) • Evidence-based uses of medicinal plants in modern healthcare • Case studies of medicinal plants used in the treatment of specific diseases <p>Processing and Storage of Medicinal Plants</p> <ul style="list-style-type: none"> • Post-harvest handling and processing techniques • Drying, grinding, and extraction methods • Packaging, labeling, and storage considerations 	
Module 4:	8 Hours
<p>Medicinal Plant Conservation and Biodiversity</p> <ul style="list-style-type: none"> • Threats to medicinal plant biodiversity • Conservation strategies and initiatives • Role of botanic gardens and seed banks in preserving medicinal plant species <p>Medicinal Plant Research and Innovation</p> <ul style="list-style-type: none"> • Research methodologies in medicinal plant sciences • Biotechnological approaches for improving plant traits and yields • Innovations in the development of herbal medicines and phytopharmaceuticals 	
<p>Recommended Textbooks:</p> <ul style="list-style-type: none"> • "Medicinal Plants: Chemistry, Biology and Omics" edited by Mohammad Faisal and Alpesh K. Sharma • "The Complete Guide to Medicinal Herbs: An Illustrated, Scientific and Medicinal Approach" by Penelope Ody • "Medicinal Plants: A Comprehensive Guide to Their Pharmacology and Therapeutics" by Joanne Barnes, Linda A. Anderson, and J. David Phillipson 	

