



Shiksha Mandal's

Bajaj College of Science, Wardha (Autonomous)

Department of Botany



Certificate Course in Herbs and Herbal Products

Specifications of Course

a) Nature	Certificate Course
b) Number of Credits	2
c) Duration	2 Months (30 Hrs.)
d) No. of students to be admitted	30-40
e) Proposed Fee	1000

Course Description: To acquaint and equip the students with the fundamental concepts of herbal sciences and developing technologies.

Course Objectives:

- To equip students with strong fundamentals in subject domain knowledge.
- Students can explore the cutting-edge technologies and skills currently used in Herbal science and technology.
- To spread awareness of social, environmental issues and significance of subject for natural societal benefit.
- To create interest and awareness about natural herbal products so that students can save natural resources.

Course learning outcomes:

The course will enable students skilled in various modern analytical techniques, fundamentals of pharmacognosy and herbal drug technology.

Syllabus

Unit 1: Introduction to Herbal Sciences

- 1.1 Historical Background, Present Status, and Scope of Herbal Science
- 1.2 Medicinal Botany and Folklore Medicine
- 1.3 Introduction, History and Basic Doctrine of Ayurveda

Unit 2: Phytochemistry and Pharmacognosy

- 2.1 History, Scope, and Importance of Phytochemistry
- 2.2 Classification and General uses of Phytochemicals
- 2.3 Phytochemical extract methods; Solvent extraction method; Factors to be considered while solvent extraction.
- 2.4 Common methods of extraction of medicinal plants; Maceration, Infusion, Digestion, Decoction; Percolation, Soxhlet extraction; Microwave-assisted extraction; Ultrasound-assisted extraction

Unit 3: Introduction to Herbal Drug

- 3.1 Herbal drug- Definition
- 3.2 Importance of herbal drugs and herbal therapies
- 3.3 Herbal versus conventional drugs
- 3.4 Safety and Toxicity of herbal drugs

Unit 4: Medicinal and Aromatic plants:

- 4.1 Definition, history, importance, and scope
- 4.2 Status of medicinal plants in the world and India
- 4.3 Medicinal plant diversity and local healthcare

Unit 5: Drug Adulteration

- 5.1 Adulteration and Adulterants
- 5.2 Causes and types of adulteration
- 5.3 Types of Adulterants
- 5.4 Adulteration and substitution in some common drug powders- Kumkum (*Crocus sativus*), Haridra (*Curcuma longa*), Hing (*Ferula asafoetida*), Guggul (*Comiphora mukul*), Sarja (*Vateria indica*), Salai (*Boswellia serrata*)

Unit 6: Drug Evaluation

- 6.1 Morphological, Organoleptic, Macroscopic and Microscopic Evaluation
- 6.2 Physical, Chemical, and biological evaluation; Evaluation using chromatography / Spectroscopy.
- 6.3 Pharmacopeial standards: Structural standards, Physical standards, Chemical standards
- 6.4 WHO guidelines for the assessment of Crude drugs

Mode of Teaching:

The theory lectures and practicals of the course will be conducted via online mode and Hands-on via offline mode.

Certificate of completion:

The students appearing for the final exam will only be eligible for the certificate of completion at the end of the course.