

**P.G. DEPARTMENT OF BOTANY
CLUSTER UNIVERSITY SRINAGAR**

**Syllabus for SEM-I of four-year undergraduate programme in light of NEP-2020
in constituent and affiliated colleges of Cluster University Srinagar
To be implemented from 2022 onwards**

Semester-I

Title: Plants in human welfare

Multidisciplinary

Subject: Botany (Multidisciplinary)

Code- UGBOT22D102

Number of credits: 03

Objectives: The principal objective of this course is to impart preliminary knowledge of plants, among the learners of all disciplines, that will prove useful in all walks of life

Learning outcomes: By the end of the session a student must be able to explain basic features of plants, human-plant relationship, significance of plants in relation to human welfare.

UNIT-I Plants, wood and food

(15 hours)

Morphology of plants- root, stem (and their modifications), leaves and flowers.

Fruits- Definition and types.

Wood- Different types of wood (porous and non-porous wood; heart wood and sapwood).

Plants as sources of food: Plants as sources of protein, carbohydrate and dietary fibres. Important cereals (rice) and pulses (*Phaseolus*).

UNIT-II: Plants in Industry

(15 hours)

Industrially and commercially important plants and their products- paper, rubber, cane, spices (*Curcuma*, *Cinnamomum*, *Zingiber*, *Crocus*), beverages (tea) and sugar.

General idea about application of plants in horticulture (apple, pear, peach); floriculture (cut flowers) and cosmetic industry (*Aloe vera*)

Unit-III: Medicinal and Aromatic plants

(15 hours)

General idea about medicinal and aromatic plants of Kashmir.

Medicinal plants- morphology, part(s) used, active principle(s) and medicinal uses of *Dioscorea*, *Podophyllum* and *Artemisia*

Aromatic plants- Morphology, part used and economic uses of Rosemary, Lavender, Mint

Suggested Readings

01. Kochhar S.L. (2016). Economic Botany – A Comprehensive Study (5th Ed). Cambridge English.
02. Peter Tompkins · Christopher Bird. (2020) The Secret Life of Plants: A Fascinating Account of the Physical, Emotional, and Spiritual Relations Between Plants and Man. Audiobook.
03. Edwin T. (2021). Economic Botany of the Himálayan District. Atlantic Publishers.
04. Sambamurty A.U. (2020). A Text Book of Modern Economic Botany. CBS.
05. Dover W. Jhon (2015) Green Infrastructure. ISBN-13 - 978-0415521246.