



SOURASHTRA COLLEGE, MADURAI – 625004

(An Autonomous Institution Re-accredited with 'B+' grade by NAAC)

BOTANY – SYLLABUS

(Under CBCS based on OBE) (with effect from 2021 – 2022)

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COURSE STRUCTURE – III & IV SEMESTER

CATEGORY: NON MAJOR ELECTIVE (NME)

Part	Course/ Year	Semester	Title of the Paper	Subject Code	Duration	Credits
IV	UG / II NME	III (T)	Medicinal Botany	21UBYN31	30 Hours (2 Hours/Week)	2
IV	UG / II NME	IV (T)	Horticulture and Economic botany	21UBYN41	30 Hours (2 Hours/Week)	2

COURSE STRUCTURE – III SEMESTER

Subject Code	Subject Title	Hrs./ Week	Exam (Hrs.)	CA	SE	Total Marks	Credits
21UBYN31	MEDICINAL BOTANY	2	3	25	75	100	2

CA – Class Assessment (Internal)

SE – Summative Examination

NME – Non –Major Elective

T – Theory

P – Practical



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COURSE CODE	COURSE TITLE	CATEGORY	T	P	CREDITS
21UBYN31	MEDICINAL BOTANY	NME – 1	2	–	2

YEAR	SEMESTER	INTERNAL	EXTERNAL	TOTAL
II	III	25	75	100

NATURE OF COURSE	Employability <input checked="" type="checkbox"/>	Skill Oriented <input checked="" type="checkbox"/>	Entrepreneurship <input checked="" type="checkbox"/>
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COURSE DESCRIPTION:

This course helps to understand the potentiality and significances of medicinal plants.

COURSE OBJECTIVE:

To understand the importance of herbals.

COURSE OUTCOMES (COs):

After the completion of the course, the students will be able to

No.	Course Outcomes	Knowledge Level (According to Bloom's Taxonomy)
CO 1	know about the traditional systems of medicine	Upto K3
CO 2	recognize the basic medicinal plants	Upto K3
CO 3	understand the chemical constituents of the medicinal plants	Upto K3
CO 4	get an idea about processing of medicinal plants	Upto K3
CO 5	understand the conservation strategies of medicinal plants	Upto K3

K1– KNOWLEDGE (REMEMBERING), K2–UNDERSTANDING, K3–APPLY



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MEDICINAL BOTANY

UNIT – I: Traditional Indian system of medicines (TISM)

Introduction- Traditional Indian system of medicines (TISM); Medicinal plants- Definition, scope and importance, Role of State and National Medicinal Plants Board (NMPB). Overview of Medicinally important Plant parts: Fruits, Leaves, Stem and Roots.

UNIT – II: Plant collection and identification

Plant collection and identification – Importance and Elementary knowledge of Binomial nomenclature – Outline of Bentham and Hooker classification – Herbarium techniques.

UNIT – III: Description of the Medicinal Plants

A very brief knowledge about the following medicinal plants (Vernacular names, Botanical name, family, useful parts, important medicinal uses and active constituents):- *Aegle marmelos* (Vilvam), *Ocimum tenuiflorum* (Thulasi), *Phyllanthus emblica* (Nelli), *Withania somnifera* (Amukkara kilangu), *Andrographis paniculata* (Nila vembu).

UNIT – IV: Cultivation and Processing of medicinal plants

Cultivation of medicinal plants (Nursery, Manuring, irrigation, harvesting, economics): *Phyllanthus amarus* (Kella nelli) and *Cassia angustifolia* (Senna).

Processing of medicinal plants: A brief outline of isolation of active principles (Drying, maceration and extraction) and Identification by chemical (spot) test for alkaloids, flavonoids, terpenoids and steroids.

UNIT – V: Conservation of Medicinal Plants

Endangered Plants – Conservation: *Exsitu* and *Insitu* methods – Importance of Red data book (IUCN) – Patenting and Intellectual Property Rights (IPR).

TEXT BOOKS:

1. Panda, H. 2002, *Herbs cultivation and medicinal uses* (2nd Edition). NIIR publication, Delhi.
2. Wallis, T.E. 1985, *Text Book of Pharmacognosy*, CBS Publishers and Distributors, New Delhi.
3. National Medicinal Plants Board (NMPB). 2004. Cultivation of selected medicinal plants. NISCAR, New Delhi.

COURSE DESIGNER: Dr. M. VENKATESAN

Passed in the BOS Meeting held on 19/03/2022

Signature of the Chairman



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COURSE STRUCTURE – IV SEMESTER

S. No.	Subject Code	Subject Title	Hrs. / Week	Exam (Hrs.)	CA	SE	Total Marks	Credits
1	21UBYN41	HORTICULTURE AND ECONOMIC BOTANY	2	3	25	75	100	2

COURSE CODE	COURSE TITLE	CATEGORY	T	P	CREDITS
21UBYN41	HORTICULTURE AND ECONOMIC BOTANY	NME – 2	2	–	2

YEAR	SEMESTER	INTERNAL	EXTERNAL	TOTAL
II	IV	25	75	100

NATURE OF COURSE	Employability	Skill Oriented	Entrepreneurship
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

COURSE DESCRIPTION:

To acquire basic knowledge, skills and creating interest among the students as entrepreneurs in the field of Horticulture

COURSE OBJECTIVES:

- To provide the basic knowledge of horticulture.
- To learn the methods of propagation and gardening techniques.
- To know the economically important plants in day to day life.

COURSE OUTCOMES (COs):

After the completion of the course, the students will be able to

No.	Course Outcomes	Knowledge Level (According to Bloom's Taxonomy)
CO 1	acquire knowledge about the fundamental aspects of Horticulture and its various branches	Upto K3
CO 2	comprehend the various categories of gardens	Upto K3
CO 3	apply the acquired knowledge over the essential requirements of garden making and maintenance	Upto K3
CO 4	understand the scope and significances of plants	Upto K3
CO 5	get an idea about scope of plants	Upto K3

K1– KNOWLEDGE (REMEMBERING), K2–UNDERSTANDING, K3–APPLY

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HORTICULTURE AND ECONOMIC BOTANY

Horticulture

UNIT – I: Divisions of Horticulture

Horticulture- Definitions and importance, a brief account of olericulture, floriculture, pomology. Vegetative propagations-cuttage (stem), graftage (approach), Layerage (simple and compound), and the advantages and disadvantages.

UNIT – II: Gardening

Garden implements, Garden and Gardening- Basic techniques of pruning and training, designing of formal and informal garden, Parts of a garden (Hedge, Edge, Arches and miniature Rockery), Maintenance of Lawn.

UNIT – III: Indoor Gardening

Layout of kitchen garden and mention the vegetable crops. Indoor gardening- Hanging baskets, terrace garden (Roof garden) and bonsai.

Economic Botany

UNIT – IV: Food yielding plants

Botanical and family name, Morphology of useful parts and economic importance of the following plants: **Cereals**-Rice, Wheat; **Pulses**-Green gram; **Oil**- Groundnut; **Beverages** – coffee.

UNIT – V: Plants of Commercial importance

Beverages – Coffee; **Fibre**- Cotton; **Latex**- Rubber; **Wood**- Teak and Sandal.

TEXT BOOKS:

1. Rao, K.M.1991, *Text book of Horticulture*, Mac Millan India Ltd., New Delhi.
2. Bendre and Kumar, A. 1998, *Economic Botany*, Rastogi Publications, Meerut.

REFERENCE BOOKS:

1. Kumar, N. 1999, *Introduction to Horticulture*, Rajalakshmi Publications, Nagerkoil, Tamil Nadu.
2. Pandey, B.P. 2012, *Economic Botany*, S.Chand & Company Ltd., New Delhi.
3. Kochhar, S.L. 1995, *Economic Botany in the Tropics*, Macmillan India Ltd., Delhi.
4. Sambamurthy, A.V.S.S. and N.S. Subramanyam. 1989, *A Text Book of Economic Botany*, Wiley – Eastern Ltd., New Delhi.

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