

R. E. Society's
**R. P. Gogate College of Arts & Science and
R. V. Jogalekar College of Commerce
(Autonomous), Ratnagiri**



**Department of Botany
UG Programme 2024-25**

**Syllabus for F. Y. B. Sc. I.T. (O.E.)
Semester I and II**

Under Choice Based Credit System (CBCS)

**R. P. Gogate College of Arts and Science and R. V. Jogalekar College of Commerce
(Autonomous), Ratnagiri
Board of Studies in Botany
Syllabus for F. Y. B. Sc. I.T. OE (Open Elective) effective from the year 2024-25**

Nomenclature of	OE: Plants in human welfare - Medicinal plants	
Class	F.Y.B.Sc. IT	
Semester	01	
Course Code	USOEBOT101	
No. of Credits	02	
Nature	Theory	
Type	OE (Open Elective)	
Course Outcomes:		
Students will be able to understand :-		
CO1 :The utility of plants as medicines		
CO2 :The preparation of basic herbal medicinal products		
CO3 : The idea of cultivation practices		
CO4 :The storage, packaging and marketing of herbal medicines		
CO5 :To understand the morphology and use of prescribed plant and plant products		
Syllabus:		
Unit No.	Unit Title	Subtitles (Learning Points)
1	Introduction of Medicinal Plants	<ul style="list-style-type: none"> ● Introduction to Medicinal plants ● Identification of plants ● Plant parts used ● Propagation practices ● Conservation of Medicinal plants
2	Phytochemical constituents – General aspects	<ul style="list-style-type: none"> ● Chemical constituents – Secondary metabolites ● Extraction of constituents / decoction / drying ● Adulteration and substitutuion
3	Use of medicinal plants	<ul style="list-style-type: none"> ● Medicinal properties of the following plants: ● Gum: <i>Acacia catechu</i> ● Rhizome: <i>Curcuma longa, Acorus calamus</i> ● Roots: <i>Holarrhena pubescens, Rauwolfia serpentina</i> ● Fruits: <i>Terminalia chebula, Terminalia belerica, Phyllanthus emblica</i> ● Bark: <i>Termialia arjuna, Azadirachta indica</i>
4		Educational visit to herbal medicine factory/small processing unit/ medicinal agriculture field and submission of project report. (At least 01)

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Prescribed Text/s (If any):

1. Hand Book of Ayurvedic Medicines, National Institute of Industrial Research, Delhi 7 Panda H.
2. CSIR – Cultivation and Utilization of Medicinal Plants
3. *Ayurved ka Pran: Vanoshadhi vigyan* by Brahmvarchas, Vedmata Gayatri Trust, Shaktikunj Haridwar 2004
4. Herbal Drug Industry, Chaudhry R. D., Eastern Publication
5. Cultivation and Utilization of Medicinal Plants, Atal and Kapoor, RRL Jammu Tavi. 1982
6. Natural Products: A Lab Guide, Raphael Ikan, Academic Press, 1991, 2nd edition
7. An Introduction to Medicinal Plants, Dutt Ashwin, Adhyayan Publishers and distributors, 2009, 1st edition

Teaching Plan:

Unit No.	Unit Title	Teaching Methods	No. of Lectures
1	Introduction of Medicinal Plants	Chalk and talk, AV method	08
2	Phytochemical constituents – General aspects	Chalk and talk, AV method	08
3	Use of medicinal plants	Chalk and talk, AV method	08
4	Field visit		06

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Nomenclature of the Course	OE: Plants in human welfare - Medicinal plants	
Class	FY.B.Sc. I.T.	
Semester	02	
Course Code	USOEBOT201	
No. of Credits	02	
Nature	Theory	
Type	OE(Open Elective)	
Course Outcomes:		
Students will be able to understand :-		
CO1 :The phytochemical aspects of prescribed medicinal plants.		
CO2 :The pharmacological aspects of prescribed medicinal plants.		
CO3 : The medicinal uses of prescribed medicinal plants.		
CO4 :The sources and medicinal uses of prescribed plants.		
CO5 : Various Traditional Systems of Medicine in In India and their importance		
CO6 : The concept of Intellectual Property Rights and their significance in protection of indigenous medicine systems.		
Syllabus:		
Unit No.	Unit Title	Subtitles (Learning Points)
1	Phytochemistry and Pharmacology	Phytochemical and Pharmacological aspects and uses of following medicinal plants: <ul style="list-style-type: none"> ● <i>Bacopa monnieri</i>, ● <i>Centella asiatica</i>, ● <i>Curcuma longa</i>, ● <i>Momordica charantia</i>, ● <i>Ocimum sanctum</i>,
2	Important Indian Medicinal Plants	<ul style="list-style-type: none"> ● Plant parts used as source of powder: Identification and utilization of Halad (<i>Curcuma longa</i>), Lasun (<i>Allium sativum</i>), Jambhul (<i>Syzygium cumini</i>), Methi (<i>Trigonella foenumgraecum</i>), Dalchini (<i>Cinnamomum verum</i>), Kali miri (<i>Piper nigrum</i>), ● Plant parts used as source of juice/ decoction: Identification and utilization of Aale (<i>Gingiber officinalis</i>), Tulas (<i>Ocimum sanctum</i>), Kadu Nimb (<i>Azadirachta indica</i>), Korphad (<i>Aloe vera</i>), Bel (<i>Aegle marmelos</i>)
3	Traditional System	● Traditional System of Medicine (TSM) in India.

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	of Medicine & Intellectual Property Rights	Introduction, Concept and Principles of Ayurveda, Siddha, Importance of TSM; Concept and Principles of Naturopathy and Tibetan Medicine; Concept of herbalism and its significance. Introduction to phyto-medicines and herbal raw materials. Local health traditions, ethnomedicines. ● Intellectual property rights and TSM
4		Educational visit to herbal medicine factory/small processing unit/ medicinal agriculture field and submission of project report. (At least 01)
<p>Prescribed Text/s (If any):</p> <ul style="list-style-type: none"> ● Hand Book of Ayurvedic Medicines, National Institute of Industrial Research, Delhi 7 Panda H. ● CSIR – Cultivation and Utilization of Medicinal Plants ● <i>Ayurved ka Pran: Vanoshadhi vigyan</i> by Brahmvarchas, Vedmata Gayatri Trust, Shaktikunj Haridwar 2004 ● Herbal Drug Industry, Chaudhry R. D., Eastern Publication ● Cultivation and Utilization of Medicinal Plants, Atal and Kapoor, RRL Jammu Tavi. 1982 ● Natural Products: A Lab Guide, Raphael Ikan, Academic Press, 1991, 2nd edition ● An Introduction to Medicinal Plants, Dutt Ashwin, Adhyayan Publishers and distributors, 2009, 1st edition 		

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Teaching Plan:			
Unit No.	Unit Title	Teaching Methods	No. of Lectures
1	Phytochemistry and Pharmacology	Chalk and talk, AV method	08
2	Important Indian Medicinal Plants	Chalk and talk, AV method	08
3	Traditional System of Medicine & Intellectual Property Rights	Chalk and talk, AV method	08
4	Field visit		06

Evaluation Pattern

A) Continuous Internal Evaluation: Maximum Marks: 20 marks

Method	Marks
Project based on theory	10 marks
Internal evaluation test	10 marks

B) Semester End Examination: Maximum Marks: 30 marks

Evaluation Pattern

Question No. and Sub questions	Unit and sub unit (with number and title)	Type of Question	Marks
1 A	I	Long answer questions (Any 1 out of 2)	06
1 B	I	Answer in brief (Any 1 out of 2)	04
2 A	II	Long answer questions (Any 1 out of 2)	06
2 B	II	Answer in brief (Any 1 out of 2)	04
3A	III	Long answer questions (Any 1 out of 2)	06
3 B	III	Answer in brief (Any 1 out of 2)	04

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Evaluation Pattern

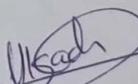
C) Continuous Internal Evaluation: Maximum Marks:40 marks

Method	Marks
Field report/ Assignments	20 marks
Internal evaluation test	20 marks

**D) Semester End Examination: Maximum Marks: 60
Evaluation Pattern**

Question No. and Sub questions	Unit and sub unit (with number and title)	Type of Question	Marks
1 A	All units	MCQ	15
2 A	I	Long answer questions (Any 1 out of 2)	10
2 B	I	Answer in brief (Any 1 out of 2)	05
3 A	II	Long answer questions (Any 1 out of 2)	10
3 B	II	Answer in brief (Any 1 out of 2)	05
4A	III	Long answer questions (Any 1 out of 2)	10
4 B	III	Answer in brief (Any 1 out of 2)	05

Date: 16/04/24
Place: Ratnagiri


Signature

Chairperson and HoD