

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. and F.Y.B.A.
Semester I and II**

**R. P. Gogate College of Arts and Science and R. V. Jogalekar College of Commerce
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Syllabus for F. Y. B. Sc. And F.Y.B.A(O.E.) effective from the year 2024-25**

Under Choice Based Credit System (CBCS)

Name of Programme	B. Sc. and B.A.
Level	UG
No of Semesters	06
Year of Implementation	2024-25
Programme Specific Outcomes (PSO)	Students will be able to 1. Cultivate the medicinal plants. 2. Set up a nursery of medicinal plants. 3. Start sales and marketing of herbal medicines. 4. Process prescribed medicinal plants and their parts.
Relevance of PSOs to the local, regional, national, and global developmental needs (200 words)	The students, after completion of the course will be able to understand the need of medicinal plant knowledge for sustainable development. The students will be able to promote the importance of prescribed medicinal plants. Students will be able to analyze the local and regional use of medicinal plants. It will inculcate skill regarding the cultivation of medicinal plants.

The performance of the learners shall be evaluated into two parts. The learner's performance shall be assessed by Internal Assessment with 40% marks in the first part and by conducting the

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Semester End Examinations with 60% marks in the second part. **The allocation of marks for the Internal Assessment and Semester End Examinations are as shown below-**

A) Internal Assessment: 40 % (40 Marks)

Sr. No.	Particulars	Marks
1.	One Periodical Class Test / Online Examination	20
2.	Assignments	20
	Question Paper Pattern for Periodical Class Test/ Online Examination: Maximum Marks: 20 Duration: 40 Minutes Long answer questions/ Multiple Choice Questions	

B) Semester End Examination: 60% (60 Marks)

Duration: The examination shall be of 2 hour duration. Question Paper Pattern

1. There shall be three questions.
2. All questions shall be compulsory with internal options.
3. Questions may be subdivided into sub-questions a, b, c... and the allocation of marks depends on the weightage of the unit.

Standard of Passing

The learner to pass a course shall have to obtain a minimum of 40% marks in aggregate for each course where the course consists of Internal Assessment and Semester End Examination. The learner shall obtain minimum of 40% marks (i.e. 16 out 40) in the Internal Assessment and 40% marks in Semester End Examination (i.e. 24 out of 60) separately, to pass the course and minimum of Letter Grade “P” in the project component, wherever applicable to pass a particular semester. A learner will be said to have passed the course if the learner passes the Internal Assessment and Semester End Examination together.

Performance grading

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Letter grades and grading points:

Semester GPA / Program CGPA Semester/Program	% of Marks	Alpha-Sign/Letter Grade Result
9.00-10.00	90.0-100	O (Outstanding)
8.00 ≤ 9.00	80.0 ≤ 90.0	A+ (Excellent)
7.00 ≤ 8.00	70.0 ≤ 80.0	A (Very Good)
6.00 ≤ 7.00	60.0 ≤ 70.0	B+ (Good)
5.50 ≤ 6.00	55.0 ≤ 60.0	B (Above Average)
5.00 ≤ 5.50	50.0 ≤ 55.0	C (Average)
4.00 ≤ 5.00	40.0 ≤ 50.0	P (Pass)
Below 4.00	Below 40	F (Fail)
Ab (Absent)	-	Absent

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Nomenclature of the Course	OE:Medicinal plants of konkan- I
Class	F.Y.B.Sc. and F.Y.B.A.
Semester	01
Course Code	USOEBOT101
No. of Credits	04
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	Sub titles (Learning Points)
1	General aspects of Medicinal Plants	<ul style="list-style-type: none"> ● Introduction to Indian system of medicine ● Morphology of a flowering plant ● Introduction to plant parts used in medicine: root, stem, leaves, bark, flowers, fruit, seeds, etc. ● Cultivation and harvesting practices. ● Role in human health. ● Contribution of national research laboratories like CDRI, CIMAP, NBRI, etc in medicinal plant research.
2	Introduction of medicinal plants found in Konkan	<ul style="list-style-type: none"> ● Cultivation practices, chemical composition, extraction, and uses of Medicinal plants:- <i>Catharanthus roseus</i>, <i>Aloe vera</i>, <i>Ocimum sanctum</i>, <i>Piper longum</i>, <i>Cymbopogon citratus</i>, <i>Rauwolfia serpentina</i>, <i>Tinospora cordifolia</i>, <i>Strychnos nuxvomica</i>, <i>Acorus calamus</i>, <i>Curcuma longa</i>, <i>Garcinia indica</i>, <i>Plumbago zeylanica</i>, <i>Abrus precatorius</i>, <i>Hemidesmus indicus</i>, <i>Holarrhena pubescens</i>.
3	Use of medicinal plants	<ul style="list-style-type: none"> ● Plant Parts Used as source of Lotion and Ointments: Identification and utilization of Korphad (<i>Aloe vera</i>), Methi (<i>Trigonella foenumgraecum</i>), Zendu (<i>Calendula officinalis</i>), Kadu Nimb (<i>Azadirachta indica</i>) ● Plant Parts Used as source of Oil: Lavang (<i>Syzygium aromaticum</i>), Kadu Nimb (<i>Azadirachta indica</i>), Naral (<i>Coccus nucifera</i>), Nilgiri (<i>Eucalyptus</i> sp.) ● Plant Parts Used as source of Surgical Fibres, Sutures

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		and Dressings: Identification and utilization of Kapus (<i>Gossypium</i> sp.), Jute (<i>Corchorus capsularis</i>), Bana (<i>Musa</i> sp.)
4		Educational visit to herbal medicine factory/small processing unit/ medicinal agriculture field and submission of project report. (At least 01)

Prescribed Text/s (If any):

- Hand Book of Ayurvedic Medicines, National Institute of Industrial Research, Delhi 7 Panda H.
- CSIR – Cultivation and Utilization of Medicinal Plants
- *Ayurved ka Pran: Vanoshadhi vigyan* 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

Teaching Plan:

Unit No.	Unit Title	Teaching Methods	No. of Lectures
1	General aspects of Medicinal Plants found in konkan	Chalk and talk, AV method	18
2	Morphology and introduction of medicinal plants	Chalk and talk, AV method	18
3	Use of medicinal plants	Chalk and talk, AV method	18
4	Field visit		06

Evaluation Pattern

A) Continuous Internal Evaluation: Maximum Marks:40 marks

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

B) 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

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Nomenclature of the Course	OE:Medicinal plants of konkan - II	
Class	FY.B.Sc.	
Semester	02	
Course Code	USOEBOT20	
No. of Credits	04	
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 work with individual plant and plant products		
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>Andrographis paniculata</i>, ● <i>Bacopa monnieri</i>, ● <i>Centella asiatica</i>, ● <i>Curcuma longa</i>, ● <i>Momordica charantia</i>, ● <i>Ocimum sanctum</i>, ● <i>Phyllanthus niruri</i>, ● <i>Tinospora cordifolia</i> ● <i>Withania somnifera</i> .
2	Important Indian Medicinal Plants	<ul style="list-style-type: none"> ● Plant parts used as source of powder: Identification and utilization of Avala (<i>Embelica officinalis</i>), Behada (<i>Terminalia bellerica</i>), Hirada (<i>Terminalia chebula</i>), Halad (<i>Curcuma longa</i>), Lasun (<i>Allium sativum</i>), Karale (<i>Momordica charantia</i>), Jambhul (<i>Syzygium cumini</i>), Methi (<i>Trigonella foenumgraecum</i>), Dalchini (<i>Cinnamomum verum</i>), Sarp Gandha (<i>Rauwolfia serpentina</i>), Kali miri (<i>Piper nigrum</i>), Ashwagandha (<i>Withania somnifera</i>), Isabgol (<i>Plantago ovata</i>) ● Plant parts used as source of juice/ decoction: Identification and utilization of Avala (<i>Embelica officinalis</i>), Aale (<i>Gingiber officinalis</i>), Kanda (<i>Allium cepa</i>), Tulas (<i>Ocimum sanctum</i>), Arjun (<i>Terminalia arjuna</i>), Kadu Nimb (<i>Azadirachta indica</i>), Korphad (<i>Aloe</i>

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		<i>vera</i>), Brahmi (<i>Bacopa monnieri</i>), Gulvel (<i>Tinospora cordifolia</i>), Shankhpushpi (<i>Evolvulus alsinoides</i>), Bel (<i>Aegle marmelos</i>)
3	Traditional System of Medicine & Intellectual Property Rights	<ul style="list-style-type: none"> Traditional System of Medicine (TSM) in India. Introduction, Concept and Principles of Ayurveda, Siddha, Unani and Homeopathy; 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)

Prescribed Text/s (If any):

- Hand Book of Ayurvedic Medicines, National Institute of Industrial Research, Delhi 7 Panda H.
- CSIR – Cultivation and Utilization of Medicinal Plants
- Ayurved ka Pran: Vanoshadhi vigyan* by Brahmvarchas, Vedmata Gayatri Trust, Shaktikunj Haridwar 2004
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Teaching Plan:

Unit No.	Unit Title	Teaching Methods	No. of Lectures
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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

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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

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Evaluation Pattern

C) Continuous Internal Evaluation: Maximum Marks:40 marks

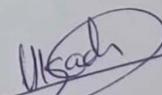
Method	Marks
Field report/ Assignments	20 marks
Internal evaluation test	20 marks

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