

DEPARTMENT OF BOTANY				CLASS: II B.Sc./B.Com.				
Sem	Course Type	Course Code	Course Title	Credits	Contact Hours/week	CIA	Ext	Total
IV	NME- II	20U4BNM2	Plants and Human Welfare	2	2	25	75	100

Nature of Course			
Knowledge and skill	✓		Employability oriented
Skill oriented	✓		Entrepreneurship oriented

Course Objectives: This course will enable the students

1. To understand the role of plants in human welfare.
2. To know the importance of use of plant products in our daily life.
3. To evaluate the economic importance of plants.

UNITS	CONTENT	CLO	K LEVEL	HOURS
I	Major crops: Introduction, vernacular names, botanical name, morphology of useful parts and uses of the following: Cereals and millets - Rice, Maize and Pearl millet. Legumes - Black gram and Red gram. Fruits - Gooseberry and Mango; Vegetables - Bhendi and Onion.	1	Up to K2	6
II	Spices and Condiments: Introduction, vernacular names, botanical name, morphological useful parts and uses of the following –turmeric, clove, black pepper, cardamom, garlic and curry leaf.	2	Up to K2	6
III	Beverages : Introduction, vernacular names, botanical name, morphology of useful parts and uses of the following - e.g. Tea, Coffee and Cocoa	3	Up to K2	6
IV	Medicinal plants: Introduction, vernacular names, botanical name, morphological useful parts and uses of the following - Tulsi, Aloe ,Balloon vine, <i>Adhatoda</i> .	4	Up to K2	6
V	Plants and plant products of Industrial value: Fibre - cotton and jute, timber - teak and rose wood, rubber - <i>Hevea</i> , fatty oils e.g., sesame; essential oils - khus oil and lemongrass. Dyes – <i>Rubia</i> and Indigo. Sugar – sugarcane. Gums - gum arabic. Resins – <i>Abies</i>	5	Up to K2	6

Books for Study

1. Pandey B. P. (1978), Economic Botany, S. Chand Publishing Company., NewDelhi. Verma V. (1974). A Text book of Economic Botany, Emcay publication. New Delhi.
2. Hill.A.(1976).Economic botany Tata McGraw Hill Publishing Co;Ltd.New Delhi.
3. Bendre A. Kumar A Economic Botany, Rastogi Publication, New Delhi.

Books for References

1. Kochar .S.L.(2011). Economic Botany in Tropics McMillan Publications New Delhi.
2. Wickens, G.E. (2001). Economic Botany. Principles & Practices, Kluwer Academic Publishers The Netherlands.
3. Sambhamurthy.A.V.S.&Subramanian .N.S: A textbook of Economic botany,Wiley Eastern ltd, New Delhi.

Web Resources

1. <https://www.econbot.org/economic-botany.html>
2. <https://www.loc.gov/economic-botanytb.html>
3. <https://www.britannica.com/science/economic-botany>

Rationale for Nature of the Course

The course focuses on understanding the values of medicinal plants for human welfare and helps them to utilize the locally available products in day today life.

Activities having direct bearing on Skill development / Employability / Entrepreneurship

The skills learned by the students help them to become an entrepreneur in the field of natural products obtained from medicinal plants.

Pedagogy

Chalk and Talk, PPT, Group Discussion, Seminar, Interaction, Problem Solving, Quiz, Virtual Labs & Learning Management System (CANVAS).

Course Designer: Prof. R. Saranya, Assistant Professor

Course Learning Outcomes: On successful completion of the course the students will be able to

CLOs	CLO Statement	Knowledge Level
CLO-1	Describe the major crops and assess their use for human consumption.	Up to K2
CLO-2	Gain knowledge about economic uses of spices	Up to K2
CLO-3	Compare the uses of plants for materials, health and pleasure.	Up to K2
CLO -4	Apply the medicinal value of the plant products	Up to K2
CLO-5	Utilization of plant products in industries	Up to K2

Mapping Programme Specific Outcomes with Course Learning Outcome:

	PSO-1	PSO-2	PSO-3	PSO-4	PSO-5	PSO-6	PSO-7	PSO-8	PSO-9
CLO-1	2	3	3	2	3	3	3	2	3
CLO-2	3	3	3	3	3	3	3	3	2
CLO-3	2	3	3	3	2	3	3	2	2
CLO-4	3	3	3	3	3	3	2	2	2
CLO-5	3	3	3	3	3	3	2	3	3

3-Advance application; 2- Intermediate level; 1- Basic level

Mapping Programme Outcomes with Course Learning Outcome

	PO-1	PO-2	PO-3	PO-4	PO-5
CLO-1	3	-	3	2	3
CLO-2	2	3	2	3	2
CLO-3	2	3	2	3	1
CLO-4	1	3	2	-	1
CLO-5	-	1	1	-	1

3-Advance application; 2- Intermediate level; 1- Basic level

Lesson Plan

Unit	Description	Staff Name	Hours	Mode
I	a) Introduction, vernacular names, botanical name, morphology of useful parts and uses of Cereals and Millets: Rice, Maize, and Pearl millet.	-	2	Black Board
	b) Pulses: Black gram and Red gram. Fruits: Gooseberry.	-	2	Black Board
	c) Fruits: Mango. Vegetables: Bhendi and Onion.	-	2	Discussion
II	a) Spices and Condiments: Clove ,black pepper	-	2	Power point
	b) Spices and Condiments: cardamom ,garlic	-	2	Power point
	c) Spices and Condiments: garlic and curry leaf.	-	2	Discussion
III	a) Beverages: Tea	-	2	Black Board
	b) Beverages: Coffee	-	2	Power Point
	c) Beverages: Cocoa	-	2	Black Board
IV	a) Medicinal plants: Turmeric , <i>Aloe</i>	-	2	Power point
	b) Medicinal plants: <i>Aloe</i> , <i>Balloon</i> vine.	-	2	Discussion
	c) Medicinal plants: <i>Balloon</i> vine, <i>Adatoda</i> .	-	2	Black Board
V	a) Plants and plant products of Industrial value: Fibre - cotton and jute, timber-teak and rosewood, rubber- Hevea, fatty oils e.g., sesame;	-	2	Black Board
	b) Plants and plant products of Industrial value: essential oils- khus oil and lemon grass. Dyes-Acacia and Indigo.	-	2	Assignment
	c) Plants and plant products of Industrial value: Sugar-sugarcane. Gums-gum Arabic. Resins- Abies.	-	2	Discussion
Total				30

Blue Print – Model for External Examination

Articulation Mapping – K Levels with Courses Learning Outcomes (CLOs)

Sl. No	CLOs	K- Level	Section – A		Section B (Either/ Choice)	Section C (Open Choice)
			Short Answer			
			No. of Questions	K – Level		
1	CLO 1	Up to K 2	1	K1	2(K2&K2)	1 (K1)
2	CLO 2	Up to K 2	1	K1	2(K2&K2)	1 (K1)
3	CLO 3	Up to K 2	1	K1	2(K2&K2)	1 (K1)
4	CLO 4	Up to K 2	1	K1	2(K2&K2)	1 (K1)
5	CLO 5	Up to K 2	1	K1	2(K2&K2)	1 (K1)
No. of Question to be asked			5		10	5
No. of Question to be answered			5		5	3
Mark for each question			2		7	10
Total Marks for each section			10		35	30

K1 - Remembering and recalling facts with specific answers

K2- Basic understanding of fact and stating main ideas with general answers

Distribution of Section- wise marks with K Levels

K Levels	Section A (No Choice)	Section B (Either/or)	Section C (Open Choice)	Total Marks	% of Marks without choice	Consolidated
K1	20	-	50	70	58.33	100
K2	-	50	-	50	41.67	
Total Marks	20	50	50	120	100.00	100%

Blue Print – Model for Internal Examination
Articulation Mapping – K Levels with Courses Learning Outcomes (CLOs)

Sl. No	CLOs	K- Level	Section – A		Section B (Either/ Choice)	Section C (Open Choice)	Total
			Short Answer				
			No. of Questions	K - Level			
1	CLO x	Up to K 2	2	K1 & K1	2(K2&K2)	1 (K1)	
2	CLO y	Up to K 2	1	K1	2(K2&K2)	2 (K1 & K1)	
No. of Question to be asked			3		4	3	14
No. of Question to be answered			2		2	2	10
Mark for each question			2		7	10	
Total Marks for each section			6		14	20	40

K1 - Remembering and recalling facts with specific answers

K2- Basic understanding of fact and stating main ideas with general answers

Distribution of Section- wise Marks with K Levels

K Levels	Section A (No Choice)	Section B (Either/or)	Section C (Open Choice)	Total Marks	% of Marks without choice	Consolidated
K1	10		30	40	66.67	100
K2		20		20	33.33	
Total Marks	10	20	30	60	100.00	100%