

DEVA MATHA COLLEGE KURAVILANGAD

Affiliated to Mahatma Gandhi University, Kottayam



SYLLABUS

OF

ADD-ON COURSE

IN

BOTANY IN EVERYDAY LIFE

Academic Year: 2022-23



DEVA MATHA COLLEGE KURAVILANGAD

DEPARTMENT OF SELF FINANCE BOTANY PG

Add on Courses offered for Students : 2022-2023

- 1. Botany in Everyday Life
DMCK/ SFBOT/AD 31/2022**
- 2. Horticulture Applications
DMCK/ SFBOT/AD 32/2022**



Department Coordinator: Ms. Sreekutty Sreedharan

Title	: BOTANY IN EVERYDAY LIFE
Instructional Hours	: 30 hrs
Duration	: 3 Months
Mode of Instruction	: Offline
Intake Capacity	: One Batch [25 Students]
Eligibility	: + 2

DEVA MATHA COLLEGE KURAVILANGAD

ADD-ON COURSE FOR THE AY 2022-23

Course Objectives

1. To learn the diverse human uses of plants and plant products.
2. To learn the taxonomic diversity of useful plants.
3. To learn the biological reasons why certain plant resources are important.
4. To acquire an increased awareness and appreciation of plants and plant products encountered in everyday life.
5. To recognize geographic, historical, & cultural differences in the uses and importance of plants.
6. To relate diverse aspects of human cultural endeavors to plant resources, and to gain a better understanding and perspective of the origins, histories, and roles of important plants and plant products to the development of human culture.

Theory [20 Hrs]

Module 1 – Introduction [2 Hrs]

Introduction to the value based botanical world, scope of economic botany

Module 2 – Plants and plant products in everyday life [18 Hrs]

Botanical name, family, part used and their value-added products of listed plants

a. Cereals & Millets

Rice, Wheat, Maize, Barley, Oats, Ragi, Bajra, Jowar

b. Pulses & Legumes

Bengal gram, black gram, cow pea, green gram (mung bean), Kidney bean (Rajma), Soya bean, red gram dal, winged bean, Lablab bean

c. Leafy vegetables & other vegetables

Amaranthus sepsis's, Beet greens, Cabbage, Carrot, Celery leaves, Colocasia leaves, Coriander leaves, Curry leaves, Drumstick, Lettuce, Mint, Pumpkin, Tamarind leaves, Onion, Potato, Radish, Sweet potato, Yam

Ash gourd, Beans, Bitter gourd, Bottle gourd, Brinjal, Cauliflower, Cucumber, Sponge gourd, Chillies, Jack tender, Ivy gourd, Ladies finger, Mango green, Onion stalk, Papaya green, Ridge gourd, Snake gourd, Water melon, Tomato, Vegetable marrow

d. Nuts & Oil seeds

Arecanut, Almond, Cashew nut, Chilgoza pine, Coconut, Gingelly seed, Ground nut, Linseed, Mustard seed, Pistachio nut, Safflower seed, Sun flower, Walnut, Castor oil, Avocado pear nut, Sal

e. Condiments & spices

Water melon seed, Asafoetida, Cardamom, Chillies, Cloves, Coriander, Cumin seed, Garlic, Ginger, Mango powder, Nutmeg. Black pepper, Indian long pepper, Poppy seed, Tamarind pulp, Turmeric, Garcinia, Vanilla, All spice

f. Fruits

Wild mango, Mango, Amla, Apple, Avocado pear, Bael fruit (A. marmelous), Banana, Bilimbi, Annona, Carambola, Orange, Cashew fruit, Cherries, Date palm, Grape, Guava, Jack fruit, Jamba fruit, Lemon, Litchi, Mangosteen, Mulberry, Papaya, Passion fruit, Pineapple, Pomegranate, Sapota, Strawberry, Jam, Common jujube, Syzgium zeylanica

g. Sugar & starch crops

Sugarcane, Sugar beet, Stevia (sugar plant), Starch crops – Potato, Tapioca, Rice, Sago palm, Palm sugar, Yam, Colocasia

h. Beverages

Alcoholic – Wines, Beer, Spirits, Distilled liquors

Non-alcoholic – Tea, Cocoa, Cola, Cassine, Coffee, Chicory, Kola, Yaco

i. Tannins, Gums & Resins

Oak bark, Pine, Bark valonia, Hemlock, Gambier marketing nuts

Gum Arabic, Tragacanth, Babul karaya, Bengal kino

Gum resins, Oleoresins, Lac-kauri, Dammar, Copal, Dragon's blood, Amber

j. Essential oils (Volatile oils)

Cananga odorata, Cinnamon, Citrus spp. Lemon grass, Ginger grass, Eucaly,

Jasmine, Arabian jasmine, Lavender, Peppermint (Pudina), Champaca, Nutmeg,

Chir pine, Sandal, Clove, Vetiver

k. Wax, Soap, substitutes & Insecticides

Carnauba, American myrtle, Soap nut, Pyrethrum, Barbasco, Tobacco

l. Fibres

Cotton, Coir, Deccan hemp, Jute, Sisal, Flax (linen), Kapok (silk cotton)

Paper making – Spruce, Pine, Fir, Larch, Bamboo, Acacia mangium

m. Woods

Teak, Artocarpus spp., Mahogany, Silver oak, Bamboo, Kalayam, Venga,

Mulluvenga, Ilavu

n. Medicinal plants

Liquorice, Indian sarsaparilla, Chitraka (Plumbago), Serpentine, Ashwagandha,

Asafoetida, Greater galanga, Turmeric, Mango ginger, Garlic, Asoka tree, Vasaka,

Indiana aloe, Holy basil, Bel, Betel, Pepper, Belleric myrobalan, Chebula

myrobalan, Neem, Apple of Peru (Datura), Belladonna, Quinine, Foxglove,

Ephedrine, Opium, Nux vomica, Ergot, Antibiotics

Module 3 – Ethnobotany [10 Hrs]

Introduction to ethnobotany and Pharmacology

Cultural and medicinal plants used in the tribal settlements of Kerala

Plants used by them such as

Trichopus zeylanicus, Ochlandra travencorica, Dendrocalamus strictus, Gloriosa superba, Emilia sonchifolia, Andrographis paniculata, Alocasia macrorrhiza, Calamus rotang, Dioscoria oppositifolia, D. pentaphylla, Canarium strictum, Maranta arandinaceae, Vernonia anthelmentica, Adenia hondala, Asparagus recemosus

Scope and documentation of ethno botanical data's

Module 4 – Preservation of plant specimens

- a. Pressing and drying
- b. Alternative drying techniques - Silica gel/other desiccants & freeze drying
- c. Special preservation and processing techniques

Practical [5 Hrs]

1. Collect and properly preserve the economically and ethno botanically used plants or plant products
2. To conduct an exhibition of the economically and ethno botanically used plants or plant products

References

1. Dr. Ashok Kr. Panigrahi and Alaka Sahu, (2000), Glossary of useful and economically important plants, New central book agency (P) Ltd, Calcutta.
2. S. L. Kochhar, (1981, 1998), Economic botany in the tropics, 2nd Ed., Macmillan India Ltd., Delhi.
3. A.V.S.S. Sambamurthy and N.S. Subrahmanyam, (1998), A text book of modern economic botany, CBS publishers and distributors, New Delhi.

Assessment Procedure

- Written examination [both descriptive and objective] along with practicals

Grading

- For grading 5 Point scale analysis will use

Scale	Scale Averages	Final Grade
4.50 to 5.00	90 to 100	A
4.00 to 4.49	80 to 89	B
3.50 to 3.99	70 to 79	C
3.00 to 3.49	60 to 69	D
1.00 to 2.99	0 to 59	F




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