

विश्वविद्यालय

**NEW AND RESTRUCTURED
POST GRADUATE CURRICULA AND SYLLABUS**

for

HORTICULTURE

Dr. Rammanohar Lohia Avadh University, Ayodhya (U.P.)

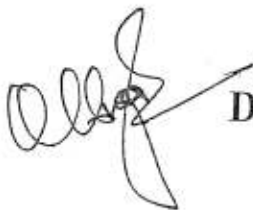
M.Sc. (Ag.) Horticulture

Forth Semester

(Semester System as per ICAR 5th Dean Committee Recommendations)

w.e.f. 2020 - 2021

Submitted by :



**Dean & Conveners, Board of Studies
Faculty of Agriculture**

Dr. Rammanohar Lohia Avadh University, Ayodhya (U.P.)

M.Sc. (Ag.) Horticulture

Ist Semester			Evaluation Marks			
Code No.	Course Title	Credit Hours	Mid Term	End Term	Practical	Total
HORT - 501	Propagation and Nursery Management for Fruit Crop	3(2+1)	20	50	30	100
HORT - 502	Landscaping and Ornamental Gardening	3(2+1)	20	50	30	100
HORT - 503	Tropical and Dry Land Fruit Production	3(2+1)	20	50	30	100
AS - 501	Agricultural Statistics	3(2+1)	20	50	30	100
	Total Credit	12				
IInd Semester			Evaluation Marks			
Code No.	Course Title	Credit Hours	Mid Term	End Term	Practical	Total
HORT - 504	Production Technology of Cool Season Vegetable Crops	3(2+1)	20	50	30	100
HORT - 505	Subtropical and Temperate Fruit Production	3(2+1)	20	50	30	100
HORT - 506	Production Technology of Cut and Loose Flowers	3(2+1)	20	50	30	100
HORT - 507	Protected Cultivation of Horticultural Crops	2(1+1)	20	50	30	100
	Total Credit	11				
IIIrd Semester			Evaluation Marks			
Code No.	Course Title	Credit Hours	Mid Term	End Term	Practical	Total
HORT - 508	Production Technology of Warm Season Vegetable Crops	3(2+1)	20	50	30	100
HORT - 509	Breeding of Horticultural Crops	3(2+1)	20	50	30	100
HORT - 510	Post Harvest Technology of Horticultural Crops	3(2+1)	20	50	30	100
CA - 502	Computer Application in Agriculture	2(1+1)	20	50	30	100
	Total Credit	11				
IVth Semester			Evaluation Marks			
Code No.	Course Title	Credit Hours	Mid Term	End Term	Practical	Total
HORT - 591	Master Seminar	1(0+1)			100	100
HORT - 599	Master Research (Thesis)	20	Satisfactory/Unsatisfactory			
OR						
Special Papers - (20 - Credit) Satisfactory/Unsatisfactory						
HORT - 511	Fruit Technology	4(3+1)	20	50	30	100
HORT - 512	Production Technology of Medicinal & Aromatic Crops	4(3+1)	20	50	30	100
HORT - 513	Production Technology of Plantation & Spices Crops	4(3+1)	20	50	30	100
HORT - 514	Advance Horticulture	4(3+1)	20	50	30	100
HORT - 515	Production Technology of Under Utilize Sub-tropical Crops	4(3+1)	20	50	30	100
	Total Credit	21				
	Total Credit Hours	55				



M.Sc. (Ag.) HORTICULTURE
IVth SEMESTER CURRICULA AND SYLLABUS

S.No.	Code No.	Title of the Course	Credit
1.	HORT 591	Master's Seminar	1(0+1)
2.	HORT 599	Master's Research (Thesis)	20
Or Five Special Paper			
3.	HORT 511	Fruit Technology	4(3+1)
4.	HORT 512	Production Technology of Medicinal & Aromatic Crops	4(3+1)
5.	HORT 513	Production Technology of Plantation & Spices Crops	4(3+1)
6.	HORT 514	Advance Horticulture	4(3+1)
7.	HORT 515	Production Technology of under utilize Sub-tropical Crops	4(3+1)
Total Credit Hours			21



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M.Sc. (Ag.) HORTICULTURE - IVth Semester Syllabus

4th Semester

(HORT - 511)

FRUIT TECHNOLOGY (Special Paper)

Unit - 1

History, Present position and future scope of fruit and vegetables preservation industries in India. General principles of fruit and vegetables preservation.

Unit - 2

Canning and bolting of fruit vegetables, brief history of scientific canning equipment for home canning and commercial production, important consideration for laying out of canny. Canning of important fruits, vegetables, spoilage in canned fruits and vegetables.

Unit - 3

Fruits and vegetables juices, unfermented beverages (sweetened and unsweetened), principles of preservation, home and commercial scale equipment for juices, preparation and preservation of juices, squashes and Cardials from Citrus fruits, Mango, Phalsa, Jamun, Grape, Pomegranate, Tomato etc. Fruit juice concentrates and their general method of preparation.

Unit - 4

Jams, Jellies and Marmalades, role of pectin-sugar and acid in jelly formation, general method of preparation of jams, jellies and marmalades, use of jelly meter etc. Equipment for home and commercial production.

Unit - 5

Pickles, sauces, chutney and Vinegar, Potato chips general principles equipment and method of preparation, preserve candy and canes fruits, general principles and method of preparation of byproduct from fruit and vegetables waste in home and commercial production and sun drying and dehydration of fruit and vegetables, equipment and methods.

Practical

- 1) List of important equipments for fruit and vegetable preservation.
- 2) Preparation of Jam, Jelly, Marmalade and Pickles (Mango, Lime and Mix Veg.)
- 3) Preparation of Beverages (RTS, Squash, Nectar, Syrup and Barley Water)
- 4) Preparation of preserve and candy (Aonla, Bael and Karaunda).
- 5) Preparation of Tomato products (Sauce, Ketchup and Chutney).
- 6) Preparation of Potato Chips and canning of Pea.

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M.Sc. (Ag.) HORTICULTURE - III Semester Syllabus
4th Semester

(HORT 512)

Production Technology of medicinal and Aromatic crops. (Special paper)

Theory :

Unit-I:

Importance and scope of medicinal and aromatic crops in India and future prospects, classification of medicinal and aromatic crops.

Unit-II:

Cultivation of medicinal crops like Rauwolfia, Andrographis, Aloe vera, Safed musli, Isabgol, Ashwagnadha, Bacopa and Asparagus.

Unit-III:

Cultivation of Aromatic crops like Mentha, Java citronella, Khus, Ocimum, Chamomile, Lemon grass, Geranium, Palmarosa and Rose

Unit-IV:

Special problem of medicinal and aromatic crops and their control.

Unit-V:

Different method of distillation of medicinal and aromatic crops, problems of distillation and their solution. Marketing of medicinal and aromatic crops.

Practical –

- 1) Identification of medicinal and aromatic crops.
- 2) Study of propagation techniques of medicinal and aromatic crops.
- 3) Study of cost of production of Rauwolfia, Aloevera, Safed musli, Mentha, Turmeric and Ginger.
- 4) Study of different method of distillation of medicinal aromatic plants
- 5) Visit of distillation plants and Institute related to medicinal and aromatic crops

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M.Sc. (Ag.) HORTICULTURE - IVth Semester Syllabus
4th Semester

(HORT 513)

Production Technology of Plantation and spice crops. (Special paper)

Unit-I:

Importance and scope of plantation and spices crop in India its area and distribution.

Unit-II:

Production technology of plantation crops like, coconut, Areca nut, Cashew nut, Tea and cocoa and coffee.

Unit-III:

Production technology of spices crops like, Turmeric, Zinger, Cumin, Coriander, Fennel, Blackpeper, Cardamom (Large and small)

Unit-IV:

Problems of plantation and spice crops and their remedies. Marketing, Post harvest management and storage of plantation and spice crops.

Unit-V:

Problems of plantation and spice crops crops and their remedies marketing, post harvest management and their storage of plantation and spice crops.

Practicals –

- 1) Identification of plantation and spice crops
- 2) Propagation method of plantation crops
- 3) Preparation of nursery for plantation
- 4) Calculation of cost of production per hectare of spice crops, Turmeric, Zinger, Coriander and Cumin.

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M.Sc. (Ag.) HORTICULTURE - IVth Semester Syllabus

4th Semester

(HORT - 514)

Advance Horticulture (Special Paper)

Unit - 1

Introduction and importance mechanization of Nursery. Micro Propagation of Horticulture Crops. Advantage and Limitations. Types of Culture (Seed, Embryo, organ, callus and cell).

Unit - 2

Advance made in root stocks, Development of root stocks for biotic and abiotic stress.

Unit - 3

Advances in irrigation system, Advantage and disadvantage of drip irrigation, sprinkler and rain gun.

Unit - 4

Canopy management of Tropical and Subtropical Fruit crops like Mango, Guava, Grapes, Ber and Bael.

Unit - 5

Special Problem of fruit crops and there control (Mango, Guava, Papaya, Grapes, Pine apple and Apple). High density orcharding in fruits crops.

Practical

- 1) Identification and use of equipments in tissue culture laboratory.
- 2) Strilization technique of media.
- 3) Identification and application of tools and equipment related to micro irrigation system and canopy management.
- 4) Identification of special problems of fruit crops.

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M.Sc. (Ag.) HORTICULTURE - IVth Semester Syllabus

4th Semester

(HORT 515)

Production Technology of under utilize Sub-tropical fruits. (Special paper)

Unit-1:

Importance and scope of under utilize fruits in India. Distribution and description of under utilize fruits.

Unit-II:

Production techniques of under utilize fruits subtropical fruits like Bael, Custard apple, Wood apple, Barbados cherry, Citrus, Grapes, Litchi, Ber, Loquat, Phalsa, Fig, Mulberry, Karonda and Aonla.

Unit-III:

Propagation technique of under utilize fruits, sexual and asexual including micro-propagation

Unit-IV:

Problem of under utilize fruits and their remedies.

Unit-V:

Marketing, Post harvest management and storage of under utilize fruits.

Practicals

- 1) Identification of under utilize fruits.
- 2) Propagation of under utilize fruits.
- 3) Filling and lifting of polybags.
- 4) Packaging and sapling.
- 5) Visit of research centres working on under utilize fruits.

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