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

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

M.Sc. (Ag.) Horticulture

Third 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				

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M.Sc. (Ag.) HORTICULTURE

IIIrd SEMESTER CURRICULA AND SYLLABUS

S. No.	Code No.	Title of the Course	Credit
1.	HORT 508	Production Technology of Warm Season Vegetable Crops	3 (2+1)
2.	HORT 509	Breeding of Horticultural Crops	3 (2+1)
3.	HORT 510	Post Harvest Technology of Horticultural Crops	3 (2+1)
4.	CA 502	Computer Application in Agriculture	2 (1+1)
Total Credit Hours			11






S. Singh



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

IIIrd Semester

(HORT-508)

**PRODUCTION TECHNOLOGY OF WARM SEASON
VEGETABLE CROPS**

Theory

Introduction, botany and taxonomy, climatic and soil requirements, commercial varieties/hybrids, sowing/planting times and methods, seed rate and seed treatment, nutritional and irrigation requirements, intercultural operations, weed control, mulching, physiological disorders, harvesting, post harvest management, plant protection measures, economics of crop production and seed production of :

UNIT I- Okra, Cowpea and Cluster bean

UNIT II- Cucurbitaceous crops like Musk Melon, Cucumber and Bitter gourd

UNIT III- Sweet Potato

UNIT IV- Green leafy warm season vegetables like Spinach and Amaranthus

Practical

Cultural operations (fertilizer application, sowing, mulching, irrigation, weed control) of summer vegetable crops and their economics; study of physiological disorders and deficiency of mineral elements, preparation of cropping schemes for commercial farms; experiments to demonstrate the role of mineral elements, physiological disorders; plant growth substances and herbicides; seed extraction techniques; identification of important pests and diseases and their control; maturity standards; economics of warm season vegetable crops.

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

IIIrd Semester

(HORT-509)

Breeding of Horticultural Crops

Theory

Origin, botany, taxonomy, genetics, breeding objectives, breeding methods (introduction, selection and hybridization) varieties and varietal characterization, resistance breeding for biotic and abiotic stress, quality improvement, issue of patenting, PPVFR act, achievement and future trust in following selected crops.

UNIT I- Tomato, Brinjal and Chilli

UNIT II- Okara and Pumpkins

UNIT III- Cabbage, Cauliflower, Carrot, Turnip and Radish

Practical

Selection of desirable Plants from breeding population, observations and analysis of various qualitative and quantitative traits in germplasm, hybrids and segregating generation; induction of flowering, falyiological studies, selfing and crossing techniques in horticulture crops; hybrid seed production of vegetable crops in bulk, screening techniques for insect-pests, disease and environmental stress resistance in above mentioned crops, demonstration of sib-mating and mixed population; visit to breeding blocks

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

IIIrd Semester

(HORT 510)

POST HARVEST TECHNOLOGY OF HORTICULTURAL CROPS

Theory

Unit-1:

Maturity indices, harvesting practices for specific market requirements, influence of pre-harvest practices, enzymatic and textural changes, respiration, and transpiration.

Unit-II:

Physiology and biochemistry of fruit ripening, ethylene evolution and ethylene management, factors leading to post harvest losses horticultural crops, pre-cooling. Spoilage, microbial and biochemical, physical injuries and disorders.

Unit-III:

Temperature prior to transportation, viz grading, precooling, chlorination, waxing, chemicals, biocontrol agent and natural plant products. Methods of storage-ventilated, refrigerated, MAS, CA storage, Zero energy cool chamber and hypobaric storage.

Unit-IV:

Packaging method and transport, principles and methods of preservation food processing, canning preparation of fruits juices, beverages, pickles, pickles, jam, jellies, candies and tomato products.

Unit-V:

Dried and dehydrated products, nutritionally enriched products, fermented beverages, packaging technology management of processing waste, food safety standards.

Practicals

Analyzing maturity stages of commercially important horticultural crops, improved packaging and storage of important horticultural commodities, physiological loss in weight of fruits and vegetables, estimation of transpiration, respiration rate, ethylene release and study of vase life extension in cut flowers using chemicals, estimation of quality characteristics in stored fruits and vegetables, cold chain management, visit to cold storage and CA storage units, visit to fruit and vegetable processing units, project preparation, evaluation of processed horticultural products

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

CA - 502

COMPUTER APPLICATION IN AGRICULTURE

Theory :

Introduction to computer, operating system, definition and types, application of Ms-Office for document creation & Editing, Data presentation, interpretation and graph creation, statistical analysis, mathematical expressions, database concepts and types, uses of DBMS in Agriculture, World Wide Web (WWW); Memory, Basic Anatomy of Computer System. e-Agriculture concepts and applications, Use of ICT in Agriculture. IT Application for computation of water and nutrient requirement of crops, computer-controlled devices (automated system) for agri-input management, Smart phone Apps in Agriculture. Decision support systems, concepts, components and applications in agriculture.

Practical :

Study of computer components, accessories, practice of important DOS Commands. Introduction of different operating system such as window, Files & Folders, File Management. Use of MS-Word and MS Power-point for creating, editing and presenting a scientific document. MS-Excel - Creating a spreadsheet, use for statistical tools, writing expressions, creating graphs, analysis of scientific data. MS-Access - Creating database.



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