

21HORT282 PRODUCTION TECHNOLOGY FOR ORNAMENTAL CROPS, MEDICINAL AND AROMATIC PLANTS AND LANDSCAPING

Hours Per Week :

L	T	P	C
1	-	2	2

Total Hours :

L	T	P
15	-	30

COURSE DESCRIPTION AND OBJECTIVES:

This course impart knowledge on the advances made in the production technology of cut and loose flowers and medicinal and aromatic crops along with concept and design of landscaping

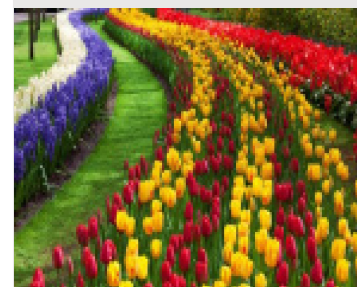
COURSE OUTCOMES:

Upon completion of the course, the student will be able to achieve the following outcomes:

COs	Course Outcomes
1	Gain knowledge on the production technologies of ornamental crops, medicinal, aromatic plants and landscaping and capacity to empower farmer with latest production technologies and in designing and maintenance of landscaping
2	Practice and promote the production of ornamental crops, medicinal, aromatic plants in his / her own and other farms and provide consultancy or become an entrepreneur on landscaping

SKILLS:

- ✓ *Design plan to establish nursery of Ornamental, Medicinal and Aromatic Plants crops*
- ✓ *Practice propagation techniques in Ornamental, Medicinal and Aromatic Plants crops*
- ✓ *Manage Ornamental, Medicinal and Aromatic crops under field conditions*
- ✓ *Prepare Cost Benefit Ratios for cultivation of Ornamental, Medicinal and Aromatic Plants crops*
- ✓ *Prepare land scape plans based on topography*
- ✓ *Beautification of land with greenery*
- ✓ *Plan to establish Ornamental, Medicinal and Aromatic Plants based industries*



Source :

<https://indoorgardenook.com/what-is-floriculture/>

ACTIVITIES:

- o *Demonstrate nursery raising and direct seed sowing*
- o *Practice transplanting*
- o *Identify Ornamental Crops, Medicinal and Aromatic Plants based on morphology*
- o *Calculate economics of Ornamental Crops, Medicinal and Aromatic Plants cultivation*
- o *Involved in harvesting, packing, and processing activities*

UNIT - 1

Importance and scope of ornamental crops and landscaping - Landscape uses of trees, shrubs and climbers Principles of landscaping - Initial approach, Axis, Focal Point, Mass effect, Unity, Space, Divisional Lines, Proportion and Scale, Texture, Time and Light, Tone and Colour, Mobility, Rhythm, Balance, Contract, Harmony, Vista Style. Production technology of cut flowers under protected conditions, Rose, Introduction, origin and distribution, Classification- Species and varieties, Climate and soil requirements

UNIT - 2

Propagation, Rootstocks, Stock scion compatibility, Land preparation- planting- Manures and fertilizers- Cultural operations (pruning, pinching and mulching) harvesting, Post harvest management, Yield and rose biproducts. Gerbera, Carnation and Liliuand Orchids – Introduction, Origin and distribution- Classification - Species and varieties- Climate and soil requirements- Propagation, Land preparation, Planting, Manures and fertilizers, Cultural operations-use of growth regulators- Physiological disorders- Harvesting- Post harvest management and yield. Production technology of cut flowers under open conditions - Gladiolus and Tuberosa

UNIT - 3

Chrysanthemum, Loose flowers - Marigold and Jasmine under open conditions - Introduction- Origin and distribution, Classification, Species and varieties, Climate and soil requirements, Propagation, Land preparation, Planting, Manures and fertilizers- Cultural operations- Pinching and disbudding, Use of growth regulators- Harvesting- Post harvest management and yield. Medicinal plants, Scope and Importance, Production technology of Asparagus, Aloe, Costus -Botanical name, Family, Origin, Economic part, Climate, Soil, Varieties, Propagation, Planting, Manuring, Irrigation, Intercultural operations - Harvesting - Yield

UNIT - 4

Periwinkle, Isabgol, Aromatic plants and its Importance – Essential oil industry in India – Properties of essential oils, Production technology of Mint and Ocimum, Lemongrass, Citronella, Palmarosa Botanical name, Family, Origin, Economic part, Introduction, Climate, Soil, Varieties, Propagation, Planting, Manuring, Irrigation, Intercultural operations, Harvesting, Yield

UNIT - 5

Geranium and Vettiver, Botanical name, Family, Origin, Economic part, Introduction, Climate Soil, Varieties, Propagation, Planting, Manuring, Irrigation, Intercultural operations, Harvesting, Yield Processing and value addition in ornamental crops and MAPs produce, Dry flower making - Extraction methods of essential oils

LABORATORY EXPERIMENTS**LIST OF EXPERIMENTS**

1. Identification of ornamental plants
2. Identification of Medicinal and Aromatic Plants
3. Nursery bed preparation and flower seed sowing

4. Training and pruning of roses
5. Planning and layout of ornamental garden
6. Bed preparation and planting of Medicinal and Aromatic Plants
7. Protected structures – Care and maintenance
8. Intercultural operations in flowers crops and MAP
9. Harvesting and post harvest handling of cut and loose flowers
10. Floral preservatives to prolong vase-life of cut flowers
11. Drying / dehydration techniques for flower drying
12. Processing of Medicinal and Aromatic Plants
13. Extraction of essential oils
14. Visit to commercial flower unit
15. Visit to commercial MAP unit

REFERENCES:

1. Bose, T.K. 1999. *Floriculture and Landscaping*. Naya Prakash, Kolkatta
2. Bose, T.K. and Yadav, L.P. 1992. *Commercial Flowers*. Naya Prakash, Kolkatta
3. Randhawa, G.S. and Mukhopadhyaya, A. 1994. *Floriculture in India*. Allied Publishers Pvt. Ltd., New Delhi
4. Chattopadhyay, S.K. 2007. *Commercial Floriculture*. Gene-Tech Books, New Delhi
Srivastava, H.C. 2014. *Medicinal and Aromatic Plants*. ICAR, New Delhi
5. Kumar, N., Abdul Khader, J.B.M, Rangaswamy, P and Irulappan, I. 2004. *Introduction to Spices, Plantation Crops, Medicinal and Aromatic Crops*. Oxford and IBH publishing Co, New Delhi

