

**CC – XIII – Horticulture and Plant Breeding**

Unit I

Horticulture :- Importance and scope of Horticulture, Classification of horticultural crops – fruits, vegetables crops, climate, soil, water, nutrition needs of horticultural crops, Pruning methods.

Unit 2

Garden designs, types of gardens – formal, informal and kitchen lawn maintenance – floriculture, cultivation of commercial flowers – roses, jasmines and chrysanthemum, potted plants, nursery maintenance. Cultivation of important fruit trees – Mangoes, Banana, Coconut.

Unit 3

Plant propagation methods, cutting, layering, grafting, budding, stock-seion relationship. Use of plant regulators in horticulture – induction of rooting, flowering, fruit set and development, flower thinning control of fruit crop.

Unit 4

Plant Breeding and its scope. Selection: Mass selection, Pune line selection, Clonal selection, Hybridization: Pedigree method, Bulk method, Back cross method single cross, Double cross and multiple cross method.

Unit 5

Genetic basis and application in plant breeding, Induced polyploidy in plant breeding, role of auto and allo polyploidy. Heterosis breeding and Inbreeding depression.

**References**

**PLANT BREEDING**

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New Delhi-416pp.,
- Hari Har Ram (1998) : Vegetable Breeding-Principles and Practices  
Kalyani Publishers, Ludhiana, New Delhi, Noida(UP)  
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- Chopra, V.L. (1998) : Pant Breeding-theory & practice (2<sup>nd</sup> Edition)  
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Hyderabad, Lucknow, Mumbai, Pune-334pp.,
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## **HORTICULTURE**

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Calcutta, Madras, Hyderabad, Pune-287pp.,
- Lex Lauries &  
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McGraw Hill Publishers, N.Y.
- Kumar , N. (1997) : Introduction to Horticulture  
Rajalakshmi Publications, Nagercoil, India-  
(28 Chapters & approx. 300pages)
- Naik ( ) South Indian Fruits and their culture  
Vardhachary & Co., Madras.
- Edmond Musser &  
Andres ( ) : Fundamentals of Horticulture  
McGraw Hill Book Co.,
- Gardener ( ) : Basic Horticulture  
Mac Millan, N.Y.
- Randhawa ( ) : Ornamental Horticulture in India  
Today & Tomorrow Publishers, New Delhi

Sundararajan, J.S.  
Muthuswamy, J. ( ) : A guide to horticulture  
Shanmugavelu, K.G.  
Balakrishnan, R. Thiruvenkadam Printers, Coimbatore.

**Practical :**

Study of tools and implements used in horticulture and plant propagation.  
Designing gardens – formal and informal plant propagation methods.  
Different types of cutting, layering, grafting and budding. Treatment of cuttings with hormones for induction of rooting.  
Nursery bed preparation.  
Simple hybridization techniques.