



# **Sree Narayana Mangalam College Maliankara**

*(Affiliated to Mahatma Gandhi University, Kottayam)*

## **CERTIFICATE COURSE SYLLABUS**

### **ARTIFICIAL PROPAGATION OF GARDEN AND FRUIT PLANTS**

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## **Certificate course on Artificial Propagation of Garden and Fruit Plants**

### **Objectives of the Course:**

- ✓ To provide basic skills of artificial plant propagation
- ✓ To provide hands on training in nursery operations
- ✓ To familiarize common garden tools and implements

### **Course Overview:**

The purpose of this course is to familiarize students on various artificial propagation methods. Propagation of plant is the involvement of science and art in a skillful way. Basic knowledge and skill of it can be a better source of income through commercial nurseries. It helps in maintaining the plant stock and preserving endangered (extinct) species. Each plant responds differently to different methods of propagation. Various techniques of propagation have been developed with the objective to have uniformity in crops, early bearing, increased production, resistance against pests and diseases, and introduce certain characters in new generation. These objectives have made plant propagation interesting and challenging. The most common artificial propagation methods include budding, layering, grafting and budding, which need specialized skill and are done differently in different plants.

## **Duration of the course: 30 Hours (8 Hours Theory + 22 Hours Practical)**

### **Module I**

Vegetative propagation - advantages and disadvantages. Natural methods of vegetative propagation. Artificial methods – budding, grafting and layering. Budding- Shield budding, Ring budding and Patch budding (**Theory – 2 hrs; Practical- 7 hrs**)

### **Module II**

Grafting- Principles and techniques of grafting; Types- Veneer grafting, Side grafting, Wedge or cleft grafting (**Theory – 2 hrs; Practical- 7 hrs**)

### **Module III**

Layering- Principles and techniques of layering. Types- Simple layering, Compound layering or Serpentine layering, Air layering. Advantages and disadvantages of artificial propagation (**Theory – 4 hrs; Practical- 8 hrs**)

## Suggested Readings

- George Acquiciah, 2004. Horticulture: Principles and Practices (II Edn). Prentice Hall. India.
- Chandha.K L, 2003. Handbook of Horticulture. ICAR. New Delhi.
- Hudson T, Hartmann, Dale E Kester, 2001. Plant Propagation, Principles and Practices (VI Edn). Prentice Hall, India.
- Kunte, Kawthalkar, Yawalker, 1997. Principles of Horticulture and Fruit Growing. Agri – Horticulture Co
- Gopal Chandha De, 2002. Fundamentals of Agronomy. Oxford and IBH Publishing House.
- Sharma R R, 2005. Propagation of Horticultural Crops. Kalyani Publishers.
- Manibhushan Rao K, 1991. Text Book of Horticulture. Macmillan India Ltd.