KONGU ARTS AND SCIENCE COLLEGE

(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)

ERODE – 638 107

DEPARTMENT OF BIOCHEMISTRY

VALUE ADDED COURSE – SYLLABUS

20VBCOG – ORGANIC GARDENING

PAPER I - THEORY: FUNDAMENTALS OF ORGANIC GARDENING

OBJECTIVES:

- Produce Nutritious Food and High Quality Crops.
- Increase Long-Term Soil Fertility.
- Apply Biofertilizers and Manure to Reduce Soil Pollution
- Control Pests and Diseases without Harming the Environment

UNIT I	**Basic Concepts of Organic Farming**	6 Hours
Organic Farming: Definition, Development of organic farming, Principles and Types of organic farming, Biodynamic farming, Need and Benefits of Organic farming. Gardening: Types - Intensive Gardening and Container Gardening. Nutritional Gardening -Design and Layout of a Nutrition Garden. Garden Seasons- Planting Calendars for Spring, Summer and Fall Gardens.		
UNIT II	**Soil Fertility and Requirements of Organic Farming**	6 Hours
Soil Fertility: Soil formation, Soil properties- Physical, Chemical and Biological properties, Organic Components of Soil. **Water Management:** Irrigation (Definition), Methods of Irrigation, Quality of Irrigation water and its management, Tools and Equipment for Terrace gardens		
UNIT III	**Biological Intensive Nutrient Management**	6 Hours
Farm Yard Manure [FYM] - Method of preparation and Nutrition composition, Green manuring, **Composting** - Principles, Stages, Types and Factor, Composting methods, Vermicompost - Method of preparation, Nutrient content and Advantages, Vermiwash: Method of preparation and Application of Vermiwash, Organic manures.		
UNIT IV	**Biofertilizers**	6 Hours
Biofertilizers: Working principles of Biofertilizers, Types of Biofertilizers - Rhizobium, Azospirillum, Blue Green Algae, Azolla, Phosphate Solubilising Biofertilizer, Azotobacter, Mycorrhizal fungi, Methods of application of Biofertilizers to crop, Advantages of using Biofertilizers in Agriculture, Economics of Biofertilizers.		
UNIT V	**Pest Management**	6 Hours
Pests and Diseases of Crops, Identification of Crop pests and Diseases. Plant protection: Cultural, Mechanical and Botanical pesticides, Control agents – Pheromones, Trap crops, Bird perches. Weed Management by Biological agents and Physical techniques.		
	Total Hours	**30 Hours**

Reference Books:

1. Dr. Surya Gunjal (2009), "Resource Book on City Farming In South India", RUAF Foundation, International Network of Resource Centres on Urban Agriculture and Food Security, International Water Management Institute.
2. Martha Brown, Jan Perez and Albie Miles (2015), "Teaching Organic Farming and Gardening", Center for Agroecology & Sustainable Food Systems University of California, Santa Cruz Santa Cruz, California ISBN 978-0-9828781-2-1.

Course Outcomes: On Completion of this course the students will be able to

- Gain knowledge in the Basic Concepts, Advantages and Benefits of Organic Gardening

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Dr. N. RAMAN
PRINCIPAL,
KONGU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS)
NANJANAPURAM, ERODE - 638 107.

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PAPER II: PRACTICALS: ORGANIC GARDENING

OBJECTIVES:

- Produce Nutritious Food and High Quality Crops.
- Increase Long-Term Soil Fertility.
- Apply Biofertilizers and Manure to Reduce Soil Pollution
- Control Pests and Diseases without Harming the Environment.

UNIT I		2 Hours
Preparation of Cultivation Bags with Coir Pith Bricks Handling of Gardening Tools		
UNIT II		3 Hours
Panchagavya preparation Vermicompost, Vermiwash preparation Soil preparation (pH, Temperature) & Water Irrigation		
UNIT III		2 Hours
Cultivation of Vegetables: Chilli, Ladies finger, Bitter gourd, Tomato and Brinjal		
UNIT IV		2 Hours
Cultivation of Leafy Vegetables: Amaranthus, Fenugreek and Coriander. Cultivation of Tuberous Vegetables: Potato, Garlic and Radish.		
UNIT V		1 Hour
Cultivation of Herbs: Curry leaf, Tulsi and Mint.		
	Total Hours	**10 Hours**

Reference Books:

1. Nadia Scialabba (2015), "Training Manual for Organic Agriculture", Climate, Energy and Tenure Division (NRC) of the Food and Agriculture Organization of the United Nation (FAO).
2. Matthias Stolze, Annette Piorr, Anna Häring and Stephan Dabbert (2000), "Organic Farming in Europe: Economics and Policy", Matthias Stolze, Annette Piorr, Anna Häring and Stephan Dabbert, ISBN 3-933403-05-7, ISSN 1437-6512, Vol. 6.

Course Outcomes: On Completion of this course the students will be able to

- Gain Practical Knowledge in the cultivation of plants

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Dr. N. RAMAN
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KONGU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS)
NANJANAPURAM, ERODE - 638 107.