



## **DEPARTMENT OF BIOTECHNOLOGY**

### **Value Added Course On “Basics of Organic Farming”**

#### **Course Description:**

Organic farming is an integrated system of agricultural production based on ecological principles, promotion of biodiversity, biological cycles and organic matter recycling to maintain and improve soil fertility and environmental sustainability. The regulations for organic crop cultivation prohibit the use of chemo-synthetic pesticides, mineral fertilizers, growth promoters and Genetically Modified Organism. Indiscriminate use of these chemicals in conventional farming poses a serious threat to the quality of produce as well as the environment. Concern about food safety and security and environmental sustainability is increasing among scientist, administrator and environmentalist. In view of this, the course is designed to train students on organic farming practices, quality analysis of the products, environmental impact assessment, health benefit of the organic food etc. After successful completion of the course, the students should be able to design resource efficient farming system for small and marginal farmers for improving their economy while meeting the quality food demand in a sustainable environment.

#### **Course Objective**

- ❖ To Understand the Scope and Concept of Organic Farming, Safe and Healthy Food production.
- ❖ To produce food of high nutritional quality in sufficient quantity.
- ❖ To work with natural system rather than seeking to dominate them.

- ❖ To encourage and enhance biological cycles within farming system-involving microorganisms, soil flora and fauna, plants and animals.
- ❖ To maintain and increase long term fertility of soil.

### **Course Outcome**

- ❖ Upon Successful Completion, student gets clear understanding of Use of various organic inputs for crop production, use of non-synthetic agents for crop production.
- ❖ Students will understand the forage production in organic farming systems and identify the key principles, practices underpinning the management, productivity, health and welfare.
- ❖ Understand the role of the market and other factors influencing the physical and financial performance of organic farming and their implications for the adoption of organic farming and the conversion process.

### **Course Coordinator**



**Dr. MOHAMMED RAFIQKHAN K**  
*Associate Professor of Biotechnology*

**Dr. MOHAMMED RAFIQKHAN K** has completed his Master's of Science in Biotechnology from Bharathiar University, Coimbatore; Pre-Doctoral (M.Phil.) and Doctoral Programme (Ph.D.) in Biotechnology from Karpagam University, Coimbatore. He has 11 years and 3 Months Teaching and Research Experience and presently working as Associate Professor of Biotechnology, Indian Academy Degree College (Autonomous), Bengaluru. He has Published 35 Research Articles and serving as Editorial Board Member, Reviewer for reputed Scopus Indexed International Journals. His area of Specialization is Human Genetics, Cancer and Molecular Biology and Pharmaceutical Biotechnology. He has also presented his Research Findings Overseas viz., Malaysia, Singapore, and Bangkok. He is Life Member in Indian Science

Congress Association (ISCA), Indian Society of Human Genetics (ISHG), and Indian Society for Study on Lung Cancer (ISSLC), European Biotechnology Network, Asia Pacific Chemical, Biological and Environmental Engineering Society (APCBEEES). He is conferred with Fellow of Society for Applied Biotechnology (2016) and Best Faculty Award (2018 and 2020) from Global Management Council, Ahmedabad, Gujarat and Nature Science Foundation, Coimbatore.

### **Course Period**

**Nov 2021 – Jan 2022 (30 Hours)**

### **Eligibility**

**5<sup>th</sup> Semester B.Sc (GBcBt and CZBt)**

### **Course Curriculum:**

**Module 1 – Terrace Gardening:** Introduction to Gardening and Landscaping – Different types of Gardens and Gardening Features – Equipments used – Home Garden and its Importance – Roof – Terrace and Vertical Gardening – Layout and Design. **(6 Hours)**

**Module 2 - Vermiculture and Vermicomposting:** Earthworm Taxonomy – Types of Earthworm – Collection and Preservation of Earthworms - Production – Requirements – Methods – Pot and tray Methods – Medicinal value of Earthworm Meal – Large Scale Production. **(6 Hours)**

**Module 3 - Biofertilizers:** Production of Azolla – Spirulina –SCP – Effective Microorganisms – Azetobacter – Applications. **(6 Hours)**

**Module 4 - Manure Production:** Farmyard Manure – Biogas – Oil Cake – Meat Meal – Blood Meal – Fish Meal – Economic Importance of Organic Manure. **(6 Hours)**

**Module 5 - Ecofriendly Organic Farming:** Pure Organic Farming – Integrated Green Revolution – Integrated Farming system – Green Manuring – Biological Nitrogen Fixation and its Importance. **(6 Hours)**

### **Reference Books:**

1. **Principles of Organic Farming** - S.R. Reddy, Kalyani Publishers, New Delhi.
2. **Organic Farming (Theory and Practice)** - S.P Palaniappan and Annadurai, Scientific Publishers, New Delhi

### **Process of Evaluation:**

- ❖ Two Descriptive Questions from Each Unit (Either or Choice) carrying 10 Marks.  
(5x10=50 Marks)
- ❖ *Maximum Marks – 50*

### **Certificate:**

Upon Successful Completion of the Examination, Students will be provided with **Course Completion Certificate**.