

# **ONLINE COURSE-SOIL HEALTH MANAGEMENT**

## **Module 1: Soil - Basic concepts**

1. Definition & role
2. Rocks and minerals
3. Weathering and Soil formation
4. Soil classification
5. Physical properties of soil
6. Chemical properties of soil
7. Biological properties of soil
8. Soil of Kerala
9. Soils of India

## **Module 2: Soil health**

1. Soil health-definition and concept
2. Components of healthy soil
3. Important soil functions related to crop production
4. Soil quality
5. Soil health and soil fertility
6. Relevance of organic farming in soil health management
7. Importance of organic matter management, conservation of carbon & its sequestration

## **Module 3: Nutrition and soil health**

1. Plant nutrition
2. Functions of macronutrients
3. Functions of micro nutrients
4. Nutritional deficiencies of macro nutrients in plants
5. Nutritional deficiencies of micro nutrients and Indicator plants
6. Toxicity of nutrients
7. Mechanism of nutrient uptake

8. Nutrient cycling

#### **Module 4- Soil health assessment**

1. Role of indicators in assessing soil health-physical indicators
2. Chemical indicators of soil health
3. Biological indicators of soil health
4. Concepts of minimum data set
5. Soil sampling
6. Soil testing facilities in Kerala
7. Soil nutrient analysis and its implications
8. Soil health card preparation

#### **Module 5 – Soil health management**

1. Soil constraints, Problem soils
2. Soil erosion and conservation
3. Soil pollution and abatement
4. Reclamation of acid soils
5. Reclamation of salt affected soils
6. Tools and techniques to build soil health
7. Integrated nutrient management and components
8. Manures, composting techniques
9. Fertilizers, biofertilizers
10. Bioremediation, Integrated pest management