

# AMH09 WATER MANAGEMENT IN HORTICULTURAL CROPS

## UNIT-1 THEORY

- 1.1 Importance of water, water resources in India.
- 1.2 Area of different crops under irrigation, function of water for plant growth, effect of moisture stress on crop growth.
- 1.3 Available and unavailable soil moisture- distribution of soil moisture- water budgeting- rooting characteristics- moisture extraction pattern.
- 1.4 Water requirement of horticultural crops- lysimeter studies
- 1.5 Plant water potential climatological approach- use of pan evaporimeter- factor for crop growth stages- critical stages of crop growth for irrigation.
- 1.6 Irrigation scheduling- different approaches- methods of irrigation- surface and sub-surface pressurized methods viz., sprinkler and drip irrigation, their suitability, merits and limitations, fertigation, economic use of irrigation water.
- 1.7 Water management problem, soils quality of irrigation water, irrigation management practices for different soils and crops.
- 1.8 Layout of different irrigation systems, drip, sprinkler.
- 1.9 Layout of underground pipeline system.

## UNIT-2 PRACTICAL

- 2.1 Measurements of irrigation water by using water measuring devices, use of common formula in irrigation practices, practicing of land leveling and land shaping implements,
- 2.2 Layout for different methods of irrigation.
- 2.3 Estimation of soil moisture constants and soil moisture by using different,
- 2.4 Methods and instruments, scheduling of irrigation, different approaches,
- 2.5 Practicing use of instruments, estimation of irrigation efficiency and water requirements of horticultural crops, irrigation planning and scheduling,
- 2.6 Soil moisture conservation practices.

## References Books:

1. Rao, Y.P. and Bhaskar, S.R. 2008. Irrigation technology. Theory and practice. Agrotech publishing Academy, Udaipur.
2. Dilip Kumar Mujmdar. 2004. Irrigation water management: Principles and Practices. Prentice Hall of India Pvt. Ltd.,
3. S.V. Patil & Rajakumar, G. R., 2016. Water Management in Agriculture and Horticultural Crops. Satish serial publishing House, Delhi.