

## 2.7 30401 WATER MANAGEMENT

### UNIT-1 THEORY:

- 1.1 Irrigation—definition and objectives.
- 1.2 Water management definition. Advantages and disadvantages of irrigation.
- 1.3 Water resources and irrigation development in Gujarat.
- 1.4 Form of soil moisture: Physical classification and Biological classification of water.
- 1.5 Soil moisture constant: MWHC, ME, FC, PWP, Hygroscopic co-efficient.
- 1.6 Approaches for scheduling irrigation: Methods of irrigation in detail – surface methods (only definition and examples),
- 1.7 Flooding, check basin method, Basin method, Border strip method, Furrow irrigation, Sprinkler and drip irrigation (definition, advantages and disadvantages).
- 1.8 Quality of irrigation water: SAR, ESP, RSC; Salinity hazards, Sodium hazards.
- 1.9 Salinity and Sodium management process.
- 1.10 Water management of different crops (rice, wheat, maize, groundnut, sugarcane, mango, banana and tomato). Drainage

### UNIT-2 PRACTICALS:

- 2.1 Determination of bulk density
- 2.2 Determination of field capacity
- 2.3 Determination of PWP
- 2.4 Determination of soil moisture content by gravimetric method
- 2.5 Calculation of irrigation water requirement (Problems)
- 2.6 Different methods of irrigation
- 2.7 Installation and maintenance of micro irrigation system

