

AMEV11 WATER SUPPLY ENGINEERING

UNIT-1 PUBLIC WATER SUPPLY SCHEMES AND QUANTITY OF WATER

- 1.1 Necessary and objectives of public water supply schemes- planning and financing
- 1.2 Quantity of water- water requirements- continuous and intermittent supply
- 1.3 Water demand- variations in rate of demand- its effect on design
- 1.4 Design period- population growth and forecast
- 1.5 Estimating the quantity of water required.

UNIT-2 HYDROLOGICAL CONCEPTS AND SOURCES OF WATER

- 2.1 Hydrological concepts- hydrological cycle
- 2.2 Sources of water- Intakes- types of intakes
- 2.3 Infiltration galleries- infiltration well
- 2.4 Storage reservoirs- storage capacity by analytical method and mass curve method
- 2.5 Types of wells- sanitary protection of wells- tests for yield of a well.

UNIT-3 QUALITY OF WATER AND TRANSPORTATION OF WATER

- 3.1 Quality of water- portable water and mineral water
- 3.2 Contamination of water- sampling techniques
- 3.3 Analysis of water- Bacteriological analysis- water borne diseases- water quality standards.
- 3.4 Transportation of water- Hydraulics of pipe flow- pipes & its types
- 3.5 Design of pipes- Joints- pipe appurtenances- pumps- types of pumps- selection of pumps.

UNIT-4 PURIFICATION OF WATER

- 4.1 Treatment of water- working principles of all the unit process of water treatment,
- 4.2 Purpose and its design- screening
- 4.3 Plain sedimentation- coagulation sedimentation- filtration- disinfection
- 4.4 Water softening and Desalination- Operation & Maintenance aspects of all the unit process.

UNIT-5 OTHER TREATMENTS AND DISTRIBUTION OF WATER

- 5.1 Removal of Iron and Manganese- Fluoridation and Defluoridation
- 5.2 Distribution of water- Planning- Methods of distribution
- 5.3 Service Reservoirs- purpose- types- locations and height- Design aspects
- 5.4 Requirements of good distribution system- layout of distribution system- Net work analysis
- 5.5 Preventive methods to reduce wastage of water- pipe appurtenances- house service connection.

References Books

1. Fair. G.M., Geyer.J.C. "Water Supply and Wastewater Disposal", John Wiley and Sons, 1-54.
2. Babbitt.H.E, and Donald.J.J, "Water Supply Engineering", McGraw Hill book Co, 1-84.
3. Steel. E.W.et al., "Water Supply Engineering", Mc Graw Hill International book Co, 1-84.