

WATER SUPPLY AND SANITARY ENGINEERING

Module – I

General requirement for water supply, sources, quality of water, intake, pumping and transportation of water. Physical, chemical and biological characteristics of water and their significance, water quality criteria, water borne diseases, natural purification of water sources.

Module – II

Engineered systems for water treatment : aeration, sedimentation, softening coagulation, filtration, adsorption, ion exchange, and disinfection. Water distribution system.

Generation and collection of waste water, sanitary, storm and combined sewerage systems, quantities of sanitary waste and storm water, design of sewerage system Primary, secondary and tertiary treatment of wastewater. Waste water disposal standards,

Module – III

Basic of microbiology. Biological wastewater treatment system : Aerobic processes activated sludge process and its modifications, trickling filter, RBC, Anaerobic Processes conventional anaerobic digester, High rate and hybrid anaerobic reactors, Sludge digestion and handling, Disposal of effluent and sludge, Design problems on water distribution, sewerage, water treatment units, wastewater treatment units and sludge digestion.

Reference Books:

1. Water Supply and Sanitary Engineering by B.S.Birdi
2. Public health engineering by S.K.Duggal
3. Water Supply and Sewerage, E.W. Steel
4. Textbook of Water Supply Engineering, S.R. Kshira sagar
5. Sewerage and Sewage Treatment, S.R. Kshira sagar