

SYLLABUS :-

General requirement for water supply, sources, quality and quantity 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. Engineered systems for water treatment: aeration, sedimentation, softening, coagulation, filtration, adsorption, ion exchange, and disinfection. Water distribution system Generation and collection of wastewater, sanitary, storm and combined sewerage systems, Quantities of sanitary wastes and storm water. Design of sewerage system Primary, secondary and tertiary treatment of wastewater; Wastewater disposal standards. Basics of microbiology. Biological wastewater treatment systems: 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.