

## **ENGINEERING HYDROLOGY**

2-0-0-0-6

Hydrologic cycle, water budget, world water quantities; Precipitation and Abstractions: Forms of precipitation, data analysis, rain-gauge networks; Infiltration - process, infiltration indices and Horton's equation; Evaporation and Evapotranspiration – Pan evaporation, empirical equations for estimating evaporation and evapotranspiration; Transpiration; Crop water requirements; Runoff and Hydrographs: Rainfall runoff relations, time area concept, flow duration curve, mass curve, flow hydrograph, Unit Hydrograph (UH), its analysis, S-curve hydrograph; Floods and Routing: Concepts of return period, flood frequency analysis, Gumbel's distribution, Rational method, risk, reliability, and safety factor; Hydrologic storage routing; Groundwater Hydrology: Types of aquifers and properties, Darcy's law, Well hydraulics, Irrigation methods