

SYLLABUS :-

Hydrologic cycle: Precipitation: Types, measurement and analysis, missing data, aerial precipitation, consistency of rainfall records and frequency analysis. Runoff: Factors affecting runoff, measurement, methods for estimation of runoff volume and peak runoff, rating curve, and rainfall-runoff relations. Hydrograph Analysis: Components, factors affecting hydrographs, and base flow separation. Unit Hydrograph: Theory and assumptions, unit hydrographs of different durations, dimensionless hydrograph, synthetic unit hydrograph, and instantaneous unit hydrograph. Flood routing: Classification, reservoir and channel routing. Soil Erosion: Process, types, factors affecting soil erosion, land-use capability classification. Soil Loss Estimation: USLE, MUSLE, and RUSLE. Wind Erosion: Process, control, movement and transport mechanism. Water Erosion: Process, types, and transport mechanism. Erosion Control Measures: Biological and mechanical. Gully Control Measures: Vegetative, temporary and permanent gully control structures.