٥٠٦٠٤٣٠٧ Hydrology

General introduction, what is hydrology?, what are the problems and what types of hydrologic information do we need, the hydrologic cycle, weather and hydrology, properties of water vapor, precipitation, measurements of precipitation, estimating missing precipitation data, interpretation of precipitation data, evaporation from water surface, determination of reservoir evaporation, the water budget method, the energy budget method, empirical formulas, penman's equation, and pan evaporation, evapotransipration (ET), potential ET and actual ET, methods of estimating ET(general), Stream flow, water stage measurements, discharge measurements, rating curve, ground water(subsurface water), Darcy low, equilibrium hydraulics of wells(theis method), non equilibrium hydraulics of wells(theis, Jacob and distance-drawdown method), stream flow hydrographs, hydrograph separation, analysis of complex hydrograph, unit hydrographs(U.H.), conversion of U.H>, synthetic U.H.(Snyder's method), SCSmethod,infiltration indexes, flood routing, reservoir routing, channel routing, flood control, introduction to concepts of statistics and probability, probability in hydrology, hydrologic applications, gumble distribution, log Pearson type, III distribution, plotting position method and rational method.