ENGINEERING HYDROLOGY

Module-I

Hydrological cycle, Rainfall –Runoff data analysis, Precipitation, Evaporation, Evapotranspiration, Measurement of Evaporation, Infiltration, Stream flow measurement.

Module-II

The ground water environment, Aquifer, Aquitard, Darcy's law, Permeability, Development of Lap lace's basic ground water flow equation, Aquifer parameter, Well hydraulics – steady and unsteady flow equation, Jacob's Thies equation, Well functions, Ground water flow between water bodies.

Module-III

Unit hydrograph, S- Hydrograph, Application of Hydrographical data for flood estimation, Gumbel's approach, Meskingham's equation, salt water intrusion and modelling,

Module-IV

Ground water pollution, Transport of contaminates, advection, diffusion, Adsorption, model, Numerical modelling and solution, artificial recharge and rainwater harvesting.

Text Books:

1. Subramanyam - Engineering Hydrology

2. K.C. Patra – Hydrology

3. Sing. V.P – Elementary Hydrology

4. D.K.Todd – Ground Water Hydrology

5. Bear &Gaeob – Hydrology of Ground Water.

6. K.S. Reddy – Geo-Environmental Engineering

7. Raghunath - Ground Water Hydrology

8. Viesmann – Hydrology – Prentice Hall

9. Beers and Rowe- Ground water flow modelling