

## TEACHING PLAN FOR THEORY

**Subject Teacher: Mr. S.N.Tupkar**

<b>Subject: BCVL205 : Water Resources Engineering-I</b>				<b>Class: SY B. Tech</b>		<b>Branch: Civil Engineering</b>		<b>Year 2017-2018</b>	
<b>Lecture No</b>	<b>Scheduled Date</b>	<b>Topics to be covered on the scheduled date</b>							
<b>UNIT-I : (07 Hrs)</b>									
1		<b>Introduction</b> :Introduction to Hydrology							
2		Importance of temperature, wind and humidity in hydrology							
3		Earth and its atmosphere and importance.							
4		<b>Precipitation:</b> Definition and classifications							
5		Selection of site, density and Adequacy of rain-gauge station							
6		Density and Adequacy of rain-gauge station Problem							
7		Computation of Mean Rainfall by Different methods							
<b>UNIT II : (07 Hrs)</b>									
1		<b>Evaporation:</b> Definition, mechanism, factors affecting							
2		Methods of measurement, numerical							
3		<b>Transpiration:</b> Definition, mechanism, factors affecting							

4		Transpiration Problem
5		<b>Infiltration:</b> Definition, mechanism
6		Factors affecting infiltration
7		Numerical in Infiltration
<b>UNIT III : (07 Hrs)</b>		
1		<b>Run off:</b> Source components of runoff, classification of streams, factors affecting.
2		Estimation of discharge and Measurement methods, numerical
3		River Gauging -Various methods
4		<b>Hydrographs:</b> Introduction
5		Unit hydrographs Theory and Numerical
6		Base flow and base flow separation
7		S-Curve theories and Numerical

<b>UNIT IV: (07 Hrs)</b>		
1		<b>Statistical methods:</b> Statistics in hydrological analysis. Probability and probability distribution

2		Analysis of time series, frequency analysis
3		Statistical Method Numerical
4		<b>Floods:</b> Causes and effects, factors affecting
5		Flood routing and flood forecasting
6		Flood routing and flood forecasting Numerical
7		Flood routing and flood forecasting Numerical
<b>UNIT V : (07 Hrs)</b>		
1		<b>Geohydrology:</b> Introduction, occurrence and distribution
2		Ground water exploration techniques
3		Introduction to hydraulics of well
4		Hydraulics of well Numerical
5		Ground water quality
6		Geomorphic and geologic control
7		Ground water province of India
<b>UNIT VI : (07 Hrs)</b>		

1		<b>Ground water recharge:</b> Introduction, Recharging methods
2		Spreading methods
3		Recharge through rain water harvesting
4		Recharge through rain water harvesting
5		<b>Project planning for water resources:</b> Introduction
6		Water Resources Planning
7		Water Resources Planning