

## Lesson Planning

Name of the Institute : CRSSIET SILANI-KESHO, JHAJJAR  
Name of the teacher : Mr. SANDEEP YADAV  
Department : Electrical  
Subject & Code : High voltage Engg. PCC-EE-07 G  
Branch/Semester : EE 7th Semester

Chapter Covered	Topic
Section-A INTRODUCTION:	Collision Process, Ionization Processes, Townsend's Current Growth Equation
	Current Growth in the Presence of Secondary Processes,
	Experimental Determination of Coefficients $\alpha$ and $\gamma$ ,
	Streamer Theory of Breakdown in Gases, Paschen's Law
	Liquids as Insulators, Pure Liquids and Commercial Liquids
	Conduction and Breakdown in Commercial Liquids
	Intrinsic Breakdown, Electromechanical Breakdown, Thermal Breakdown
Section-B:	Generation of High Direct Current Voltages, Generation of High Alternating Voltages
	Generation of Impulse Voltages, Generation of Impulse Currents
	Tripping and Control of Impulse Generators.
	Measurement of High Direct Current Voltages, Measurement of High AC and Impulse Voltages,
	Measurement of High Currents – Direct, Alternating and Impulse
	Cathode Ray Oscillographs for Impulse Voltage and Current Measurements

Section-C	National Causes for Over voltages - Lightning Phenomenon,
	Overtoltage due to Switching Surges, System Faults and Other Abnormal,
	Principles of Insulation Coordination on High Voltage Power Systems
	Principles of Insulation Coordination on Extra High Voltage Power Systems
	Introduction, Measurement of Dielectric Constant and Loss Factor
	Partial Discharge Measurements.
Section-D:	Testing of Insulators and Bushings
	Testing of Isolators and Circuit Breakers
	Testing of Cables, Testing of Transformers
	Testing of Surge Arrestors, Radio Interference Measurements
	Testing of HVDC Valves and Equipment.
	Engineering Knowledge, Problem Analysis
	Design/ Development of Solutions,
	Modern Tool Usage, Ethics,
	Individual and Team Work
	Communication, Life-long Learning