

Course Outline

Subject: Power System Protection

Week No.	Course Contents	
1.	Fundamentals of Power System Protection	Faults, Fundamental of Protection, Apparatus protection, system protection
2.	Fundamentals of Power System Protection	Types of Relays, Circuit breaker, Protection design criteria
3.	Fundamentals of Power System Protection	Overcurrent Protection, Directional overcurrent protection
4.	Fundamentals of Power System Protection	Distance Protection, Protection zones, Pilot Protection, system protection relays
5.	Short Circuit Currents	Short circuit current, System Impedance effect, impact of rotating machines, Fault impedance
6.	Short Circuit Currents	Short circuit capacity, types of fault duty, Symmetrical components
7.	Current Transformers	Equivalent circuit of CT, classification of CT
8.	Current & Voltage Transformers	CT Saturation, DC offset current, CT oversizing, Coupling Capacitor Voltage Transformer,
Mid Term Exams		
9.	Overcurrent Protection	Types of overcurrent relay, primary and backup relays, setting & coordination of overcurrent relays, fault type and CT burden
10.	Overcurrent Protection	Numerical
11.	Overcurrent Protection	Earth fault relays and its coordination, Adaptive relaying, Automatic Reclosing
12.	Directional Overcurrent protection	Necessity, Fundamental principle, current polarization, voltage polarization
13.	Directional Overcurrent protection	Directional relay coordination
14.	Distance Protection	Settings of distance protection, Protection zones, Overlapping problem of zone 2
15.	Distance Protection	Outfeed and infeed effect, Problem of load encroachment, Pilot protection with distance relaying
16.	Distance Protection	Numerical
17.	Final Term Exams	