

Lesson plan

Name of the faculty : Mr. Manoj Bansal

Discipline : Electrical & Electronics Engineering

Semester : 4th

Subject : Transmission & Distribution

Lesson Plan Duration : 15 weeks (From January, 2020 to April 2020)

Work Load (Lecture/ Practical) per week (in hours): Lecture-02, Practical-01

Week	Theory		Practical	
	Lecture day	Topic(Including assignment/test)	Practical Day	Topic
1 st	1 st	INTRODUCTION: Evolution of Power Systems and Present-Day Scenario	1 st	To study the Power System blocks in MATLAB.
	2 nd	Structure of a power system, Bulk Power Grids and Micro-grids		
2 nd	1 st	Indoor and outdoor substations, equipment for substations	2 nd	To design short and long transmission line using MATLAB.
	2 nd	Layout, auxiliary supply		
3 rd	1 st	DISTRIBUTION SYSTEMS: Radial, ring mains	3 rd	To study and calculate the transmission line parameters.
	2 nd	Network distribution system		
4 th	1 st	Comparison of various types of ac and dc systems	4 th	To study the corona loss in power distribution system.
	2 nd	TRANSMISSION LINES: Calculation of line parameters		
5 th	1 st	Ferranti effect, proximity effect	5 th	To study the proximity and skin effect.
	2 nd	PERFORMANCE OF LINES: models of short, medium and long transmission lines		
6 th	1 st	Performance of transmission lines, circle diagram	6 th	To find ABCD parameters of a model of transmission line.
	2 nd	Capacity of synchronous condenser		

7 th	Sessional -I Examination+Activity			
8 th	1 st	Tuned lines, voltage control	7 th	To study performance of a transmission line under no load condition & under load at different power factors.
	2 nd	MECHANICAL DESIGN: Sag and stress calculations		
9 th	1 st	Effect of ice and wind, dampers. INSULATORS: Types, insulating materials	8 th	To observe the Ferranti effect in a model of transmission line.
	2 nd	Voltage distribution over insulator string, equalizer ring		
10 th	1 st	CABLES: Types of LV and HV cables,	9 th	To study performance characteristics of typical DC distribution system in radial & ring main configuration.
	2 nd	Grading of cables, capacitance, ratings		
11 th	1 st	CORONA: Phenomenon,	10 th	To study mechanical design of transmission line
	2 nd	Critical voltage, power loss		
12 th	1 st	Reduction in losses		
	2 nd	Radio-interference		
13 th	1 st	HVDC transmission – types of links		
	2 nd	Advantages and limitations		
14 th	1 st	Revision		
	2 nd	Revision		
15 th	1 st	Revision		
	2 nd	Revision		
16 th	Sessional -II Examination+Activity			

Faculty Signature