Shree Ramkrishna Institute of Science & Technology

Lesson Plan

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Dept : Electrical Engg Academic Year :2014-2015

Target Student: 5Th Sem EE

Subject: Transmission & Distribution of Power

SL No	Subject	Period
	Transmission System	
1	Introduction, Layout of power system, selection of voltage for HT & LT lines – EHV & HV voltages in our country,	2
2	Advantages of using high voltage for transmission, comparison between AC & DC systems of power transmission	2
3	Comparison of cost of conductors (only results) ..	1
	Constructional Features of Transmission & Distribution Lines	
4	Main components of Overhead lines (names & functions only), types of supports – RCC/PCC poles, steel tower	1
5	Comparison between single circuit and double circuit design, conductors – different types used in rural electrification	2
6	EHV lines (ACSR conductors), conception of ground wire – G.I. wire, skin effect and proximity effect (brief idea).	1
7	Types of insulators, selection, failure of insulators, creepage distance (definition & significance only)	1
8	Voltage distribution over a string of suspension insulators (for 3 insulators only)	2
9	String efficiency (definition & significance), methods of improvement of string efficiency – problems	2
	Mechanical Features of Overhead lines	
10	Sag of transmission line (definition & importance), sag with level and uneven supports (only idea with formula for calculation)	1
11	Effect of wind pressure, temperature and ice deposition – problems on level supports	2
12	Stringing chart and its uses	1
13	Spacing of conductors, length of span, Relevant I.E. Rules.	2
	Electrical features of Overhead lines	
14	Resistance, Inductance & Capacitance of 3-phase transmission	2

	lines. (only formula), corona-corona loss, factors influencing corona.	
	U.G. cable	
15	Description of (i) PVC, (ii) PILC (iii) FRLS (Fire Retardant Low Smoke), (iv) XLPE cables & (v) Gas filled (SF6) cables	2
16	Cable Rating and De-rating factor, lying of cables (brief idea)	1
17	Comparison between U.G. system and O.H. system	1
	Performance of Transmission Lines	
18	Classification, regulation and efficiency of lines (idea with formula only)	1
19	Performance of short transmission lines – related problems,	1
20	Bundle conductors, ABC (Aerial-bundled conductors), objectives of transposition of transmission lines, Ferranti Effect	1
	Power Factor Improvement	
21	Using Static condenser and Synchronous condenser – related problems	2
	Distribution System	
22	Brief Idea about feeders, Distributors, service mains, radial system and ring-main system	2
23	Typical AC Distribution – primary & secondary distribution layout diagrams – single phase and three phase	1
24	Voltage drop calculation for AC single phase feeder	1
	Sub-stations	
25	Introduction, Gas insulated sub-station, key-diagram of grid sub-station	1
26	line-diagram of an outdoor sub-station	1
27	layout of 33/11 kV distribution sub-station	1
	Extra High Voltage DC System of Transmission	
28	Special features, advantages, modern trends – HVDC system in Indian scenario.	2
29	Regional Grid System (Conception only)	1

Total= 41 class

Signature of The faculty & date

Signature of The Respective HOD & date Reviewed by principal & date