

Lecture	Topics to be covered	Remarks
L-1	Circuit components R,L and C, their behavior, temperature dependence of various materials	
L-2	types of sources, Ohm's Law and problems, Kirchoff's Laws	
L-3	Problems on Kirchoff's Laws, voltage and current division	
L-4	elementary calculation of energy and power and problems on it	
L-5	Mesh Analysis and numerical solving	
L-6	Nodal Analysis and numerical solving	
L-7	Thevenin Theorem and numerical solving, Norton Theorem and numerical solving	
L-8	Superposition Theorem and numerical solving	
L-9	star-delta / delta-star transformations and numerical solving	
L-10	Magnetic circuit concepts, comparison of electric and magnetic circuits	
L-11	Series and parallel magnetic circuits	
L-12	magnetic materials and B-H curve, practical magnetic circuits with D.C. excitation	
L-13	magnetic circuits with A.C. excitation, self and mutual inductance , energy stored in magnetic circuits	
L-14	numerical solving	
L-15	hysteresis and eddy current losses .	
L-16	Generation of alternating voltages, fundamentals of ac circuits	
L-17	Different terminologies associated with AC circuits	
L-18	Behaviour of AC circuits with R, L, C independantly	
L-19	concept of Impedance and admittance, power triangle and power factor	
L-20	Power in sinle phase circuit, Active, Reactive, Apparent power	
L-21	numerical solving	
L-22	Series RL, RC, RLC circuits	
L-23	Phasor diagrams	
L-24	Parallel AC circuits	
L-25	Series Resonance	
L-26	three phase ac circuits, power measurements	
L-27	numerical solving	
L-28	1 Φ transformer: concept, types, working	
L-29	ideal transformer, practical transformer	
L-30	equivalent circuit	
L-31	efficiency and regulation calculations	
L-32	Numerical solving	
L-33	Introduction to Auto-transformer.	
L-34	Electromechanical energy conversion, Construction, principle of working, types, characteristics and applications of DC generator, DC motor	
L-35	Working principle, applications of Induction Motor	
L-36	MCB, ELCB, Ceiling Fan, Electrical Tarrif	
L-37	working principle of commonly used electrical lamps such as fluorescent, CFL, LED, sodium vapour, Neon lamp etc.	
L-38	Introduction to day to day LT switchgear.	
L-39	Need of Grounding and types	

L-40	Lightning Phenomenon and lightning protection	
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