LESSON PLAN (UPEM) (PHY 2001)

Text Book: University Physics, 13th Edition, Young and Freedman, Pearson.
(No other text book will be used or entertained)

Topic to be covered	Chapter_ Section	Conceptual Problems	Example	Exercise
Coulomb's Law Electric Field and Electric Forces	21.3 21.4	TYU-21.3 TYU-21.4	21.4	21.7, 21.51
Electric-Field Calculations Electric Dipoles	21.5 21.7		21.9, 21.13	
Calculating Electric Flux Gauss's Law (General idea)	22.1 22.2 22.3	TYU-22.2 TYU-22.3	22.1, 22.3	22.14, 22.22
Applications of Gauss's Law	22.4	TYU-22.4	22.5, 22.6 22.9	
Electric Potential Energy of two point charges Electric Potential	23.1 23.2	TYU-23.2	23.4	23.14 23.29
Calculating Electric Potential Equipotential Surfaces Potential Gradient	23.3 23.4 23.5	TYU-23.3	23.8 23.11	
Capacitors and Capacitance Capacitors in Series and Parallel	24.1 24.2	TYU-24.1 TYU-24.2	24.2 24.6	24.18 24.35
Energy Storage in Capacitors and Electric-Field Energy	24.3	TYU-24.3	24.8	
Dielectrics	24.4	TYU-24.4	24.10 24.11	
Current Resistivity Resistance	25.1 25.2 25.3	TYU-25.1 TYU-25.2	25.1	25.28 25.42
Electromotive Force and Circuits Energy and Power in Electric Circuits	25.4 25.5	TYU-25.4 TYU-25.5		
Problem Solving Session			25.4 25.5 25.7 25.8	
Kirchhoff's Rules Electrical Measuring Instruments	26.2 26.3		26.3 26.8 26.9	26.26 26.48
R-C Circuits (Charging)	26.4	TYU-26.4	26.12	
R-C Circuits (Discharging)	26.4		26.13	

Discussions & Problem Solving Session				
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Magnetic Field Magnetic Field Lines and Magnetic Flux	27.2 27.3	TYU-27.2 TYU-27.3	27.2	27.5 27.15
Motion of Charged Particles in a Magnetic Field Magnetic Force on a Current-Carrying Conductor	27.4 27.6	TYU-27.4 TYU-27.6	27.7	
Magnetic Field of a Current Element (Law of Biot and Savart) Magnetic Field of a Straight Current-Carrying Conductor	28.1 28.2 28.3	TYU-28.1 TYU-28.2	28.3	28.33 28.44
Magnetic Field of a Circular Current Loop	28.4 28.5	TYU-28.4		
Ampere's Law Applications of Ampere's Law	28.6 28.7	TYU-28.6	28.8	
Faraday's Law Lenz's Law	29.2 29.3	TYU-29.2	29.5	29.1 29.41
Motional Electromotive Force Induced Electric Fields	29.4 29.5	TYU-29.4	29.11	
Displacement Current and Maxwell's Equations	29.7	TYU-29.7		
Self Inductance and Inductors Magnetic-Field Energy	30.2 30.3	TYU-30.2 TYU-30.3	30.4	30.25 30.42
The R-L Circuit	30.4	TYU-30.4	30.7	
The L-C Circuit	30.5	TYU-30.5	30.9	
The L-R-C Series Circuits	30.6	TYU-30.6	30.10	
Phasors and Alternating Currents	31.1	TYU-31.1	31.1	31.4
Resistance and Reactance	31.2	TYU-31.2	31.3	31.27
The L-R-C Series Circuits	31.3	TYU-31.3	31.4	
Power in Alternating-Current Circuits Resonance in Alternating-Current Circuits	31.4 31.5	TYU-31.4 TYU-31.5		
Maxwell's Equations and Electromagnetic Waves Plane Electromagnetic Waves and Speed of Light	32.1 32.2	TYU-32.1	32.1	32.3
Discussion and Problem solving session				
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