



Physics by fiziks

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Study Plan of Electricity and Magnetism for Pre-recorded Batches

(For IIT-JAM, JEST, TIFR and M.Sc Entrance and B.Sc Students)

Days	Enter Your Dates	Topics
		PART-A: Vector Analysis
Day: 1		Lecture 1: Introduction and Cartesian Coordinate System
		Lecture 2: Spherical Polar Coordinate System
Day: 2		Lecture 3: Cylindrical Coordinates System and Transformation of Vector
		Lecture 4: Gradient and Divergence
Day: 3		Lecture 5: Curl and Second Derivative
		Lecture 6: Line, Surface and Volume Integral, Gradient Theorem
		Solve Assignment No 1: Lect-1 to Lect-5
Day: 4		Lecture 7: Gauss Divergence Theorem
		Lecture 8: Stoke'ss Theorem
Day: 5		Lecture 9: Miscellaneous Example Part-1
		Lecture 10: Miscellaneous Example Part-2
		Lecture 11: Greens Theorem
Day: 6		Solve Assignment No 2: Lect-6 to Lect-11
Day: 7		Class Test 1: Vector Analysis (Lect-1 to Lect-11)
PART-B: Electricity and Magnetism		
Day: 8		Lecture :Syllabus Electricity and Magnetism-IIT-JAM, JEST, TIFR, MSc Entrance
		Lecture 1: Coulomb's Law Part-1
		Lecture 2: Coulomb's Law Part-2
Day: 9		Lecture 3: Gauss Law Part-1
		Lecture 4: Gauss Law Part-2
Day: 10		Lecture 5: Gauss Law Part-3
		Lecture 6: Electrostatic Potential Part-1
Day: 11		Lecture 7: Electrostatic Potential Part-2
		Lecture 8: Electrostatic Energy
		Solve Assignment No. 1: Lect-1 to Lect-7
Day: 12		Lecture 9: Properties of Conductor
		Lecture 10: Electric Dipole
Day: 13		Solve Assignment No. 2: Lect-8 to Lect-10
Day: 14		Class Test 1: Lect-1 to Lect-9
Day: 15		Lecture 11: Polarisation Part-1
		Lecture 12: Polarisation Part-2
Day: 16		Lecture 13: Electrostatic Boundary Conditions
		Lecture 14: Multipole Expansion Part-1 (Special Topic for JEST & TIFR)
		Solve Assignment No. 3: Lect-11 to Lect-13
Day: 17		Lecture 15: Multipole Expansion Part-2 (Special Topic for JEST & TIFR)
		Lecture 16: Image Problem Part-1 (Special Topic for JEST & TIFR)
Day: 18		Lecture 17: Image Problem Part-2 (Special Topic for JEST & TIFR)
		Solve Assignment No. 4: Lect-14 to Lect-17

Day: 19		Lecture 19: Motion of Charged Particles Part-2
		Lecture 20: Motion of Charged Particles Part-3
Day: 20		Solve Assignment No. 5: Lect-18 to Lect-20
Day: 21		Class Test 2: Lect-10 to Lect-17
Day: 22		Lecture 21: Magnetic Force on Current Element in External Field
		Lecture 22: Biot Savart Law Part-1
Day: 23		Lecture 23: Biot Savart Law Part-2
		Lecture 24: Amperes Law Part-1
		Lecture 25: Amperes Law Part-2
		Solve Assignment No. 6: Lect-21 to Lect-25
Day: 24		Lecture 26: Magnetic Vector Potential
		Lecture 27: Magnetic Dipole Part-1
Day: 25		Lecture 28: Magnetic Dipole Part-2
		Lecture 29: Magnetisation Part-1
		Solve Assignment No. 7: Lect-26 to Lect-28
Day: 26		Lecture 30: Magnetisation Part-2
		Lecture 31: Magnetostatic Boundary Conditions
		Solve Assignment No. 8: Lect-29 to Lect-31
Day: 27		Class Test 3: Lect-18 to Lect-25
Day: 28		Class Test 4: Lect-26 to Lect-31
Day: 29		Lecture 32: Faradays Law Part-1
		Lecture 33: Faradays Law Part-2
Day: 30		Lecture 34: Mutual and Self Inductance
		Lecture 35: Maxwell Equations
		Solve Assignment No. 9: Lect-32 to Lect-35
Day: 31		Lecture 36: EM Wave in Free Space
		Lecture 37: EM Wave in Free Space & Dielectric
Day: 32		Lecture 38: EM Wave Inside Conductor
		Lecture 39: Reflection and Transmission (Normal Incidence)
		Solve Assignment No. 10: Lect-36 to Lect-38
Day: 33		Lecture 40: Reflection and Transmission (Oblique Incidence) Part-1
		Lecture 41: Reflection and Transmission (Oblique Incidence) Part-2
		Solve Assignment No. 11: Lect-39 to Lect-41
Day: 34		Class Test 5: Lect-32 to Lect-35
Day: 35		Class Test 6: Lect-36 to Lect-41
PART-C: DC & AC Analysis of RLC circuit		
Day: 36		Lecture 42: DC Analysis of Series R.L. Circuit
		Lecture 43: DC Analysis of Series R.C Circuit
		Solve Assignment No. 12: Lect-42 to Lect-43
Day: 37		Lecture 44: Basics of AC Analysis of R,L,C Circuit
		Lecture 45: AC Analysis of R-L & R-C Circuit
Day: 38		Lecture 46: Series RLC Circuit and Resonance
		Lecture 47: Parallel RLC Circuit Resonance
Day: 39		Lecture 48: Bandwidth and Power of Resonant Circuit
		Solve Assignment No. 13: Lect-44 to Lect-48
Day: 40		Class Test 7: Lect-42 to Lect-48