Classical Physics

	Reference	Chapters (Most important)	Topics
Classical Mechanics	Thorton and Marion, *Classical Dynamics of Particle and Systems* (5th ed.)	7.4, 7.5	Euler-Lagrange Equations, Undetermined Multipliers
		8.3, 8.4, 8.6	Central Force, Angular Momentum, Equations of motion, Effective Potential
		11.2	Dynamics of Rigid Bodies
		12.2, 12.4	Coupled Harmonic Oscillators, General Coupled Oscillation
	Goldstein, *Classical Mechanics* (3rd ed.) (*Alternative Reference)*	6.1-6.4	Small Oscillations
Electromagnetism	Griffiths, *Introduction to Electrodynamics (4th Ed.)*	2.5.4	Capacitors
		3.1- 3.3	Laplace's Equation, Method of Images
		4.1-4.4	Electric Fields in Matter
		5.2	Biot-Savart Law
		6	Magnetic Fields in Matter
		7.3	Maxwell's Equations
		9.2	Electromagnetic Waves in Vacuum
Statistical mechanics and Thermodynamics	Schroeder, *Thermal Physics*	2.1, 2.2, 2.4	Statistical Physics, Einstein Solid
		3.2	Entropy and Heat
		4	Engines/Refrigerators
		6.1, 6.2	Boltzmann Statistics/Partition Function
		7.2	Quantum Statistics – Bosons & Fermions

List is NOT exhaustive

Modern Physics

	Reference	Chapters (Most important)	Topics
Quantum Mechanics	McIntyre, *Quantum Mechanics*	3.2	Schrodinger Time Evolution – Spin
		5.2, 5.4, 5.5	Energy Eigenvalue Equation, Infinite Square Well, Finite Square Well
		6.2	Unbound States and Scattering
		7.5	Particle on a Ring
		9.2	Harmonic Oscillator
		10	Time-independent Perturbation Theory
		13.1- 13.3	Identical Particles
		14.2	Time-dependent Perturbation Theory
	Griffiths, *Introduction to Quantum Mechanics* (2nd ed.) *(Alternative Reference)*	2, 6, 9	
Modern Physics	Serway, Moses, Moyer *Modern Physics* (3rd ed.)	1.4-1.7	Relativity, Lorentz Transformations
		2.1 – 2.4	Relativistic Momentum
		3.2	Blackbody Radiation
		3.5	Compton Scattering
		4.3	Bohr Model of Atom
List is NOT exhaustive			