Physics by fiziks

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Study Plan of Atomic and Molecular Physics for Pre-recorded Batches

(For NET-JRF, GATE, JEST, TIFR Aspirant and M.Sc Students)

Days	Enter Your Dates	Topics
		Part-A: Atomic Physics
Day: 1		Lecture 1: Intoduction of Atomic & Molecular Physics
		Lecture 2: Concept of Atomic Spectra
		Lecture 3: Bohrs Model
		Solve Assignment No. 1: Bohr Theory (Lect-1 to Lect-3)
Day: 2		Lecture 4: Discussion of Assignment No. 1
		Lecture 5: Magnetic Moment Part-1
		Lecture 6: Magnetic Moment Part-2
Day: 3		Lecture 7: Stern-Gerlach Experiment and Electron Spin
		Lecture 8: Fine Spectrum Part-1
Day: 4		Lecture 9: Fine Spectrum Part-2
		Lecture 10: Fine Spectrum Part-3
Day: 5		Lecture 11: Fine Spectrum Part-4
		Lecture 12: Problem discussion of Fine Spectrum
		Solve Assignment No. 2: Fine Spectrum (Lect-5 to Lect-10)
Day: 6		**Class Test 1: Bohrs Theory (Lect-1 to Lect-3)**
Day: 7		**Class Test 2: Fine Spectrum (Lect-5 to Lect-12)**
Day: 8		Lecture 13: LS Coupling Part-1
		Lecture 14: LS Coupling Part-2
Day: 9		Lecture 15: Problems of LS Coupling
		Lecture 16: JJ Coupling and Discussion of Assignment No. 3
		Solve Assignment No. 3: LS Coupling Scheme (Lect-13 to Lect-15)
Day: 10		Lecture 17: Zeeman Effect
		Lecture 18: Normal Zeeman Effect
Day: 11		Lecture 19: Anomalous Zeeman Effect Part-1
		Lecture 20: Anomalous Zeeman Effect Part-2
Day: 12		Lecture 21: Paschen Back Effect
		Lecture 22: Problem Discussion of Zeeman Effect
		Solve Assignment No. 4: Zeeman Effect (Lect-16 to Lect-22)
Day: 13		**Class Test 3: LS Coupling Scheme (Lect-13 to Lect-15)**
Day: 14		**Class Test 4: Zeeman Effect (Lect-16 to Lect-22)**
Day: 15		Lecture 23: Hyperfine Structure
		Lecture 24: Hyperfine Structure-Problem Discussion
		Lecture 25: Assignment Discussion of Atomic Physics
		Solve Assignment No. 5: Hyperfine Structure (Lect-23 to Lect-25)

Days	Enter Your Dates	Topics
		Part-B: Molecular Physics
Day: 16		Lecture 26: Introduction of Molecular Physics
		Lecture 27: Rotational Spectroscopy Part-1
Day: 17		Lecture 28: Rotational Spectroscopy Part-2
		Lecture 29: Vibrational Spectroscopy Part-1
		Solve Assignment No. 6: Rotational Spectroscopy (Lect-26 to Lect-28)
Day: 18		Lecture 30: Vibrational Spectroscopy Part-2
		Lecture 31: Vibrational Rotational Spectroscopy Part-1
Day: 19		Lecture 32: Vibrational Rotational Spectroscopy Part-2
		Lecture 33: Franck Condon Principle and Selection Rules
		Solve Assignment No. 7: Vibrational and Electronisc Spectroscopy (Lect-29 to Lect-33)
Day: 20		**Class Test 5: Hyperfine Spectrum (Lect-23 to Lect-25)**
Day: 21		**Class Test 6: Rotational Spectrum (Lect-26 to Lect-28)**
		Class Test 7: Vibrational and Electronic Spectrum (Lect-29 to Lect-33)
Day: 22		Lecture 34: Raman Spectroscopy Part-1
		Lecture 35: Raman Spectroscopy Part-2
Day: 23		Lecture 36: Raman Spectroscopy Part-3
		Lecture 37: Raman Spectroscopy Part-4
Day: 24		Lecture 38: NMR & ESR Spectroscopy
		Lecture 39: Light Matter Interaction (LASER)
		Solve Assignment No. 8: Raman and NMR-ESR Spectroscopy (Lect-34 to Lect-38)
Day: 25		Lecture 40: Einstein Coefficients (LASER)
		Lecture 41: Optical Resonator (LASER)
Day: 26		Lecture 42: Line Broadening (LASER)
		Lecture 43: Rate Equations (LASER)
		Solve Assignment No. 9: LASER (Lect-39 to Lect-43)
Day: 27		**Class Test 8: Raman and NMR-ESR Spectroscopy (Lect-34 to Lect-38)**
Day: 28		**Class Test 9: LASER (Lect-39 to Lect-43)**