

Semester	JAN 2022
Open to semester	8,14
Course code	<b>PHY434</b>
Course title	<b>Physics Lab VII</b>
Credits	3 /
Course Coordinator & participating faculty (if any)	Pavan Kumar G. V.
Nature of Course	Lab
Pre-requisites	Elementary background in Quantum mechanics, Atomic Physics and Solid State Physics  Interest in troubleshooting experiments
Objectives (goals, type of students for whom useful, outcome etc)	To introduce students to experiments in basic Quantum Physics, Atomic Physics and Spin Resonance Phenomena.
Course contents (details of topics /sections with no. of lectures for each)	1. Thermionic Emission 2. Field Emission 3. Nuclear Counting Statistics 4. Nuclear magnetic resonance 5. Lock-in-Amplifier (Phase sensitive detection) 6. Absorption spectroscopy 7. Absorption/Attenuation of nuclear radiations 8. Bremsstrahlung 9. Generation and characterization of X-rays 10. Electron Diffraction 11. Electron spin resonance 12. Zeeman Effect  Number of experiments will be less than 12
Evaluation /assessment	End-Sem Examination-30% Mid-Sem Examination-30% Others-10% - experimental skills and handling of instruments 30 % - viva, analysis, record keeping etc.%
Suggested readings (with full list of authors, publisher, year, edn etc.)	1. Advanced Practical Physics, B. L. Worsnop and H.T. Flint. Asia Publishing House 2. Analytical experimental Physics, Michael Ference Jr.

	Harvey B. Lemon, Reginald J. Stephenson University of Chicago Press 1970 3. The art of experimental Physics, Daryl W. Preston Eric R. Dietz, John Wiley 1991
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