



SECOND SEMESTER 2020 - 2021

Course Handout Part II

16.01.2021

In addition to part-I (General Handout for all courses appended to the time table) this portion gives further specific details regarding the course.

Course No. : PHY F214
Course Title : Electromagnetism and Optics Lab
Instructor-in-Charge : Subhash Karbelkar
Instructors : Meenakshi V., KVS Shiv Chaitanya

Scope and Objective of the Course

The aim of the course is to introduce important experiments in Electromagnetism and optics to students. The objectives are to supplement textbook learning with experimental demonstration and to impart experimental skills with particular emphasis on data collection, and analysis of data.

Learning outcomes

- Performing each experiment individually, trouble-shooting and collecting precise data.
- Interpreting results, analyzing data, and estimating errors in measurements.
- Documenting the results, and writing lab reports.

Modus operandi

With the remote operation, the course will be run as follows:

Experiments will be conducted in three modules, one each by the three instructors by rotation. All modules will have equal weight in the evaluation. A module will consist of three experiments.

The instructor may, typically, use recorded videos from our labs, experimental manuals, and other online simulation resources to convey the excitement and feel of doing an experiment, best possible under the current situation.

After all the experiments are over a lab test on one experiment and a quiz on all the experiments will be conducted. The lab test may involve doing some part of any one experiment, for example, calculations and graph plotting based on readings provided or software generated. The quiz will be testing student's understanding of all the



experiments as a whole, including theory, apparatuses, procedures and precautions. The details, like submission deadlines, of each of the experiments will be announced by the respective instructors.

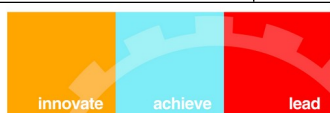
The platform for delivery will be announced by each of the instructors and may include google form or canvas and suitable online resources.

List of Experiments

MODUL E	INSTRUCT OR	S.No. OF EXPERIME NT	Experiment
1	KVS Shiv Chaitanya	1	Charging and Discharging of RC circuit
		2	Malus law and Quarter wave and Half Wave Plate
		3	Single and Double Slit Diffraction
2	Subhash Karbelkar	4	Magnetic Force on Wires
		5	Magnetic Field of Coils
		6	Electromagnetic Induction
3	Meenakshi V	7	Hysterisis
		8	Michelson Interferometer using He Ne laser
		9	Michelson Interferometer using Sodium light
Demonstration		10	Laser oscillation modes

Evaluation Scheme: Same for each module

Component	Duration	Weightage (%)	Date & Time	Nature of component
Attendance		20	Every session	Open book
Record submission		40	Every experiment within the deadline announced	
Quiz	60 minutes	20	At the end	
Lab test	60	20	At the end; any one	



	minutes		experiment random	at	
--	---------	--	----------------------	----	--

Chamber Consultation Hour: To be announced in class.

Notices: All notices concerning this course will be uploaded on CMS only.

Make-up Policy: It is applicable to the following two cases and it is permissible on production of evidential documents.

(i) Debilitating illness.

(ii) Out of station with prior permission, from the institution if representing it or IC in other cases.

Academic Honesty and Integrity Policy: Academic honesty and integrity are to be maintained by all the students throughout the semester and no type of academic dishonesty is acceptable.

INSTRUCTOR-IN-CHARGE
PHY F214

