Birla Institute of Technology & Science, Pilani
Hyderabad Campus

FIRST SEMESTER 2022 - 2023

Course Handout Part II

18.10.2022

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

Course No. : PHY F110
Course Title : Physics Laboratory
Instructor In-charge : K V S Shiv Chaitanya
Instructors : Souri Banerjee, Asrarul Haque, Subrahmanya Bhima Sankar, Rahul Nigam , Swastik Bhattacharya, Sabur Ahmed Barbhuiya , Sreeshna S, Urjjarani Patel, Priyanka Mitra, Geetika Sahu, Anamika Avinash Pathak, Debanjan Guha Roy, Anagh Venneti, Sajia Yeasmin, Suraj Kumar Maurya, Subhash Karbelkar

Aim

Familiarize the students to the experimental methods in physics and also to integrate theoretical knowledge with practical experience. Students will learn operation of scientific equipment for collecting data and do the analysis of collected data.

Learning outcomes

- Identifying and quantifying sources of error in an experiment.
- Fitting experimental data to an expected theoretical expression.
- Error analysis.
- Use of logarithmic graph sheets.
- Usage of optical instruments such as microscopes and spectrometers, through online videos.

Text books

Lab manual (Soft copy), slides and videos
Reference: Relevant reference materials are specified in the lab manual.

Experiments

1. Error analysis and graph drawing
2 Coupled pendulums
3 Kater's pendulum

4 Combination of springs
5 The vibrating string
6 Rotational inertia of flywheel
7 Resonance LCR circuit
8 Newton's rings
9 Calibration of diffraction grating
10 Diffraction grating: separation of sodium lines

Evaluation scheme

Evaluation components Weightage	Duration	Weightage	Date & Time
Day to day performance	1 hour 50 min per class	30 %	
Comprehensive lab exam		40%	
Comprehensive exam		30%	17/02FN

Day to day performance for each lab class

Activity	Marks
Active participation in lab (Discussion/quiz)	10
Calculation and graph (submission within 72 hours)	20
Total	30

The total marks for day-to-day performance of the labs will be scaled down to the corresponding total marks mentioned in the first row of the previous table.

Students MUST submit the lab report in the specified format for each experiment within 72 hours of the class. Late submission will not be counted as SUBMISSION and therefore no marks would be awarded. Students are expected to read the allotted experiments from the manuals before attending the lab, so that they can actively take part in the discussion and answer the quiz.

Make-up

The schedule of the experiment is very strict: the students are expected to attend all the labs regularly. Make-up will be given only in case of hospitalization/other unavoidable technical issues. More than 2 make-up experiments will not be entertained.

Notice: Notices concerning this course will be displayed on CMS.

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 F110