Lecture Plan

Name of the college: Government College of Arts, Science and Commerce, Sanquelim – Goa.

Name of Faculty: Ms. Anushka Panjikar, Pradnya Korgaonkar	**Subject:** Physics	
Paper code: PHY-141 : Basic experimental techniques	**Program:** FY BSc	**Division: -**
Academic year: 2025- 2026	**Semester: I**	**Total Lectures: 15L + 60 P**

Course Objectives: The course will enable students to acquire required skills to understand basic experimental techniques and use them in a physics laboratory.

Expected Course Outcome: Student will be able to

1. Identify different components and Experimental instruments

2. Gain Basic understanding of Experimental instruments.

3. Develop Skills in performing Physics experiments.

4. Calculate errors in an experiment and other parameters related to the experiment.

Student Learning Outcome: The course will enable students to Identify different components and Experimental instruments, Gain Basic understanding of Experimental instruments, Develop Skills in performing Physics experiments, Calculate errors in an experiment and other parameters related to the experiment.

Month	Lecture From	Lecture To	No. of lectures allotted	Topic, Subtopic to be covered	Exercise/ Assignment	ICT Tools	Reference books
JUNE	20-06-25	21-06-25	0				
JUNE	23/06/25	28/06/25	1L + 4P	1. Introduction **Practical 1**	Group discussion	Powerpoint presentation	Practical Physics

JUNE, JULY	30/06/25	05/07/25	1L + 4P	1. Units, vernier, micrometer, travelling microscope, spherometer **Practical 2**	Group discussion	Powerpoint presentation	Practical Physics
JULY	07/07/25	12/07/25	1L + 4P	1. Precision and accuracy, digital balance, temperature scales **Practical 3**	MCQ Quiz	Powerpoint presentation	Practical Physics
JULY	14/07/25	19/07/25	1L + 4P	1. Measurement of temperature **Practical 4**	MCQ Quiz	Powerpoint presentation	Practical Physics
JULY	21/07/25	26/07/25	1L + 4P	1. Arithmetic mean, absolute error,	Group discussion	Powerpoint presentation	Practical Physics

				relative error, percentage error. **Practical 5**			
JULY, AUGUST	28/07/25	02/08/25	1L + 4P	1. Expressing results of an experiment including errors, propagation of errors. **Practical 6**	Group discussion	Powerpoint presentation	Practical Physics
AUGUST	04/08/25	09/08/25	1L + 4P	1. Plotting of graphs. ISA 1 SUBMISSION **Practical 7 ISA 1 SUBMISSION**	MCQ Quiz	Powerpoint presentation	Practical Physics
AUGUST	11/08/25	16/08/25	1L	1. Convex & concave mirror and their focal length. **Practical - HOLIDAY**	MCQ Quiz	Powerpoint presentation	Practical Physics

AUGUST	18/08/25	25/08/25	1L + 4P	1. Convex & concave lenses and simple theory about their focal length. **Practical 8**	MCQ Quiz	Powerpoint presentation	Practical Physics
SEPTEMBER	02/09/25	06/09/25	1L + 4P	1. combination of lenses. **Practical 9**	MCQ Quiz	Powerpoint presentation	Practical Physics
SEPTEMBER	08/09/25	13/09/25	1L + 4P	**Theory ISA II** **PRACTICAL ISA II** **Practical 10**	MCQ Quiz	Powerpoint presentation	Practical Physics

SEPTEMBER	15/09/25	20/09/25	1L + 4P	1. Basic understanding and use of components: Transformers, switches, fixed resistors, potentiometers, rheostats, capacitors, inductors, **Practical Revision**	MCQ Quiz	Powerpoint presentation	Practical Physics
SEPTEMBER	22/09/25	27/09/25	1L + 4P	1. diodes, Zener diodes, LED's, transistors and relay. **Practicals** Revision	MCQ Quiz	Powerpoint presentation	Practical Physics

SEPTEMBER, OCTOBER	29/09/25	04/10/25	1L + 4P	1. Basic understanding and use of instruments /devices: Electrical tester, Digital Multimeter, Digital LCR meter. **ISA III** **Practicals : ISA III**	MCQ Quiz	Powerpoint presentation	Practical Physics
OCTOBER	06/10/25	11/10/25	1L + 4P	1. breadboards, Variac, DC Power supplies (fixed voltage, dual voltage & variable voltage), Function generator.	MCQ Quiz	Powerpoint presentation	Practical Physics

				Practical			
OCTOBER	13/10/25	18/10/25	1L + 4P	1. CRO (Cathode Ray Oscilloscope) and DSO (Digital Storage Oscilloscope) **PRACTICAL EXAM**			Practical Physics

Assessment Rubrics

Component	Max Marks
ISA 1 Assignment	5
ISA 2 Written Test	5
ISA 3 Presentation	5
Practical	40
Semester End Exam	20