

**Subject Code: 02PY0506**
**Subject Name: Laboratory Practicals 4**
**M.Sc. Year-II, Sem-III**

**Objective:** To introspect the fundamental experiments in optics, quantum mechanics and electronics.

**Credits Earned:** 1 Credit

**Course Outcomes:** After completion of this course, post graduate will be able to

- Practise the hands-on experience in performing experiments related to optics, electronics and quantum mechanics.

#### Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE	IA	CSE	Viva (V)	Term work (TW)	
0	0	2	1	0	0	0	25	25	50

#### Suggested List of Experiments:

1. To measure the magnetic field along the axis of a circular coil and verify Biot-Savart law.
2. To determine the Stefan–Boltzmann constant by studying the radiation received from a black body radiator.
3. To study the polarization of light, to verify Malus law and to find the Brewster angle for glass.
4. To measure the value of Planck’s constant ‘h’
5. To study the arithmetic operation of Op-Amp
6. To study the Photoconductivity of CdS photo-resistor at constant irradiance and constant voltage

**References:**

1. "Fundamentals of Optics", 4th Ed., F.A. Jenkins and H.E. White, McGraw-Hill Book Co., 1981.
2. "Laboratory Experiments in College Physics", C.H. Bernard and C.D. Epp, John
3. "Practical Physics", G.L. Squires, Cambridge University Press, Cambridge, 1985

**Instructional Method:**

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.