Course Type	Course Code	Name of Course	L	T	P	Credit
DP	NPHC517	Experimental Physics VI	0	0	3	1.5

Course Objective

- To make students acquainted with some important experiments of Fibre and Optical physics;
- To increase observational and analytical power of students.

Learning Outcomes

Students will learn:

- Basic physics of working mechanism of each experiment.
- Techniques to study optical phenomena and their applications.
- To enhance experimental capability and instrument handling skill.

Unit No.	Topics To be covered	Lecture Hrs.	Learning Outcome
1	To find outVerdet constant of a given material by Faraday rotation	2*3	Student will learn about Faraday rotation.
2	To study the Pockels effect using electro-optic cell	1*3	Student will learn about the electro optic cell.
3	Particle size determination using laser light diffraction	1*3	Student should be able to find the particle size due to the diffraction effect.
4	Determination of e/m of electron using bending of beam method	2*3	Student will learn about the measuring the deflection of a beam of electrons in electric and magnetic fields.
5	Measurement of ultrasonic velocity of water with temperature	2*3	Student will learn about the variation of ultrasonic velocity of water with respect to the temperature
6	Study of the characteristics of a GM tube and determination of its operating voltage, plateau length	2*3	Student will learn about the GM Counter and its use in Nuclear and Particle Physics.
7	Verification of inverse square law using Gamma source	1*3	Student will learn about the handling of Gamma source and particle physics
8	(A) To study the Gaussian nature of laser beam and determine the beam spot size. (B) To measure the divergence angle of the beam (divergence angle θ_x) (C) To measure the divergence angle of the beam (divergence angle θy)	3*3	Student will explore the various properties of light beam using Laser as a source.
Total		**42**	

References:

1 Laboratory Manual.

2 An Advanced Course in Practical Physics by D. Chattopadhyay, P. C. Rakshit; New Central Book Agency (P) Ltd., 2007 (8e)

3 A Textbook of Advanced Practical Physics by S. K. Ghosh; New Central, 2000 (4e)

4 Advanced Practical Physics, V - I and II, by Chauhan and Singh; PragatiPrakashan, 2017.