

BSP302P					Electricity & Magnetism Lab					
Teaching Scheme					Examination Scheme					
L	T	P	C	Hrs/Week	Theory			Practical		Total Marks
					MS	ES	IA	LW	Viva	
0	0	2	1	2	-	-	-	50	50	100

COURSE OBJECTIVES

- ☐ To understand the working of various instruments used in electricity and magnetism.
- ☐ To gain practical knowledge in electricity and magnetisms through experiments.
- ☐ To understand basics concepts of electromagnetism be able to apply in practise.

A. List of experiments (Any 8)

1. Verification of Faraday and Lenz's law
2. Determination of internal resistance of a cell using potentiometer
3. Study of the combination of LCR
4. Determination of High resistance using leakage method
5. Study of Post office box and determination of unknown resistance
7. Study of high-pass and low-pass filters
8. Verification of Kirchhoff's laws
9. Study the Balmer series of Hydrogen using spectrometer
9. Study of Ferromagnetic hysteresis
10. Study of Electrical conductivity of metals
11. Study of Diffraction and Interference of Microwaves
12. Measuring the ballistic constant of a Ballistic galvanometer

B. Project/Model based on the principles of Electricity & Magnetism**COURSE OUTCOMES**

On completion of the course, the students will be able to

- CO1 - Apply and analyze the concepts of electricity and magnetism.
- CO2 - Understand the phenomenon of electromagnetic induction.
- CO3 - Demonstrate and implement the phenomenon of hysteresis
- CO4 - Investigate the electrical and magnetic properties of a substance
- CO5 - Examine various electrical and magnetic components used in related experiments
- CO6 - Apply the principles of electricity to design a working model

TEXT/REFERENCE BOOKS

1. D. J. Griffiths, Introduction to Electrodynamics. 3rd ed. Upper Saddle River, NJ: Prentice Hall, 1998. ISBN: 9780138053260.
2. E. M. Purcell, Electricity and Magnetism, Berkeley Physics Course. 2nd ed. Vol. 2. New York, NY: McGraw-Hill, 1984. ISBN: 9780070049086.
3. Resnick, Halliday and Krane, Physics part I and II, 5th Edition John Wiley (2002).
4. C.S. Robinson, R, Das, Textbook of Engineering Physics Practical, University Science Press, ISBN 978-9380386867
5. A. Ghatak, Optics, 3rd edition, Tata McGraw Hill (2005).

Evaluation**Max. Marks: 100**

Continuous evaluation	50 marks
End semester examination, Viva-voce & project presentation	50 marks