SCHEME OF COURSE WORK
B. Tech Semester I & II
PHYSICS LAB (13BP1102)
DEPARTMENT OF PHYSICS

Course Details:

Course Title **PHYSICS LAB**
Course Code ***13BP1102*** **L T P C 0 0 3 2**
Program: **B. Tech.**
Specialization: **Common to all branches**
Semester **I / II**
Prerequisites **Basics of Physics up to +2 level**
Courses to which it is a prerequisite **N/A**

Course Outcome (COs):

CO1	Demonstrate the elastic response of loaded beams; estimate the frequency of a vibrating system using standing wave pattern.
CO2	Familiarize with CRO; assess the resonant frequency and quality factor of electrical oscillations.
CO3	Estimate the strength of the magnetic field due to a current carrying coil.
CO4	Interpolate some of the physical parameters based on optical phenomena
CO5	Realize explicit knowledge on the working and performance of photocells

Course Outcome versus **Program Outcomes:**

COs:	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1												M
2	S	S	S	S	M	M	M	M				M
3	S	S	S	M	M	M	M	M				M
4	M		M									M
5	M	M	M	M	M							M

SCHEME OF COURSE WORK

Subject- PHYSICS

Academic Year-2014-15
Teaching-Learning and Evaluation

Week	TOPIC / CONTENTS	Course Outcomes	Sample questions	Teaching Learning Strategy	Assessment Method & Schedule
1	Determination of modulus of elasticity	**CO-1**	1)define and Classify: Stress and Strain 2)State Hooke's Law 3)Write a note on Elastic behavior of materials. 4)State and explain Poisson's ratio and elaborately explain the relationship b/w moduli of rigidity.	Live Demonstration and hands on experience	Day to day analysis and record valuation (Week 1)
2	Determination of the frequency of the electrically tuned vibrator by forming the stationary waves	**CO-1**	1) What are stationary waves 2) difference between longitudinal and transverse modes	Live Demonstration and hands on experience	Day to day analysis and record valuation (Week 2)
3	Measurements of the AC voltages and frequencies using CRO	**CO-2**	1) What is meant by RMS voltage 2) Diff. between AC and DC	Live Demonstration and hands on experience	Day to day analysis and record valuation (Week 3)
4	Determination of the resonant frequency of LCR series and parallel circuits and finding the quality factor	**CO-2**	1) What is resonance 2) Significance of quality factor	Live Demonstration and hands on experience	Day to day analysis and record valuation (Week 4)
5	Study the variations in intensity of magnetic field along the axis of circular coil using Stewart & Gee type galvanometer	**CO-3**	1) What is Biot-Savart Law 2) What is Tangent law 3) What is magnetic meridian position	Live Demonstration and hands on experience	Day to day analysis and record valuation (Week 5)
6	**Internal Lab exam - 1**	**-**	-	-	Assessment -2 (Week – 6)
7	Determination of radius of curvature of a given convex lens by forming Newton Rings	**CO-4**	1) What is interference of light 2) What is cosine law 3) Conditions for constructive and destructive interferences	Live Demonstration and hands on experience	Day to day analysis and record valuation (Week 7)

8	Determination of wavelengths of spectral lines of mercury spectrum using diffraction grating	**CO-4**	1) Define diffraction 2) Mention the kinds of diffraction 3) Diff between interference and diffraction	Live Demonstration and hands on experience	Day to day analysis and record valuation (Week 8)
9	Determination of particle size using laser diffraction	**CO-4**	1) What is basic principle 2) Abbreviation of LASER 3) why the fringes of circular	Live Demonstration and hands on experience	Day to day analysis and record valuation (Week 9)
10	Determination of Planck's constant	**CO-5**	1) What is photo electric effect 2) Give Einstein's Photo electric equation 3) what is threshold frequency	Live Demonstration and hands on experience	Day to day analysis and record valuation (Week 10)
11	Study the I-V characteristics of Solar Cell	**CO-5**	1) What is photovoltaic effect 2) what is the principle of solar cell 3) what is the importance of fill factor	Live Demonstration and hands on experience	Day to day analysis and record valuation (Week 11)
12	**Internal Lab exam - II**	-	-	-	Assessment -2 (Week -12)
	Preparation and End Semester Practical Examination				

Assessment Methods:	Day to Day analysis/Internal Lab exams/ End Exam