APPLIED PHYSICS LAB

Course Code:22BP1102

L	T	P	C
0	0	3	1.5

Course Outcomes: At the end of the Course the student shall be able to

CO1: interpret the physical parameters based on optical phenomena (L2)

CO2: analyze the dielectric behaviour of a material (L4)

CO3: identify the characteristics of semiconducting materials (L3)

CO4: estimate the strength of magnetic field and asses the losses in magnetization (L4)

CO5: demonstrate the mechanical parameters using sensors (L2)

List of Experiments:

(Any TWELVE of the experiments shall be conducted)

1. Determination of wavelength of a source-Diffraction Grating-Minimum Deviation method.
2. Determination of radius of Curvature of Plano - Convex Lens-Newton‟s rings.
3. Determination of particle size of lycopodium powder using LASER diffraction.
4. Study of magnetic field along the axis of a current carrying coil – Stewart and Gee‟s apparatus.
5. Determination of Energy Band gap of a p - n junction diode.
6. Determination of wavelength of LASER using grating.
7. Determination of dielectric constant by charging and discharging method - RC circuit.
8. Determination of resistivity of semiconductor by Four probe method (Four Probe 1).
9. Study of the B-H curve by magnetizing a magnetic material.
10. Determination of microstrain of a cantilever using strain Gauge sensor.
11. Determination of Hall Coefficient of a semiconducting material - Hall effect
12. Measurement of the self inductance of the coil (L) using Anderson‟s bridge.
13. Determination of energy band gap of a semiconductor (Ge) (Four Probe 2)
14. Determination of the temperature coefficient of resistance of a material using Thermistor

Web references for some experiments:

https://vlab.amrita.edu/?sub=1&brch=282&sim=1511&cnt=1

https://vlab.amrita.edu/?sub=1&brch=282&sim=1507&cnt=1

https://vlab.amrita.edu/index.php?sub=1&brch=192&sim=972&cnt=1

https://vlab.amrita.edu/index.php?sub=1&brch=192&sim=346&cnt=1

https://vlab.amrita.edu/index.php?sub=1&brch=281&sim=334&cnt=1

https://vlab.amrita.edu/?sub=1&brch=282&sim=1512&cnt=1

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