

<b>Regulation GRBT-20</b>	<b>Godavari Institute of Engineering &amp; Technology (Autonomous)</b>	<b>I B.Tech</b>			
<b>Course Code</b>	<b>APPLIED PHYSICS LABORATORY (For All Circuital Branches like ECE, EEE, CSE, CSE (AI &amp; ML), CSE (Cyber Security) etc)</b>				
<b>Teaching</b>	<b>Total contact hours – 48h</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
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### Course Objectives:

On Completion of the course, the students will be able	
CO1:	To handle optical instruments like microscope and spectrometer, determine thickness of a hair/paper with the concept of interference and to estimate the wavelength and resolving power of different colors using diffraction grating
CO2:	To demonstrate the importance of dielectric material in storage of electric field energy in the capacitors and plot the intensity of the magnetic field of circular coil carrying current with varying distance
CO3:	To evaluate the resistivity of the given semiconductor using four probe method
CO4:	To identify the type of semiconductor i.e., n-type or p-type using Hall effect and determine the band gap of a given semiconductor

### List of Physics Experiments

1. Determination of the radius of curvature of the lens by Newton's ring method
2. Determination of wavelength by plane diffraction grating method
3. Resolving power of a grating
4. Magnetic field along the axis of a circular coil carrying current
5. To determine the energy gap of a semiconductor
6. Measurement of resistance with varying temperature
7. To determine the V-I characteristics of P-N Junction diode
8. To determine the V-I characteristics Zener diode
9. To determine the resistivity of semiconductor by Four probe method
10. To determine the carrier concentration and Hall coefficient

### Additional Experiments

1. Determine the thickness of the fiber using wedge shape method
2. To verify the laws of vibration using sonometer
3. To determine the acceleration due to gravity using compound pendulum
4. Rigidity modulus of material of a wire-dynamic method (torsion pendulum)
5. Moment of inertia by Flywheel

### References:

1. S. Balasubramanian, M.N. Srinivasan "A Text book of Practical Physics"- S Chand Publishers, 2017

### Web link:

1. <http://vlab.amrita.edu/index.php> -Virtual Labs, Amrita University

### CO-PO Mapping:

**1: Slight [Low]; 2: Moderate[Medium]; 3: Substantial [High], '-' : No Correlation**

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	2	2	-	3	1	-	1	-	-	2
CO2	2	3	2	3	2	3	1	-	3	-	-	3
CO3	2	3	2	3	2	3	1	-	2	-	-	3
CO4	2	2	3	3	2	2	1	-	2	-	-	3

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