BSPH-106

Applied Physics-I Lab

L	T	P	C
0	0	2	1

Total Laboratory Load: 4 months (16 Lab period = 2hrs. each)

Course Outcomes:

After successful completion of the Physics-I laboratory course, students should be able to:

- **CO1:** Verify the theoretical formulations/ concepts of physics.

- **CO2:** Know the art of recording the observations of an experiment scientifically.

- **CO3:** Learn by doing.

- **CO4:** Handle and operate the various elements/parts of an experiment.

- **CO5:** Understand the importance of an experiment in engineering & technology.

- **CO6:** Preparing for vocational skills at diploma level

- **CO7:** Standardization of the knowledge acquired

	CO/PO Mapping S-strong, M-medium and W-weak indicate the strength of correlation											
COs	Programme outcomes (POs)											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	2	1	3	1	2	2	2	2	3	2	1
CO2	1	2	1	2	1	2	2	3	2	2	2	3
CO3	1	1	1	2	2	2	3	2	2	3	3	3
CO4	2	1	2	2	3	2	3	3	3	3	3	3
CO5	1	1	1	2	2	3	2	3	3	2	3	3
CO6	1	1	2	2	1	2	3	3	2	3	3	3
CO7	2	1	1	2	2	3	3	3	3	3	3	2

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List of Experiments:

1. To measure the dimensions of a geometric object, including its length, breadth, and height, using a Vernier caliper, and then calculate its volume based on these measurements.

2. To measure the diameter of a wire or rod by using screw gauge and subsequently determine its area of cross-section.

3. To determine the height or depth at the center of a given lens or mirror and to calculate its radius of curvature using a Spherometer.

4. To measure the time period of a simple pendulum using a stopwatch and then calculate the acceleration due to gravity (g).

5. To measure the mass of an object using an electronic balance and then calculate its density.

6. To study the relationship between the force of limiting friction and the normal reaction on horizontal plane using a block.

7. To determine the force or spring constant using Hooke's law.

8. To determine the viscosity of glycerine by utilizing Stokes' method, which involves measuring the terminal velocity of a spherical body falling through glycerine.

9. To determine the Young's Modulus of a rectangular bar by bending, utilizing the formula for the bending stress in a beam and measuring the corresponding strain.

10. To determine the surface tension of water using the capillary rise method, by measuring the height of water rise in a capillary tube.

11. To determine the Stefan-Boltzmann constant (σ) by measuring the total radiation emitted by a blackbody radiator at different temperatures.

12. To determine the frequency of the tuning fork using a sonometer.