

**Government Polytechnic Dehri-on-sone****Tentative Lab Plan****Course: Diploma**

<b>Subject</b>	<b>Applied Physics A</b>	<b>Subject Code:P2400102B</b>
<b>Semester</b>	<b>I</b>	<b>Department: Applied Sciences</b>
<b>Name of Faculty:</b>	<b>Dr. Rajesh Niranjana</b>	<b>Branches: Electrical Engg/Electronics Engg./Computer Science &amp; Engg.</b>
<b>S.N</b>	<b>Laboratory Experiment/Practical Titles</b>	<b>Practical/Lab Session Outcomes (LSOs)</b>
1	Vernier caliper	LSO 1.1. Use Vernier caliper to measure the known and unknown dimensions of a given small object. LSO 1.2. Estimate the mean absolute error up to two significant figures.
2	Screw gauge	LSO 2.1. Use screw gauge to measure the diameter/ thickness of a given object. LSO 2.2. Estimate the mean absolute, relative and percentage errors up to three significant figures.
3	Spherometer	LSO 3.1. Use Spherometer to measure radius of curvature of given convex and concave mirror/surface. LSO 3.2. Estimate errors in the measurement.
4	Spring Oscillator	LSO 4.1. Determine the spring constant of a given spring.
5	Bar Pendulum	LSO 5.1. Determine the time period of oscillation of given bar pendulum. LSO 5.2. Determine the radius of gyration and moment of inertia about an axis perpendicular to
6	Pullingger's apparatus	LSO 6.1. Determine the coefficient of linear expansion of material of a given rod.
7	Searle's apparatus	LSO 7.1. Use Searle's apparatus to determine the Young's modulus of a given wire.
8	Stokes law	LSO 8.1. Apply Stokes law to determine the coefficient of viscosity of a given viscous liquid.
9	Photo-electric cell	LSO 9.1. Determine the inverse square law relation between the distance of photocell and light source v/s intensity of light source.

10	Numerical Aperture of an optical fiber.	LSO 10.1. Determine the Numerical Aperture (NA) of a given step index optical fiber.
11	He-Ne/diode laser	LSO 11.1. Measure wavelength of a He-Ne/diode laser by using a plane diffraction grating.
11	Fly wheel	LSO 11.2. Find the moment of inertia of a given flywheel
12	Photo electric effect (virtual lab experiment)	LSO 11.3. Plot the graph between KE of Photo electron v/s frequency of incident light
		LSO 11.4. Determine the value of Plank's Constant (h) from the graph between KE v/s
		LSO 11.5. Determine the variation of stopping potential w.r.t frequency of incident
		LSO 11.6. photon
13	Emission Spectra of Hydrogen (virtual lab experiment)	LSO 11.7. Determine the wavelength of different spectral lines of Hydrogen spectra
	Sd/-	Sd/-
	Signature of Faculty (Dr. Rajesh Niranjana)	Signature of HOD ( Dr. Rajesh Niranjana)