Physics Practical Curriculum for Semester I

I	Course Code	**PH 181101**			
II	Course Title	**Physics Laboratory**			
III	Credit Structure	L	T	P	C
		0	0	3	1.5
IV	Prerequisite(If any for the student)	Nil			
V	Course Content	1. Compound Pendulum: Determine the acceleration due to gravity and the radius of gyration of the given compound pendulum. 2. Young's Modulus by Koenig's Method: Determine Young's modulus of the material of a rectangular bar by Koenig's method. 3. Thermal Conductivity by Lee's Disc: Measure the thermal conductivity of a poor conductor by electrically heated Lee's disc apparatus. 4. Kundt's Tube: Measure the velocity of sound in air using Kundt's tube apparatus and calculate the "γ" of air at room temperature. 5. Helmoltz Coil: Verify the principle of superposition and to examine the uniformity of the magnetic field produced by Helmholtz coils. 6. Fresnel's Biprism: Determine the wavelength of light using Fresnel's bi- prism. 7. Hydrogen Spectrum: Measure the wavelengths of visible spectral lines in Balmer series of atomic hydrogen and to determine the value of Rydberg's constant. 8. Grating Spectrometer: Determine the wavelengths of spectral lines of mercury and the angular dispersive power of a diffraction grating. 9. Single Slit Diffraction: Study the diffraction at a single slit and verify Heisenberg's uncertainty principle. 10. Four Probe Method: Study the resistivity of the semiconductor by Four Probe Method at different temperatures and determine the band gap. 11. Photoelectric Effect: Determine the value of Planck's constant using photoelectric effect. 12. Hall Effect: Determine the carrier concentration and type of carrier using Hall effect.			
VI	Text/References	1. Practical Physics, G. L. Swuires, 4th Edition, Cambridge University Press,2012. 2. Physics, Vols 1 & 2, D. Holliday, R. Resnick and K. S.Krane, John Wiley and Sons, 5th Edition, 2002. 3. Optics, Ajoy Ghatak, 5th Edition, Tata McGraw Hill, 2012. 4. Introduction to Geometrical and Physical Optics, B. K. Mathur, Gopal Printing, 1967. 5. Introduction to Solid State Physics, C. Kittle 8th Edition, Wiley Publications,2004.			