

Course Title	PHYSICS LAB-V
Course Code	MPHY-365
Credit Hours	CH1
Pre- requisites	MPHY-371
Learning outcomes	To train students in performing experiments related to electronics
Contents	Electronics: To construct a power supply by using Bridge rectifier and study its output without and with a capacitor filter, (b) Design a full-wave rectifier and study its output with a π-filter, (c) Design a regulated power supply using Zener diode and study its regulation. To construct clipper and clamping circuits and study the output waveshapes. Design differentiator and integrator circuits and study output waveshapes. Design a CE amplifier and study its frequency response. Determine its low- and upper-limit frequencies and the bandwidth. Design an emitter amplifier and determine its input and output impedance. Design an RC phase-shift oscillator and determine its frequency by Lissajous figures. Design a multivibrator and determine its frequency. To construct from discrete components OR, AND, NOT, NAND, NOR Circuits and verify their truth tables, Kirchhoff laws experiment, Semiconductor diodes and transistors, Digital multimeter and power supplies, Arduino base experiment, LED and LDR experiments. <i>*Note: Any eight experiments must be performed subject to the availability of apparatus</i>
Teaching-learning Strategies	Classroom teaching / Lecturing, practical
Assignments- Types and Number	Problem sheet: 3-4 Experimental write-up, data analysis and data plotting, observations and calculations etc.
Assessment and Examinations	Mid-Term Assessment: 35% Formative Assessment: (25%): It includes classroom participation, attendance, assignments and presentations, homework, attitude and behavior, hands-on-activities, short tests, quizzes etc. Final Term Assessment: 40%
Text Books	1. Physics laboratory experiments by Jerry D. Wilson, Cengage Learning (2014) 2. General Physics Laboratory I Experiments by Kapila Clara Castoldi, Kendall Hunt, (2015) 3. Physics Lab Experiments by Matthew French, Mercury Learning & Information, (2016) 4. Experiments And Demonstrations In Physics: Bar-ilan Physics Laboratory by Kraftmakher Yaakov, World Scientific (2014).