Phone : 2595-4038 (Off.) / 2565-3778 (Pr.)
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PANIHATI MAHAVIDYALAYA

DEGREE COLLEGE
(NAAC ACCREDITATED)
Affiliated to West Bengal State University
Barasat Road, P.O. - Sodepur, Kolkata - 700110

Ref. No. PMV/Tender/21-22/01 Date : 04/06/2022

TENDER NOTICE

Sealed quotations are invited to purchase the following laboratory equipments for the **Department of Physics**, Panihati Mahavidyalaya **within 7 (seven) days** from the date of online publication of this tender notice on the College website.

Please quote net prices of the equipments including all taxes. Installation charges including additional accessories (for complete set up of each experiment) should be included in the net prices. All equipments have to be of good quality.

List of apparatus for lab:
Complete Setup for experiments: (One setup each)

PHSACOR09P (Modern Physics Lab)
1. To determine the wavelength of H-alpha emission line of Hydrogen atom.
2. To determine the absorption lines in the rotational spectrum of Iodine vapour.
3. To determine the value of e/m by Bar magnet.
4. To determine the wavelength of laser source using diffraction of double slits.
5. To determine wavelength and angular spread using He-Ne/ solid state laser using plane diffraction grating.
6. To determine work function of material of filament of directly heated vacuum diode.
7. To show the tunnelling effect in tunnel diode using I-V characteristics.
8. Measurement of Planck's constant using black body radiation and photo-detector
9. Photo-electric effect: photo current versus intensity and wavelength of light; maximum energy of photo-electrons versus frequency of light
10. To determine the ionization potential of mercury.

PHSACOR13P (Electromagnetic Theory Lab)
1. To verify the law of Malus for plane polarized light.
2. To determine the wavelength and velocity of ultrasonic waves in a liquid
(Kerosene Oil, Xylene, etc.) by studying the diffraction through ultrasonic grating.
3. To study the polarization of light by reflection and determine the polarizing angle for air-glass interface.
4. To verify Fresnel's formula for reflection of polarized light incident on a dielectric interface.
5. To determine the Boltzmann constant using V-I characteristics of PN junction diode.
6. To determine the refractive Index of (1) glass and (2) a liquid by total internal reflection using a Gaussian eyepiece.
7. To determine the refractive index of liquid by total internal reflection using Wollaston's air-film.
8. To analyze elliptically polarized Light by using a Babinet's compensator.

PHSADSE06P (Communication Electronics Lab)
1. To study FM - Generator and Detector circuit
2. To study Time Division Multiplexing (TDM)
3. To study Pulse Amplitude Modulation (PAM)
4. To study Pulse Width Modulation (PWM)
5. To study Pulse Position Modulation (PPM)
6. To study ASK, PSK and FSK modulators

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04.06.22
Principal
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PHSGCOR04P (Wave and Optics Lab)
1. To determine the frequency of an electric tuning fork by Melde's experiment and verify λ^2 - T law.
2. To study Lissajous Figures to determine the phase difference between two harmonic oscillations.
3. To determine the thickness of a thin paper by measuring the width of the interference fringes produced by a wedge-shaped Film.
4. To investigate the motion of coupled oscillators.

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PHSGDSE03P (Solid State Physics Lab)

1. To determine the Coupling Coefficient of a Piezoelectric crystal.
2. To measure the Dielectric Constant of a dielectric Materials with frequency
3. To study the characteristics of a Ferroelectric Crystal.
4. To draw the BH curve of Fe using Solenoid & determine energy loss from Hysteresis.
5. To measure the resistivity of a semiconductor (Ge) with temperature by reverse bias characteristics of Ge diode (room temperature to 80 oC) and to determine its band gap.
6. To study temperature coefficient of a semiconductor (NTC thermistor)
7. Measurement of susceptibility of paramagnetic solution (Quinck's Tube Method)
8. To measure the Magnetic susceptibility of Solids.

General Requirements for Lab

1. Sodium Lamp – 2 pc
2. Mercury Source – 1 pc
3. Double slit with micrometer screw – 2 pc
4. Single slit with micrometer screw – 1 pc
5. Unregulated power supply(0-12V or 0-15V) – 3 pc
6. Function Generator – 2 pc
7. Power Supply (DC) 5V - 2 pc
8. Variable Inductance box – 2pc
9. Variable capacitance box - 2pc
10. Tunnel Diode -2pcs
11. Vacuum Diode valve with holder -2Pcs
12 Photo Electric Valve 2 Pcs
13. Induction Cooker -1Pc
14. Analog Ammeter – 0-20mA -1pc
    0-200mA -1pc
    0-1A -1pc
    0-5A -1pc
15. Analog Voltmeter 0-50mV -1pc
    0-500mV -1pc
    0-1V -1pc
    0-15V -1pc
16. Electronics components drawer (50 slot at least)

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