

**OFFICE OF THE PRINCIPAL SMT. SUSHMA SWARAJ GOVT. COLLEGE FOR GIRLS,
BALLABGARH**

College Notice

Memo No.:-GCG/BLB/2025/ 3686 .

Date:-22.04.2025

Sealed quotations are hereby invited from suppliers for the following apparatus/instruments given below. The sealed envelope of quotation must bear the words, "Quotation for Physics Lab Instruments for the session 2025-26", and must reach in the office of the undersigned within 28 days positively.

Note: The Principal has the authority to select/reject any quotation without any justification if found any discrepancy later.

1. Vernier Callipers
2. Screw Gauge
3. Spherometer.
4. To determine the height of a building using a Sextant.
5. Multi-meter for measuring Resistance, A.C. and D.C. Voltage and Current, Checking of electrical fuses.
6. To determine an unknown Low Resistance using Potentiometer.
7. To determine Frequency of A.C. mains using an electromagnet.
8. To determine Frequency of A.C. mains Electrical vibrator.
9. Verification of Inverse square law by photo-cell.
10. Travelling microscope.
11. To study the Motion of Spring and calculate (a) Spring Constant, (b) g and (c) Modulus of rigidity.
12. To determine the Moment of Inertia of a Flywheel.
13. Moment of Inertia of irregular body using a Torsion Pendulum.
14. Young's Modulus by Bending of Beam.
15. To determine g and velocity for a freely falling body using Digital Timing Technique
16. To determine Coefficient of Viscosity of water by Capillary Flow Method (Poiseuille's method).
17. To determine the Young's Modulus of a Wire by Optical Lever Method.
18. To determine the Modulus of Rigidity of a Wire by Maxwell's needle.
19. To determine the elastic Constants of a wire by Searle's method.
20. To determine the value of g using Bar Pendulum.
21. To compare Moment of Inertia of a solid Sphere, Hollow Sphere and solid Disc of same mass with the help of Torsion Pendulum.
22. To determine the bending moment of a cantilever beam with uniformly distributed load, uniformly varying load and point load.
23. To determine an unknown Low Resistance using Carey Foster's Bridge with calibration.
24. Determination of Impedance of an A.C. circuit and its verification.
25. To determine High resistance by substitution method.
26. To compare capacitances using De'Sauty bridge.
27. To verify the Thevenin's and Norton theorems.
28. To verify the Superposition, and Maximum power transfer theorems.
29. To study a series LCR circuit and determine its (a) Resonant frequency, (b) Quality Factor.

30. To study a parallel LCR circuit and determine its (a) Anti-resonant frequency and (b) Quality factor.
31. To observe the loading effect of a multimeter while measuring voltage across a low resistance and high resistance.
32. To observe the limitations of a multimeter for measuring high frequency voltage and currents.
33. To measure Q of a coil and its dependence on frequency, using a Q- meter.
34. Measurement of voltage, frequency, time period and phase angle using CRO.
35. Measurement of time period, frequency, average period using universal Counter/frequency counter.
36. Measurement of rise, fall and delay times using a CRO.
37. To study characteristics of Zener diode.
38. To find high resistance by substitution method
39. Measurement of R, L and C using a LCR bridge/ universal bridge.
40. To study Diode characteristics (I – V).
41. Designing of regulated power supply of 15Volts.
42. To test a diode and transistor using multi-meter and CRO.
43. Designing of B-H loop tracer
44. To determine the dielectric constant of polar and non-polar liquids
45. To determine the Magnetic susceptibility of a solid sample.
46. To study B-H curve of a given ferrite sample and find energy loss in case of ferrite Core.
47. Stefan's constant by the black copper radiation plates (Electrical Method).
48. To determine the heat capacity of solids
49. To verify the existence of different harmonics and measure their relative amplitudes using Fourier Analysis kit
50. To study of dielectric constant as a function of temperature and determine the Curie temperature
51. To determine the dielectric constant of different solid samples
52. Study of lead tin phase diagram
53. To determine Boltzmann Constant (k) using I-V characteristics of Si/Ge P-N junction diode
54. Dissociation Energy of I₂ molecule
55. Measurement of minority carrier life time using Haynes Shockley experiment
56. Design/study of a Regulated Power Supply.
57. To study the frequency response of a single state negative feedback amplification for Various feedback circuits. Negative Feedback (voltage series/shunt and current series/shunt)
58. To study rectifier and filter circuits and draw wave shapes.
59. Study of Network theorems.
60. To study the frequency variation in RC phase shift, Colpitts and Hartley Oscillators.
61. Frequency response of RC coupled Amplifier.
62. To study the characteristics of a junction transition and determination of FET Parameters.
63. FET and MOSFET characterization and application as an amplifier.
64. Uni-junction Transistor and its application.
65. Bridge Rectifier using SCR with DC and AC Gate
66. Characteristics and applications of Silicon Controller Rectifier..
67. Determination of ionization potential of mercury.
68. Determination of e/m of electron by helical method.

69. To study of dielectric constant as a function of temperature and determine the Curie Temperature.
70. To determine Planck's Constant (h) by measuring the voltage drop across light-emitting diodes (LEDs) of different colours.
71. To determine the value of energy levels using Frank-Hertz experiment
72. Characteristics of Phototransistor
73. To calibrate a prism spectrometer with mercury lamp and hence to find the Cauchy's Constants.
74. To determine refractive indices of liquids, transparent and translucent solutions and solids using Abbe-refractometer.
75. To study the velocity of sound and its variation with temperature using Ultrasonic Interferometer.
76. To study the characteristics (illumination, I-V, Power-load, Areal and Spectral characteristics) of a Solar cell
77. To Measure the resistivity of Ge crystal using four probe method at different temperatures and hence find the band gap
78. Digital I : Basic Logic Gates, NAND and NOR and Flip flops
79. Astable, Monostable and Bistable Multivibrators.
80. Study of Emitter follower/Darlington Pair Amplifier model-C024
81. To study the characteristics and frequency response of a push- pull amplifier
82. To study the characteristics and frequency response of a Chopper Amplifier
83. Wein Bridge and Phase shift oscillator.
84. To study analog voltage comparator circuit.
85. To study the frequency response of a two stages
 - a. Transformer coupled amplifier
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89. Design of a Common Emitter Transistor Amplifier.
90. Transistor Biasing and Stability.
91. Dispersion relation in a periodic electrical circuit: an analog of monatomic and diatomic lattice vibration.
92. To determine the Lande- g factor of DPPH using ESR spectrometer.
93. To determine the wavelength of He-Ne laser light using an engraved scale as a diffraction grating.
94. Setting up a Fiber Optic Analog Link, Study of losses in Optical Fiber, Measurement of Propagation Loss and Measurement of Bending Loss.
95. Study of characteristics of fiber optic LED & detector, measurement of numerical Aperture and Study of frequency modulation & demodulation using fiber optic link
96. To determine magneto resistance of a Bismuth crystal as a function of magnetic field.
97. To study hysteresis in the electrical polarization of a TGS crystal and measure the Curie temperature.
98. Measurement of thickness of thin wire using He-Ne laser
99. Measurement and analysis of fluorescence spectrum of I_2 vapour
100. To study the thermo-luminescence of F-centers in Alkali halides crystals
101. Determination of e/m of electron by normal Zeeman effect using Feby Perot Etalon.
102. G.M. Counters – characteristics, dead time and counting statistics

103. Verification of Hartmann formula for prism spectrogram.
104. Measurement of optical spectrum of an alkali atom.
105. Measurement of Hall Coefficient of given semiconductor, Identification of charge Carrier type and estimation of carrier concentration.
106. To determine numerical aperture of an optical fiber and size of Lycopodium powder using semiconductor laser
107. To determine the specific heat of Nano Fluids
108. To study the characterization and phase transition using Nano fluid Interferometer
109. Study of Energy band gap and diffusion potential of PN junction
110. Study of NMR spectra using NMR spectrometer
111. Characteristics of Opto-electronic devices
112. Determination of thermal conductivity of given bar at different temperatures
113. Measurement of thermoelectric power.
114. Velocity of sound in air by CRO method.
115. Pulse position/Pulse width Modulation/Demodulation
116. FSK Modulation Demodulation using Timer/PLL
117. PLL circuits and applications
118. BCD to Seven Segment display
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124. Exp. Board on Timer (555) Applications
125. Study of frequency Multiplication using PLL
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128. Transfer characteristics of TTL inverter and TTL trigger inverter with two digital voltmeter.
129. Study of Module-N Counter using Programmable Counter IC 74190 with input Logics with LED display

Validity of quotations should be till 31 March 2026.


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To

Jagson Scientific Industries
6 M.C. Market, Punjabi Market, Ambala Cant - 133001

Shree Sati Scientific Industries
5422, Niranjana Dass Building, Punjab Mohalla, Ambala Cant - 133001

Oriental Science Apparatus Workshops
76 - Industrial Area, Ambala Cantt- 133001

Memo No.:- GCG/BLB/2025/3682-85

Date: 22.04.2025

Subject: - To invite quotation for Physics Lab Instruments for the session 2025-26.

This is to inform you that we require following Physics Lab Instruments in our college. Kindly quote your best possible rates and send to this college within 28 days from issuance of this letter.

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