

**Jhargram Raj College**  
Department of Physics

Request for quotation for the financial year 2019-2020

**Rules for Submitting Quotations:**

- (1) **Total Prices** of scientific equipments/aids, teaching aids and other materials **should include** GST, delivery charges or other charges and taxes, if any.
- (2) In addition all updated papers/certificates (e.g. IT clearance certificates etc) required by W.B. Govt. rule must be submitted along with the quotation.
- (2) Prices against each item should be mentioned only on the basis of specific requirements.
- (3) **Total prices** of each individual article must be mentioned separately.
- (4) Items of other branded /reputed and trademark companies not appeared in the list may also be considered.

PROVISIONAL LIST OF ARTICLES FOR THE DEPARTMENT OF PHYSICS (2019-20)

Tender Notice No.-311/Q-2

dated: 14.06.2019

Serial No.	Equipment
1	Dual trace CRO (Scientific/Systronics/SES) 30MHz/20MHz (Digital)
2	Function generator (Systronics/SES/Scientific)
3	Gauss meter(SES Roorkee make)
4	Regulated Power supply ( 0-30 V, 0-5A) variable type with (V & A) meter
5	Regulated Power supply ( 0-10 V) variable type with/without volt meter
6	Regulated Power supply ( 0-5 V) variable type
7	Regulated Power supply ( +12 to -12V) for OPAMP
8	Regulated Power supply 2 volt constant type
9	Audio oscillator (with variable frequency)(for Anderson bridge experiment)
10	He-Ne LASER
11	High voltage power supply for sodium vapour lamp
12	High voltage regulated power supply for discharge tube
13	Electromagnet for Hall effect experiment (Pole diameter 5cm)
14	Search coil (1000 turns)
15	Ballistic Galvanometer (Oxford/Inco make) (Time period 10-20s)
16	Dead beat galvanometer (oxford/Inco make)
17	Table galvanometer (Good Quality)
18	Travelling Microscope( with horizontal and vertical scale)
19	Resistance box(1-10000 $\Omega$ , 1-5000 $\Omega$ , 0.1-100 $\Omega$ , 0.1-10 $\Omega$ ) Manganin/Constantan
20	Rheostat (0-50 $\Omega$ / 0-100 $\Omega$ ) (5A /1A)
21	Carey Foster bridge( good quality with brass screw )
22	Potentiometer (good quality with brass screw)
23	a) Electric Heater b) Hot plate (with regulator)
24	Heating Mental (1L/2L) with regulator
25	Boiler (Copper) (i) with side arm for steam exit (2L/1L) (ii) for Pt resistance thermometer
26	Lamp and scale for ballistic galvanometer experiment

27	Complete set for photoelectric effect study
28	Measurement of Planck's constant using black body radiation and photo detector
29	Measurement of wavelength of LASER using single slit diffraction
30	Study of V-I characteristics & Power curves of solar cells
31	Electron spin resonance setup to study magnetic field as a function of frequency
32	To show tunnelling effect in tunnel diode using V-I characteristics
33	Determination of coupling coefficient of a piezoelectric crystal
34	Study the variation of dielectric constant of a material with frequency
35	To study the P-E hysteresis loop of a ferroelectric crystal
36	Determination of Hall coefficient of a semiconductor sample
37	To verify the law of Malus for plane polarized light
38	To analyze elliptically polarized light by using Babinet's compensator
39	To study the dependence of radiation on angle for a simple dipole antenna
40	To study reflection, refraction of microwave
41	Determination of the coupling coefficient of a couple pendulum
42	Fortin's Barometer
43	Digital balance (0-100gm) with precision 1mg
44	a) Digital voltmeter (0-20/0-200V) b) Digital ac millivoltmeter
45	Digital milliammeter (0-200mA)
46	Digital microammeter (0-200 $\mu$ A)
47	Digital multimeter
48	Setup to study Zeeman effect
49	Determination of wavelength and velocity of ultrasonic waves in a liquid (kerosene) by studying diffraction through ultrasonic grating.
50	Ultrasonic transducer
51	Q-meter
52	Setup to study characteristic of MOSFET
53	Setup to study characteristic of JFET
54	GM counter
55	Setup for measurement of thermal conductivity of a good conductor by Searle's method.

	Discrete components/ Items
1	IC 741C/ 7404/7400/7410/7408/7411/7432/7476/7490/555/565
2	Zener diode
3	a) Junction diode b) Tunnel diode
4	Capacitor (0.1, 0.01, 0.001 $\mu$ F)
5	Resistance (22 $\Omega$ , 33 $\Omega$ , 68 $\Omega$ , 100 $\Omega$ , 680 $\Omega$ , 570 $\Omega$ 1K, 2.2K, 10K, 100K, 47K, 22K)
6	Transistor (SL 100/ CL100)
7	Pot (0-10K $\Omega$ , 0-1M $\Omega$ , 0-10M $\Omega$ )/ multiturn(470K $\Omega$ )
8	Bread board wire
9	Bread board
10	Copper wire with cotton wrapping (0.6/0.8mm dia)
11	Tapping key
12	Plug key (i) one way (ii) two way
13	constantan wire
14	Wire for electric Heater

15	Bar Magnet ( 5cm, 7cm, Alnico)
16	a) Sodium vapour lamp b) Mercury vapour lamp
17	Hydrogen discharge tube
18	Helium discharge tube
19	LED lamp (5W/9W)
20	Table lamp
21	Filament bulb
22	Scooter bulb
23	Two/Three pin plug
24	Spirit level
25	Spherometer
26	Screw gauge (l.c = 0.001cm)
27	Slide Calliperse
28	Thermister
29	USB Flash drive 8GB
30	Battery for multimeter
<b>Glass/Chemicals/Consumable</b>	
1	Glass prism ( $60^\circ$ )
2	Grating (10000, 15000 lines/inch) Hilger
3	Convex lens (f=10,15cm) b) Concave lens ( f=15,20cm)
4	Magnifying glass
5	a) Planoconvex lens b) plane glass plate
6	Biprism
7	Polarimeter tube (20 cm)
8	Beaker (1L, 500ml)
9	Measuring cylinder (10ml, 25ml, 50ml)
10	Glass funnel ( 15 cm diameter)
11	Round bottom flask with side arm (1L)
12	Aniline
13	Sucrose
14	Naphtholin
15	$FeCl_3$
16	Spirit lamp
17	Methyleted spirit
18	Mercury
19	Robber tube(8mm dia)
20	Graph paper (mm)
21	Thermometer ( $-10^\circ$ - $110^\circ$ ) with 0.1 <sup>o</sup> /0.5 <sup>o</sup> calibration
22	cotton
23	Thistle funnel (length 30cm)
24	Sand Paper
25	Machine oil

Countersigned

Principal/Officer-in-Charge  
Officer - in - Charge  
Jhargram Raj College

*[Handwritten Signature]*  
14/6/19

*[Handwritten Signature]*  
Head

Department of Physics

**HEAD**  
Department of physics  
JHARGRAM RAJ COLLEGE  
(Govt. Of West Bengal)

W.B.E.S.