

COOCH BEHAR COLLEGE
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Dist. Cooch Behar
Ph. & Fax : 03582256798
Website : www.coochbeharcollege.org.in

Tender Notice

Ref: - 1475 / 41-18

Date : 12.02.2018

The undersigned invites sealed Quotations, Tender from bonafide suppliers/agency/firm for the supply/work of the following articles/equipments/building materials /making for the use of the college(A to C) . Last date of submission of quotation is .22.02.18, time up to 11.45 a.m. The quotation will be opened on 22.02.18 at 2.15 p.m. The Authority reserves the right to reject any or whole of the quotation without assigning any reason whatsoever. GST Clearance Certificate to be enclosed with the quotation. **The rates with or without GST, ED, Freight & delivery charge, if any should be mentioned separately & clearly.** Tender price to be given in discrete component item wise as well as complete set wise All supply/work will be received/done in the premises of the college. Quotation received after the scheduled time and date will not be entertained. Advanced Fax copy/Email copy of the quotation will be accepted from the outstation suppliers/agency/firm subject to the submission of the full quotation with necessary documents including Draft/ Bankers Cheque within the last date & time of submission (Fax No. 03582-256798 E-mail : principal@coochbeharcollege.org.in). With every quotation (Item mentioned against) a Bank Draft / Bankers Cheque in favor of “The Principal, Cooch Behar College” amounting to Rs. 200.00 (Rupees two hundred) only non-refundable must be enclosed as processing fee.

(Dr. P. K. Debnath)
Principal
Cooch Behar College

Item no. (1) of Tender Notice Ref. no 1475/41-18 dt. 12.02.2018 for Department of Physics

Sl. No.	Name of Apparatus/Equipments [As per CBPBU CBCS B.Sc. Physics (Honours)/Program Course Standard]	Quantity Required
1.	Use a Multimeter for measuring (a) Resistances, (b) AC and DC Voltages, (c) DC Current, (d) Capacitances, and (e) Checking electrical fuses.	8 Sets
2.	Meter Bridge , Tick wood/sun mica with brass jockey.	4 sets
3.	Measurement of field strength B and its variation in a solenoid (determine dB/dx)	3 sets
4.	To verify the Thevenin and Norton theorems . using a resistive Wheatstone's Bridge with a DC source– Complete Set with a regulated power supply (0-15V), a dc voltmeter (0-20V), a res box (0-500Ω), a bread board and four suitable carbon resistors (or a P.O. box plus another res box), a digital multimeter (or an analog 0-150 mA milliammeter) and a 0-5V voltmeter, Connecting wires .	3 sets
5.	To verify the Superposition, and Maximum power transfer theorems . using a resistive Wheatstone's Bridge with a DC source– Complete Set with a regulated power supply (0-15V), a dc voltmeter (0-20V), a res box (0-500Ω), a bread board and four suitable carbon resistors (or a P.O. box plus another res box), a digital multimeter (or an analog 0-150 mA milliammeter) and a 0-5V voltmeter, Connecting wires .	3 Sets
6.	To determine self inductance of a coil by Anderson's bridge. To measure the self-inductance of two coils	3 Sets

	separated by Anderson's bridge and the total inductance of the above two coils when they are connected in series and hence estimate the coefficient of coupling between the two coils -complete set with audio freq oscillator (~KHz range), an ac null detector, a 2V DC power supply, a table galvanometer, two keys, a rheostat, a PO box, 0.1 – 100 ohm & 1-10000 ohm resistance boxes, capacitors (0.22, 0.33, 0.47, 0.56, 0.68 μ F) OR all in one compact board.	
7.	To study the characteristics of a series RC Circuit. To study L-R circuit :to draw phase diagrams, to study I-V relationship across L and to study variation of reactance of L with frequency, and hence to find its value– Complete Set air cored/ferrite-cored inductor coil (~30mH), a non-inductive resistance box(0-1000 ohm), an low resistance audio frequency oscillator with low output impedance and having good amplitude stability, 0-10V, 20Hz-20kHz), a high impedance ac electric voltmeter (0-10V), key etc.	5 Sets
8.	To study response curve of a Series LCR circuit and determine its (a) Resonant frequency, (b) Impedance at resonance, (c) Quality factor Q, and (d) Band width. Complete Set air core inductance (10mH), ceramic/mica capacitor (0.1 μ F, 25V), a resistance (100 ohm), a low resistance audio frequency oscillator 0-3V, 20Hz-20kHz), ac electric voltmeter (0-10V), key etc. OR all in one compact board.	4 Sets
9.	To study the response curve of a parallel LCR circuit and determine its (a) Anti-resonant frequency and (b) Quality factor Q. Complete Set air core inductance (10mH), ceramic/mica capacitor (0.1 μ F, 25V), a resistance (100 ohm), a low resistance audio frequency oscillator 0-3V, 20Hz-20kHz), ac electric voltmeter (0-10V), key etc. OR all in one compact board.	3 Sets
10.	Measurement of charge and current sensitivity and CDR of Ballistic Galvanometer . by (a) direct Method, (b) standard capacitance method and (c) standard solenoid method -complete set. A moving coil BG(S&D 8200), 1-10000 ohm(DEV manganin 1500), 1-5000 ohm(DEV manganin 1400) , 1-500 ohm (DEV manganin 1100), 0.01-50 ohm (Shunt) (DEV manganin 1200) resistance boxes, plug commutator (Heavy 220), Phol's commutator (brass heavy 320) with small mercury (250 gm 1000), plug key(own heavy 180), tap key (own heavy 140), 1, 2, 3, 4, 5 μ F standard capacitors (box Own 1100), charge-neutral-discharge key (local heavy 1550), 1 meter standard solenoid (own heavy 3800), Phol's commutator (local heavy 520), dc ammeter (0-5A) (oxford analog 320), 0-30V/5A IC regulated power supply (CVCC digi meter 4950), lamp & scale arrangement (DEV tfr fitted 3200), few connecting DCC wire (250 gm 270), stop clock (jaco 390)	5 Sets
11.	Determine a high resistance by leakage method using Ballistic Galvanometer. complete set. 1-1000, 1-500 ohm resistance boxes, 0-1.0 ohm low resistance box, a BG, lamp & scale arrangement , plug key, 2 pc tap keys, standard high resistance (1, 2, 3,....50 megaohm) box, 0.5, 1, 2, 3, 4, 5 μ F standard capacitors, charge-neutral-discharge key, few connecting DCC wire, stop clock etc.	3 set
12.	To determine Self Inductance of a Coil by Rayleigh's Method . An inductor (inductance to be measured) A ballistic galvanometer with light scale arrangement A shunt box A high resistance box A cell Key (taping and morse key) and lamp.	5 set
13.	To compare capacitances using De'Sauty's bridge . Two condensers, two resistance boxes or two resistance pots of suitable range, 10 KHz Signal generator, head phone and well insulated connecting wires De-Sauty bridge,	5 sets
14.	To determine the frequency of an electric tuning fork by Melde's experiment and verify $\lambda^2 \propto T$ law. Complete set with Melde's apparatus, tuning forksscale pan, weight box, balance, meter scale, soft rubber hammer, up-down adjustable PIN with stand.	2 sets
15.	To investigate the motion of coupled oscillators . To study normal modes of oscillation of two coupled pendulums and to measure the normal mode frequencies. Two compound pendulums, coupling spring,	2 sets

	convergent lens, filament bulb on stand, screen on stand, stop clock.	
16.	To study Lissajous Figures. CRO Scientific/Metravi/tectronix/others 30/50 MHz dual trace , two function generators, CRO Probes, etc	2 sets
17.	Familiarization with: Schuster's focusing ; determination of angle of prism. Adjustment of a Spectrometer by Schuster's method and to calibrate the spectrometer (D-λ curve) and to determine an unknown wavelength-complete set. Prison Spectrometer- 8inch/10 inch dia deluxe type, EDF medium size Prism, Sodium lamp House with lamp & power supply, Magnifying looking glass, spirit level-small brass, He, Ne, Ar gas discharge tube with power supply etc.	2 sets
18.	To determine refractive index of the Material of a prism using sodium source. Prison Spectrometer- 8inch/10 inch dia deluxe type, EDF medium size Prism, Sodium lamp House with lamp & power supply, Magnifying looking glass, spirit level-small brass etc.	2 sets
19.	To determine the dispersive power and Cauchy constants of the material of a prism using mercury source. Prison Spectrometer- 8inch/10 inch dia deluxe type, EDF medium size Prism, Mercury lamp House with lamp & power supply, Magnifying looking glass, spirit level-small brass etc.	2 sets
20.	To determine the wavelength of sodium source using Michelson's interferometer/spectrometer .	2 sets
21.	To determine wavelength of sodium light using Fresnel Biprism . Complete Set with High grade Optical Bench with four stands, a Fresnel's Bi-prism, white light source-Sodium lamp house with lamp and power supply, a source of monochromatic light with power supply and light holder, index error rod, a slit a micrometer eye piece, a convex lens of suitable focal length, a plumb line etc. (with DEVCO Bi-prism assembly)	2 sets
22.	To determine wavelength of sodium light using Newton's Rings, WITH INCO MICROSCOPE .	2 sets
23.	To determine the thickness of a thin paper by measuring the width of the interference fringes produced by a wedge-shaped Film . A sodium vapour lamp, a travelling microscope, two microscope slides, a thin paper, a setup consisting of a plane glass plate fixed in holder making an angle of 45 degrees with horizontal direction.	2 sets
24.	To determine wavelength of (1) Na source and (2) spectral lines of Hg source using plane diffraction grating. Determination of no. of rulings per cm of Plane transmission grating and hence to measure the wavelength of an unknown spectral line and to determine the resolving power of the grating using a monochromatic source of known wavelength – Complete Set. High resolution spectrometer, Sodium lamp house with sodium vapour lamp and power supply, best quality gratings of 1000 lines/cm., grating holder, spirit level, prism etc. WITH INCO/Devco SPECTROMETER .	2 sets
25.	To determine dispersive power and resolving power of a plane diffraction grating. Determination of no. of rulings per cm of Plane transmission grating and hence to measure the wavelength of an unknown spectral line and to determine the resolving power of the grating using a monochromatic source of known wavelength – Complete Set. High resolution spectrometer, Sodium lamp house with sodium vapour lamp and power supply, best quality gratings of 1000 lines/cm., grating holder, spirit level, prism etc. WITH INCO INCO/Devco SPECTROMETER .	2 sets
26.	Only Newton's Ring Glass plate & Lens combination without Microscope.	3 Sets
27.	To calibrate an optical polarimeter & hence determine the concentration of a given sugar solution- Complete Set (2 Vernier Biquartz) with lamp 100W and wooden lamp holder of proper height; one pkt Cane sugar cube, 30 cm meter scale, beakers (small & medium), distilled water-1 jar, dropper, measuring	3 sets

	cylinder (small & medium) etc.	
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Note for Suppliers:

1. Apparatus/Equipments must be as per latest Cooch Bihar Panchanan Barma University B.Sc. Physics (HONOURS)/Program Practical CBCS Syllabus only.
2. All items are to be delivered at Physics Lab. At the time of delivery each set is to be mounted/hanged/demonstrated/tested in presence of students with the help of supplier's materials; only electric and water supply will be provided by College. So **Technical Person** has to come during delivery.
3. Challan will be signed and bill will be received once only after finishing of delivery of items. Incomplete item delivered challan will not be signed.
4. Payment will be made on completion of delivery of all supply-ordered items in proper condition. Delay in delivery of items may be considered but the payment will be deferred accordingly. Please attach photocopy of this supply order copy with bill. **GST amount & % and other charges, if any, must be given in separate column each item wise in the bill in compliance with amount to pay (ATP) as in quotation.**
5. Apparatus for each experiment should be complete in all respects. All the necessary components/accessories should be accompanied.
6. Equipment/Apparatus should include Manual and sample result.
7. Warranty & guaranty papers are to be given.
8. Free small loose small spare parts with any set-up will be accepted thankfully.

Purchase & Supply of Apparatus/Equipments: PREFERABLE QUOTATION FORMAT (MANDATORY)

DIGITAL PHOTOGRAPHY IN CD OR ONLINE E-MAILED FORM OF EACH ITEM-WISE & COMPLETE ARRANGED SET-WISE IS MUST

<u>Sl. No.</u>	<u>ITEM/COMPONENT NAME</u>	<u>MANUFACTURING COMPANY NAME</u>	<u>ITEM/COMPONENT WEIGHT, DIMENSION, MEASUREMENT RANGE/ACCURACY, QUALITY</u>	<u>INDIVIDUAL PRICE</u>	<u>COMPLETE SET PRICE</u>	<u>GST (%)</u>	<u>OTHER CHARGES IF ANY</u>	<u>GROSS UNIT PRICE (ATP#)</u>	<u>WHETHER PHOTO IN CD/DVD GIVEN ?</u> <u>Y/N</u>
1.	i)								
	ii)								
	iii)								
2.	i)								
3.									

Also please Include Digital Photo of Supplies Company/Firm/Show Room/sales counter/Stocks

ATP# : AMOUNT TENDERED BY Suppliers Company and hence TO PAY BY THE COLLEGE TO THEM

Item no. (2) of Tender Notice Ref. no 1475/41-18 dt. 12.02.2018 for Department of GEOGRAPHY

GROUP-A (LABORATORY EQUIPMENTS FOR DEPT. OF GEOGRAPHY)			
Sl. No.	Name of Apparatus/Equipments [Specification	Quantity Required
1	Garmin eTrex® 30x Handheld GPS	<ul style="list-style-type: none"> • UPGRADED DISPLAY - Features a 2.2" 65K color sunlight readable display offering increased resolution (240 x 320 pixels) • LOAD MORE MAPS - Large 3.7 GB of internal memory and microSD card slot lets you load a variety of maps, including TOPO 24K, Hunt View, BlueChart g2, City Navigator NT and BirdsEye Satellite Imagery (subscription required) • PRELOADED BASEMAP - Includes a worldwide basemap with shaded relief • BUILT-IN SENSORS - eTrex 30x adds a built-in 3-axis tilt-compensated electronic compass and a barometric altimeter which tracks changes in pressure to pinpoint your precise altitude, and you even can use it to plot barometric pressure over time 	1
2	KP 90 Digital Planimeter	<p>Specifications:-</p> <p>Roller type with computing function</p> <p>Hold memory function</p> <p>Auto power off, unit & scale values - KP-90</p> <p>Display :10 Symbols Symbol</p> <p>Batt E SCALE,</p> <p>MEMO, HOLD, cm2, m2, km2, ft2 acre,</p> <p>Transverse direction roller movement unlimited</p> <p>Precision- within +_ 0.2%,</p> <p>Power Supply- DC, Internal rechargeable, battery. chargeable with AC adapter</p> <p>Operating Time- around 30 Hours using Battery</p> <p>Display- LCD 6 digit,</p> <p>Measuring Range- 325mm width – roller rotating length 30m</p>	1
3	Specimens of Rocks and Minerals	N.A	2 Sets
4	Soil Testing Kit	N.A	3 sets
5	Binocular	Bushnell H2O Waterproof/Fogproof Roof Prism Binocular, 8	1

		x 42-mm, Black <ul style="list-style-type: none"> Quality optics with stunning HD clarity 100% quality materials used and tested extensively Beautiful design and durability built to last 100% waterproof, O-ring sealed and nitrogen purged for reliable, fog-free performance BaK-4 prisms and multi-coated optics offer crisp clear images with improved light transmission 		
6	Abney Level	Circle Diameter	30 mm	
		Instrument Size	130 mm*56 mm*29 mm	
		Instrument Weight	250 g with Leather Case	5
		Frame Type	Metallic	
		Application	Survey Equipment	
7	Aluminum Leveling Staff	Application	Survey Equipment	
		Packaging Size	120*5*5 mm	
		Packaging Type	Hard Box	5
		Usage	Leveling	
		Material	Aluminum	
8	Plane Table	Equipment parts Plane table board Brass circular disc Compete with brass sight vane Spirit level Plumb bob Plumbing fork Magnetic compass Canvas cover Telescopic alidade Wooden stand. Specification: Spirit level Specifies dimensional, constructional and performance requirements for a range of spirit level vials - both cylindrical and circular - and describes a recommended method of testing. Plumb bob		2 Sets

		<p>Brass Plumb Bob with waxed string. Small size - stows easily into Bike Fit</p> <p>Systems Cleat Screw Kit, measuring 1" in length. The Plumb Bob is a Standard component of the Bicycle Fitting System.</p> <p>Telescopic alidade</p> <p>Telescopic alidade with compass on brass base and foot screws & bubble, Compass dia 8.8 cms, Telescope's lens 25 mm. Magnification 15 X, Telescope extended: 32 cms, collapsed 23 cms,</p> <p>Prismatic compass</p> <p>Complying to ISO 8729:1999. Made of Aluminium/brass Size 100mm, 125 mm, 150 mm dia. Complete in Case with Aluminium Telescopic/Rigid/Wooden Tripod. Aluminium circle consist of a needle graduated to 30min (0.5) graduations Painted with water proof paints. Carrying cases are made of Fibre with carrying straps</p> <p>with a fitted tripod, Size :board 600mmx750mm</p> <ul style="list-style-type: none"> • Plane table board • High quality fir wood with hard wood battens (meeting at the back fittedwith brass screws and washers, meeting BS 4978:1996 nuts for clamping 	
9	Aerial Photograph (Stereo pair)	<ul style="list-style-type: none"> · Stereoscopic view · Color and B/W both · Mountainous, hilly, plateau and plain area · Diversified landscape 	10

10	Sieve Shaker SQ Digital/Analogue/Variable UK Manufactured	<table border="1"> <tr> <td>Capacity</td> <td>8 x 8"/200mm full height sieves plus lid and receiver 6 x 12"/310mm sieves plus lid and receiver</td> </tr> <tr> <td>Max. sample weight</td> <td>4500g</td> </tr> <tr> <td>Orbital action</td> <td>Approx. up to 350 oscillations per minute</td> </tr> <tr> <td>Height</td> <td>140mm</td> </tr> <tr> <td>Net WxHxD for 200 SQ</td> <td>280mm x 150mm x 280mm</td> </tr> <tr> <td>Net weight</td> <td>22kg</td> </tr> <tr> <td>sieve motion</td> <td>Vibratory</td> </tr> <tr> <td>Electricity supply</td> <td>230v single phase 50hz</td> </tr> <tr> <td>Digital timer</td> <td>99mins</td> </tr> <tr> <td>Type</td> <td>200 SQ Analogue, 200 SQ Digital, 300 SQ Analogue, 300 SQ Digital, 300 SQ Variable, 450 SQ Digital</td> </tr> </table>	Capacity	8 x 8"/200mm full height sieves plus lid and receiver 6 x 12"/310mm sieves plus lid and receiver	Max. sample weight	4500g	Orbital action	Approx. up to 350 oscillations per minute	Height	140mm	Net WxHxD for 200 SQ	280mm x 150mm x 280mm	Net weight	22kg	sieve motion	Vibratory	Electricity supply	230v single phase 50hz	Digital timer	99mins	Type	200 SQ Analogue, 200 SQ Digital, 300 SQ Analogue, 300 SQ Digital, 300 SQ Variable, 450 SQ Digital	1
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GROUP-B (COMPUTER EQUIPMENTS FOR DEPT. OF GEOGRAPHY)																							
1	External Hard disk	Seagate Backup Plus Slim 2 TB Wired External Hard Disk Drive	2																				
2	HP 280 G2 MT Tower PC	<ul style="list-style-type: none"> • HP 280 G2 MT Tower PC • 3.7 GHz Intel Core i3 6100 6th Generation Processor • 4GB DDR4 RAM • 1TB 7200 RPM SATA 6G 3.5 HDD • Windows 10 (64 Bit original OS), 18.5" MONITOR, KEY BOARD, MOUSE • 3 Year Onsite Warranty • with DVD WRITER(Brand-HP) 	9																				
3	Wi-Fi ADAPTER	D-Link N 300 Wireless N NANO USB Adapter (Black)	9																				

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GENERAL TERMS AND CONDITION

1. Intending agency/firm should drop the tender at the office of the undersigned by himself or any authorised person.
2. Intending agency/firm will have to produce valid up to date clearance certificates of Sale Tax Certificate, I tax return of last year, GST registration certificate and Professional Tax certificate in Original/ Xerox attested along with the applications. PAN card & Trade license should also be enclosed.
3. Tender must be sealed and the Tenders must fulfill the norms and condition. The name of the work /item must be super-scribed on the body of the tender cover.
4. In case of Engineers Co-Op. Society, last Audit report should also been enclosed in original.
5. All attested copies must be attached to application and the agency/firm must show their original all (tender related) papers when ever required.
6. The undersigned reserves the right to reject any or all tenders without assigning reason what so ever.
7. ***Agency/firm should write down the SL NO, Ref. No. & Date over the envelope clearly.***

**(Dr. Pankaj Kr. Debnath)
Principal
Cooch Behar College**