



ACU/PS/ACSNS -184(1)/ TN 233/2022-23

Date: 25.01.2023

TENDER NOTIFICATION

The Adichunchanagiri University invites **closed tenders** from eligible tenderers or bonafide licensed manufacturer or their authorized local supplier/dealer/distributor in the state of Karnataka for the procurement of *Laboratory Equipment* as per section I & II.

1	Name of the work	Supply of <i>Physics laboratory Equipment</i> to Adichunchanagiri School of Natural Sciences.
2	Last date and time for receipt of tender	On or Before 10.02.2023 up to 05:00 PM

Sl. No.	Name of the Equipment Particulars	Qty. (In No's)
1.	Characteristics and Efficiency of a GM counter.	01
2.	To determine the strength of a α -source using SSNTD.	01
3.	Study of interference and diffraction using He-Ne Laser.	01
4.	Michelson interferometer.	01
5.	Quarter wave plate.	01
6.	Energy gap of material of photovoltaic cell and photo conducting cell.	01
7.	Demonstration of energy quantization using the Frank-Hertz Experiment.	01
8.	To study the variation of magneto-resistance of a sample with the applied magnetic field.	01
9.	Zeeman effect using Fabry-Perot Interferometer.	01
10.	Characteristics of FT, UJT, MOSFT, BJT	01
11.	Boolean Algebra – logic gates trainer kit	01
12.	Op Amp IC741, various values of resistors and capacitors	01
13.	Differentiator, Integrator, High pass and low pass filters	01
14.	Energy gap of Intrinsic Semiconductors	
15.	Function generator with cable and crocodile clips	01
16.	Fermi Energy of copper.	01
17.	Temperature coefficient of resistance of a thermistor	01



18.	Hartmann's formula verification	01
19.	Dispersive power of a prism.	01
20.	Grating constant determination	01
21.	Verification of Stefan's law.	01
22.	Diffraction at straight edge.	01
23.	Newton's ring experiment	01
24.	Thickness of paper or wire by Air wedge setup.	01
25.	Polarimeter experiment using sugar solution.	01
26.	Refractive index of calcite and Quartz material	01
27.	Magnetic Field along the Axis of a Current Carrying Coil.	01
28.	Ballistic Galvanometer.	01
29.	Resistance of the Material of Given Wire Using Carey Foster Bridge.	01
30.	Anderson's Bridge.	01
31.	Young's modulus by single cantilever.	01
32.	Spring constant	01
33.	Torsional Pendulum.	01
34.	Young's modulus of meter scale	01
35.	Zenor Diode characteristics	01
36.	Transistor Characteristics	01
37.	Photodiode characteristics	01
38.	LCR Circuit Series and parallel resonance	01
39.	Fresnel's Biprism Setup - Interference of light	01

SECTION -I

Instruction to Tenderers

- The Tenderer shall send quotes in 2 bid formats (Technical and Financial bids sealed separately inside the main envelope for any or all list of items). The inner and outer sealed cover must bear the following identification

1. Tender for[name of service | Contract]



2. Tender Reference No.....[insert number]
3. Address to "The Registrar, Adichunchanagiri University, B.G. Nagara -571448, Nagamangala (T), Mandya (D)"
4. The tenderer who prefers to submit the tender through Post can dispatch the same through Registered Post / Speed Post or Courier so as to reach the above address on or before the due date and time specified in the Tender Notice. Tenders received after the due date and time, for what so ever reasons will not be considered and the authority, ACU BG-Nagara will not be liable or responsible for the same.

- **Tender Currency:** Prices shall be quoted in Indian Rupees Only
- **AMC/CMC** is subject to the Adichunchanagiri University's norms.
- **Amendment of Tender Documents:** At any time prior to the deadline for submission of tenders, the University may, for any reason, whether at its own initiative or otherwise, modify the tender documents by amendment. Adichunchanagiri University reserves all the rights to accept, reject, incorporate changes and re-tender without giving any reasons.
- **Documents Comprising the Tender:** Shall attach Brochure, Certification of the product, Bank/account details, PAN, GSTIN, Good Standing Certificate and 02 Years of ITR declaration inside the envelope and company contact details with email ID on the main envelope cover for further correspondence.
- **Tender Prices:** Prices indicated on the Price Schedule shall be entered separately I.e. the price of the goods, quoted (ex-works, ex-factory, ex-showroom, ex-warehouse, or off-the-shelf, as applicable), including all duties and sales and other taxes already paid or payable. Any Indian duties, sales and other taxes which will be payable on the goods if this Contract is awarded. Conditional tenders will not be considered.
- **Validity of the Bid:** 90 Days from the last date of submission of bid
- **Corrupt or Fraudulent practices:** The Adichunchanagiri University requires that the Tenderers, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy:
 1. will reject a proposal for award if it determines that the Tenderer recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
 2. will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a university contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a University contract.
- **Process to be confidential:** Information relating to the examination, clarification, evaluation, and comparison of Tenders and recommendations for the award of a contract shall not be disclosed to Tenderers or any other persons not officially concerned with such process until the award to the successful Tenderer has been



announced. Any effort by a Tenderer to influence the Employer's processing of Tenders or award decisions may result in the rejection of his Tender.

- **Clarification of Tenders:** To assist in the examination, evaluation, and comparison of Tenders, the Employer may, at his discretion, ask any Tenderer for clarification of his Tender, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by cable, but no change in the price or substance of the Tender shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the tenders.

Delivery: The successful BIDDER should commence the services as per tender document/Work or Purchase Order. For any queries/ assistance, please write to registrar@acu.edu.in or telephone to purchase section +91 -98458 35834

SECTION -II **Technical Specifications**

Sl. No.	Specifications
1	Characteristics and efficiency of a GM counter. (a) Set-up for ST-350 Counter (microcontroller based) (b) GM Tube and stand (c) Shelf stand, serial cable, and a source holder (d) Radioactive Sources (e.g., Cs-137, Sr-90, or Co-60)
2	To determine the strength of a α -source using SSNTD (Solid state nuclear track detector). (a) Hot water Bath (b) Optical microscope, (c) ^{241}Am alpha source (d) CR-39 film, (e) 6 normal solution of NaOH
3	Study of interference and diffraction using He-Ne Laser. (a) Helium-Neon laser source with power supply (b) An aperture slit with variable width for a single-slit experiment (c) A set of slides with transparent slits and holes (d) A meter stick; (e) A screen with graph paper; (f) Microscope with digital scale (e) A set of slides with different 2D-patterns (f) Diffraction grating replica with 7500 lines per inch;



4	Michelson interferometer; Determination of wavelength
	(a) Interferometer with micrometer
	(b) Laser with beam expander
	(c) Monochromatic source
	(d) Beam Splitter
	(e) one Straight scale and two rotatable round scales
	(f) Rotatable telescope
	(g) Light diffuser
	(e) mirror moving arrangement
	(f) Digital fringe counter
	(g) Fringe screen
	(h) Diode laser source and solid state lamp
5	Quarter wave plate.
	Made of quartz
	Mounted on 360 degree scale frame and rod to mount on an optical bench
6	Energy gap of material of photovoltaic cell and photo conducting cell.
	(a) Spectral Response Of Selenium photocell Set up
	(b) Spectrometer
	(c) Eg determination apparatus with Digital meters, power supply
	(d) Heating arrangement
	(e) Digital Temperature Readout mounted in acrylic enclose
7	Demonstration of energy quantization using the Frank-Hertz Experiment.
	(a) A mercury-filled Franck-Hertz tube
	(b) A neon-filled Franck-Hertz tube
	(c) An oven - heater for tube
	(d) A control unit for power supply
	(e) A DC current amplifier.
	(f) Digital meters
8	To study the variation of magneto-resistance of a sample with the applied magnetic field.
	(a) Hall probe: Bismuth
	(b) Constant Current Source
	(c) Digital micro voltmeter
	(d) Electromagnet
	(e) Constant Current Power Supply
	(f) Digital Gauss meter



9	Zeeman effect using Fabry-Perot Interferometer. (a) Digital Constant Deviation Spectrometer (b) with digital Wavelength readout (c) Fabri-Perot Etalon (d) Neon Source (e) Power supply for Neon tube (f) Powerful electromagnet with Constant current power supply with digital meter (g) Movable cross wire eye piece with scale
10	Characteristics of FET, UJT, MOSFET, BJT (a) Regulated DC power supply 0-30V/0-1A (b) Digital DC meters of required range (c) Bread board (12 numbers) (d) Connecting wires (e) Set of Tools (f) Set of components (g) Soldering iron (h) Soldering lead roll (i) Soldering paste (j) Trainer kit with accessories
11	Boolean algebra - Logic GATEs trainer kit (a) Logic gate trainer kit (b) Patch card and IC's
12	Op Amp IC741 (10 Numbers), various values resistors and capacitors
13	Differentiator; Integrator; High Pass and Low Pass Filters (A) Dual channel Cathode Ray Oscilloscope (2 Numbers) <ul style="list-style-type: none">• (a) Band width DC - 20 MHz• (b) Deflection Factor: 5 mV / Div - 10V / Div. Mag. X• (c) Sweep Rate: 0.2S - 0.1uS / Div. Mag. X 5• (d) Magnifier: 1 mV/Div• (e) Mode: CH1, CH2, Alt, Chop, Add., Inv CH2, X-Y (B) CRO Probes (C) Connecting wires (D) Resistors, Capacitors and Bread Board
14	Energy gap of Semiconductors (a) Constant current source (b) Digital micro-ammeter 0-200 μ A (c) Digital Voltmeter 0-2V



	(d) Silicon or Gallium Arsenide samples and test tube
	(e) Heating arrangement
	(f) Stand
	(g) Digital thermometer
15	Function generator with cable and crocodile clips
	(a) Five different wave forms: Sine, Square, Triangular, Rectangular & Ramp. DC Offset on all waveforms
	(b) Frequency Range: 0.01 Hz to 1 MHz
	(c) External AM, FM & SWEEP Modulation
16	Fermi Energy of Copper
	(a) Constant current source
	(b) Digital milliammeter 0-20 mA
	(c) Digital millivoltmeter 0-200V
	(d) Copper coil with glass enclosure
	(e) Digital thermometer
	(f) Stand
	(g) Heating arrangement
17	Temperature coefficient of resistance of a thermistor
	(a) Digital milli-ammeter
	(b) Digital DC Voltmeter
	(c) Heating arrangement
	(d) Digital thermometer
18	Hartmann's Formula Verification
	(a) Constant Deviation Spectrometer
	(b) White light source
	(c) Monochromatic light source
	(d) Reading lens
19	Dispersive power of Prism
	(a) Export quality spectrometer
	(b) Spectrometer Prism (DEDF)
	(c) White light source
	(d) Spirit Level
	(e) Table Lamp
20	Grating Constant Determination
	(a) Export quality spectrometer
	(b) Diffraction Grating
	(c) White Light Source




	(d) Reading Lens
21	Verification of Stefan's law (a) Stefan's law (Black Body Radiator) set up (b) Digital Stop Clock
22	Diffraction at straight edge (a) Diode laser with power source (b) Knife edge on stand (c) Laser grating (d) Measuring tape
23	Newton's Ring Experiment (a) Travelling microscope with set of plano convex lens; Plane glass plate; Forty-five degree turning glass plate (b) Spherometer (c) Monochromatic light source
24	Thickness of paper or wire by Air wedge setup. (a) Travelling microscope with Forty-five degree glass plate; Pair of fine glass plate (b) Monochromatic light source
25	Specific rotation of sugar solution using Polari meter (a) Laurent's half shade Polari meter (b) Polari meter Lamp set (c) Digital balance 2Kg / 0.1 gm
26	Refractive index of calcite and Quartz Material (a) Export quality spectrometer (b) Monochromatic light source (c) Quartz - solid (d) Calcite - solid
27	Magnetic Field along the Axis of a Current Carrying Coil. (a) Stewart and Gee's type tangent galvanometer (b) Ammeter (c) Rheostat (g) Cell or a battery (h) A one way Key and a reversing key (commutator) (i) Connection wires
28	Ballistic Galvanometer



	(b) Resistance box
	(c) Commutator key (reversing key), a sequence key
	(d) Power supply
	(e) The standard solenoid inductor
	(f) Rheostat
	(g) Ammeter
29	Resistance of a given wire using Carey Foster Bridge
	(a) An unknown resistance
	(b) A known resistance (variable)
	(c) A galvanometer
	(d) A very high resistance of the order of 15000ohm to protect the galvanometer
	(e) A dry cell
	(f) A plug key
	(g) A meter bridge with jockey
	(h) A sorting plate
	(i) A copper strip
30	Measurement of self-inductance by Anderson's Bridge.
	(a) Anderson's bridge setup box
31	Young's modulus by single cantilever.
	(a) Single Cantilever setup
	(b) Slotted weight
	(c) Travelling microscope
	(d) Reading Lens and lamp
32	Spring constant.
	(a) Springs
	(b) Scale
	(c) Rigid Stand
	(d) Slotted weight
33	Torsional Pendulum
	(a) Rectangular Plate
	(b) Circular Plate
	(c) Irregular Plate
	(d) Stand with lamp
	(e) Steel wire fixed between chuck nuts
	(f) Stop clock
34	Young's modulus of the meter scale
	(a) A meter scale



	(b) Two identical wooden supports with knife edges
	(c) Two scale pans and travelling microscope
	(d) Slide Calipers
	(e) Screw gauge
	(f) Table lamp and Reading lens
	(g) Tow weight sets of 5 x 50 gms.
35	Zener Diode Characteristics
	(a) Zener diode
	(b) Power supply 0 to 20V DC
	(c) Digital voltmeter
	(d) Digital DC millimeter
	(e) Resistor
	(f) Circuit unit and patch cards
36	Transistor Characteristics
	(a) Transistor - SL100
	(b) Variable DC power supply in the ranges 0-5V & 0-20V
	(c) DC milliammeter (0-100mA)
	(d) Digital Voltmeter
	(e) Circuit unit with a base resistor of 5.1kohm and patch cards
37	Photodiode characteristics
	(a) Photo diode
	(b) Light emitting diode
	(c) Microammeter
	(d) Battery
38	LCR circuit - Series and parallel resonance
	(a) Audio frequency generator
	(b) A.C. millimeter
	(c) Standard coil
	(d) Resistor and capacitor
	(e) Patch cards
39	Interference of light - Fresnel's Biprism
	(a) Frenel's Biprism Setup
	(b) Light source
	(c) Slits


Head of Procurement
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