Indira Gandhi Engineering College, Sagar,Jabalpur Road, Baheriya Gadgad,
Near Makronia Railway Station, Sagar – 470021
Email Id – prinigec.sgr@mp.gov.in

INVITATION FOR QUOTATION

Package Code: TEQIP-III/2019/MP/igec/63
Package Name: IGEC/EE/EML/EQIP/01 to 16

Current Date: 24-Sep-2019
Method: Shopping Goods

For uploading on the Institute Website
Subject: INVITATION FOR QUOTATION FOR SUPPLY OF GOODS

Dear Sir,

1. You are invited to submit your most competitive quotation for the following goods with item wise detailed specifications given at Annexure I,

Sr. No	Item Name	Quantity	Place of Delivery	Installation Requirement (if any)
1	Crompton D.C Potentiometer	2	EE Department, I.G. Engineering College, Sagar	Installation should be done free of cost.
2	Calibration and testing of 1-phase energy meter	2	EE Department, I.G. Engineering College, Sagar	Installation should be done free of cost.
3	Calibration of Dynamometer Type Power Factor Meter	2	EE Department, I.G. Engineering College, Sagar	Installation should be done free of cost.
4	Kelvin's Double Bridge	2	EE Department, I.G. Engineering College, Sagar	Installation should be done free of cost.
5	Measurement of Inductance by Maxwell Bridge with Accessories	2	EE Department, I.G. Engineering College, Sagar	Installation should be done free of cost.
6	Determination of unknown inductance and Q-factor using HAY`S bridge method	2	EE Department, I.G. Engineering College, Sagar	Installation should be done free of cost.
7	Measurement of unknown Inductance by Anderson Bridge	2	EE Department, I.G. Engineering College, Sagar	Installation should be done free of cost.
8	Measurement of capacitance by De Sauty bridge	2	EE Department, I.G. Engineering College, Sagar	Installation should be done free of cost.
9	Measurement of capacitance by Schering bridge	2	EE Department, I.G. Engineering College, Sagar	Installation should be done free of cost.
10	Measurement of voltage, current, and resistance using DC Crompton Potentiometer	2	EE Department, I.G. Engineering College, Sagar	Installation should be done free of cost.
11	Dielectric oil testing using H.T. testing Kit	1	EE Department, I.G. Engineering College, Sagar	Installation should be done free of cost.
12	Calibration LPF wattmeter- by Phantom testing	2	EE Department, I.G. Engineering College, Sagar	Installation should be done free of cost.
13	C.T. testing using mutual Inductor-Measurement of % ratio error and phase angle of given C.T.by null method	1	EE Department, I.G. Engineering College, Sagar	Installation should be done free of cost.
14	P.T. testing by comparison-V.G. as Null detector-Measurement of % ratio error and phase angle of the given P.T.	1	EE Department, I.G. Engineering College, Sagar	Installation should be done free of cost.
15	Complete setup to measure 3phase Reactive Power With Single Phase Wattmeter	2	EE Department, I.G. Engineering College, Sagar	Installation should be done free of cost.
16	Measurement of Power and Parameters of Choke Coil using 3 Voltmeter & 3 Ammeter	2	EE Department, I.G. Engineering College, Sagar	Installation should be done free of cost.

2. Government of India has received a credit from the International Development Association (IDA) towards the cost of the **Technical Education Quality Improvement Programme [TEQIP]-Phase III** Project and intends to apply part of the proceeds of this credit to eligible payments under the contract for which this invitation for quotations is issued.
3. **Quotation**
   - 3.1 The contract shall be for the full quantity as described above.
   - 3.2 Corrections, if any, shall be made by crossing out, initialling, dating and re writing.
   - 3.3 All duties and other levies payable by the supplier under the contract shall be included in the unit Price.
   - 3.4 Applicable taxes shall be quoted separately for all items.
   - 3.5 The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
   - 3.6 The Prices should be quoted in Indian Rupees only.
4. Each bidder shall submit only one quotation.
5. Quotation shall remain valid for a period not less than **90** days after the last date of quotation submission.
6. Evaluation of Quotations: The Purchaser will evaluate and compare the quotations determined to be Substantially responsive, i.e., which
   - 6.1 are properly signed; and

6.2 Confirm to the terms and conditions, and specifications.

7. The Quotations would be evaluated for all items together.
8. Award of contract - The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.
   8.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of Contract.
   8.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.
9. Payment shall be made in Indian Rupees as follows:

Payment Description	Expected Delivery Period (in Days)	Payment Percentage
Satisfactory Delivery, Acceptance, Installation & Testing	30	100

10. Liquidated Damages will be applied as per the below:
    Liquidated Damages Per Day Min % : N/A
    Liquidated Damages Max % : N/A
11. All supplied items are under warranty of **24** months from the date of successful acceptance of items and AMC/Others is **No**.
12. You are requested to provide your offer latest by **15:30** hours on **14-Oct-2019.**
13. Detailed specifications of the items are at Annexure I.
14. Training Clause (if any) – **Training on operation and handling of equipments free of cost as per department requirements.**
15. Testing/Installation Clause (if any) – **Full installation and testing/demonstration free of cost.**
16. Performance Security shall be applicable**: 0%**
17. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
18. Sealed quotation to be submitted/ delivered at the address mentioned below, **Indira Gandhi Engineering College, Sagar, Jabalpur Road, Baheriya Gadgad, Near Makronia Railway Station, Sagar – 470021**
19. **Qualification Criteria** : The bidder/supplier should have :
    19.1 A minimum of 3 years experience of supplying similar items.
    19.2 A turnover of Rs. 100 lakhs at least once in three years.
    19.3 Not been blacklisted by any Government Institution/Organization.
20. The quotation should include the following information :
    20.1 The copies of original documents defining the constitution or legal status, place of registration and principal place of business of the company firm or partnership etc. in India.
    20.2 Report on financial status (balance sheet and auditor's report for the past three years).
    20.3 An affidavit for not being blacklisted by any Government Institution/Organization.
    20.4 Authorization Certificate from the OEM/Principal (if bidder/supplier is not an OEM) assuring full guarantee and warranty obligations during the liability period, for the goods offered.
    20.5 The list of clients duly supported by copies of purchase orders, installation and performance report signed by purchasers/users.
21. In case of failure to supply the goods within the prescribed time and in accordance with the specifications given in the contract/purchase order, the institute shall be free to cancel the order and make purchase from the next higher tenderer/from the open market as the case may be.
22. The competent authority reserves the right to increase or decrease the quantity of any item of sale, during the period of contract. The tenderer/bidder will be bound to comply with the order of the competent authority without any claim and compensation.
23. Any controversy will be subject to disposal in Sagar Jurisdiction only.
24. Damaged, defective or substandard material will not be accepted under any circumstances.
25. Preference will be given to :
    25.1 The bidders possessing relevant certification by an authorized body such as ISO etc., copy of which must be enclosed.
    25.2 The bidders that have quoted the item certified for standard, quality and safety such as BIS, ISI etc., copies of which must be enclosed.
26. Please mention following on top of the sealed quotation submission envelope –
    26.1. TEQIP – III
    26.2 Package Code
    26.3 Don't open before 03:30 PM on 14 Oct, 2019.
27. We look forward to receiving your quotation and thank you for your interest in this project.

(Authorized Signatory)

Name & Designation

Annexure I

Sr. No	Item Name	Specifications
1	Crompton D.C Potentiometer	Crompton D.C Potentiometer- Calibration of PMMC ammeter and PMMC voltmeter Consist of Crompton DC potentiometer with built in coarse & amp; fine, Rheostat, Stabilized power supply unit, volt ratio box, low resistance sensitive galvanometer desktop type. Crompton DC Potentiometer Voltage Details: I Dial - 6 x 250mV= 1500mV, II Dial (slide wire) 500 Divisions= 250mV = Total = 1750mV, Electronic Standard Cell for 1.0180V Fixed Power Supply with 2 Volts, Volt ratio box to extend the range from 0.00 to 750V, Low resistance galvanometer with Desk stand MR-100 Model MCDC Ammeter 0 - 5/10A, MCDC Voltmeter 0 - 150/300V, Single Tube Rheostat - 50 / 5 Ω and all other accessories and equipments to perform the above experiment.
2	Calibration and testing of 1-phase energy meter	Calibration and testing of 1-phase energy meter Trainer should have microcontroller based designed with inbuilt measurement facility of single phase kWh Energy, Voltage, Current, & Power, Trainer should have Separate Seven Segment Display for Energy meter, Big font LCD (16 x 2) for use as Standard meter/Energy meter calibration, Trainer should have Digital Calibration Operation using Keypad, Trainer should have provision to Connect External Voltmeter, Ammeter and Wattmeter for Calibration., Trainer should have Default and User Calibration modes are provided to avoid errors, Trainer should operate on single phase supply 90 - 270V ±10%, 50Hz, Trainer should have Resolution 0.001kWh of Energy meter, Trainer should have Calibration of Energy meter using inbuilt Watt meter & Voltmeter Ammeter with external meter, Trainer should have performed study & measurement of the connection of Voltmeter, Ammeter & Watt meter for Power measurement of load in Transmission line, Trainer should have performed effect of wrong Calibration on Energy meter, 2 Energy Meter 240V , 5 - 20A , 50 Hz ,Single Phase Auto Transformer 0 - 230/270V - 10A, Single Phase Single Phase UPF Wattmeter - 5/10A -150/300/600V, MIAC Voltmeter 0 -150/300/600V, MIAC Ammeter - 0 - 1/3/10A, Single Phase / 220 V / 10 A / Wire Wound Resistive Load Bank controlled by Rotary Switches in 10 Steps. (1A - 5 Steps, 2A -1Steps , 3A - 1 Step) Digital stop watch 1-phase inductive load bank 230 V, 10 A (variable type) and all other accessories & equipments to perform the above experiments.
3	Calibration of Dynamometer Type Power Factor Meter	Calibration of Dynamometer Type Power Factor Meter Single Phase SPF1 Power Factor Meter -5/10A - 75/150/300V, Auto Transformer 0 - 415/440V - 20A -Three Phase, Single Phase UPF Wattmeter - 5/10A -150/300/600V, MIAC Voltmeter 0 - 150/300/600V, MIAC Ammeter - 0 - 1/3/10A, Single Phase / 220 V / 10 A / Wire Wound Resistive Load Bank controlled by Rotary Switches in 10 Steps. (1A - 5 Steps, 2A -1Steps , 3A - 1 Step), Single Phase Capacitive Load Bank 230V ,10A with 1A switch with 10 Steps MCB Protection Patch cords and all other accessories and Equipment to perform the above experiment.
4	Kelvin's Double Bridge	Kelvin's double Bridge - Measurement of resistance Determination of Tolerance It should have following features : Easy illustration of Kelvin's bridge, Digital display (DPM) for null detection, Online product tutorial It should have following Technical Specifications : DC Power Supply : +5V, Known Resistance : R1=100KΩ, 20KΩ, 10KΩ, R3=1KΩ, 200Ω, 100Ω, Unknown Resistance : 0.3Ω, 0.4Ω, 0.8Ω, DPM : 2V, Mains Supply : 230 V ±10%, 50 Hz, Dimensions (mm) : 240 W x 345 D x 110 H. Experiment that can be performed: Determination of unknown resistance using Kelvin's bridge method. All other accessories & equipments to perform the above experiments.
5	Measurement of Inductance by Maxwell Bridge with Accessories	Measurement of Inductance by Maxwell Bridge with Accessories It should have following features: Illustration of both Maxwell's inductance bridge, Maxwell's inductance-capacitance bridge on a single board, Inbuilt 1 kHz sine wave generator with variable amplitude, Null detector with DPM, Online product tutorial. It should have following Technical Specifications : Mains supply : 230 V ±10%, 50 Hz, DC Power supply : +12V, -12V, Sinewave generator, Fixed Frequency : 1KHz ±5%, Amplitude Control Range : Upto 20Vpp, Unknown Inductors : 10 mH, 20mH, 30 mH, 56µH, 24µH, 12µH, DPM : 200mV Unknown

		Internal Resistance : 470W, 10 , 20 , 30, Dimensions (mm) : W 240 x D 345 x H 110, and all other accessories and Equipment to perform the above experiment.
6	Determination of unknown inductance and Q-factor using HAY`S bridge method	Determination of unknown inductance and Q-factor using HAY`S bridge method FEATURES:- In-built sine wave generator, Adjustable frequency and Amplitude of Sine Wave, Digital display for Null detection, 10 turn potentiometer for balancing the bridge. TECHNICAL SPECIFICATIONS: Mains supply: 230V ±10%, 50Hz, Sine wave generator, Frequency: 1kHz to 10kHz ±10%, Amplitude: 0 to 5Vpp, DPM : 0-200mV, Unknown Inductors: 58mH ±10% with 58Ù ±10% of resistance100mH ±5%with 174Ù ±5% of resistance116mH ±10%with 116Ù ±10% of resistance, And all other accessories and equipments to perform the above experiment.
7	Measurement of unknown Inductance by Anderson Bridge	Measurement of unknown Inductance by Anderson Bridge Features of Anserson bridge trainer kit: Four arms are provided with suitable connectors, One 1 KHz oscillator of fixed amplitude to feed the input to the bridge, Measuring Range: 25mH - 500mH, Connector facility given to view the output of the bridge externally by CRO, Required patch Chords are provided. Technical Specification: Input Voltage: 15V DC, Output Current :0.5 Amps, Output Voltage :2V AC, Output Frequency:1kHz, With Patch cards, 1A power supply adaptor, Manual, Sensitive pair of Head Phones, and all other accessories and equipments to perform the above experiments.
8	Measurement of capacitance by De Sauty bridge	De Sauty's bridge to determines the unknown values of the capacitance It has built in signal generator & accessories as a speaker detector Technical Specification: Built in power supply : +15V DC, Mains : 230V AC, Dimension : 27CMS X 17CMS [metal cabinet], Weight : 2KGS APPX, and all other accessories and equipments to perform the above experiments.
9	Measurement of capacitance by Schering bridge	Measurement of Capacitance by Schering Bridge It should have following features : A Complete set up with all necessary accessories, Inbuilt 1 kHz sine wave generator with variable amplitude, Null detector with DPM, Online product tutorial, 2 Year Warranty It should have following Technical Specifications: Sinewave generator - Frequency range: 1kHz ±10%, Amplitude control output : Up to 15Vpp, Fuse : 500 mA, S/B, DPM : 200 Mv, Unknown Capacitor : 0.1µF, 0.22µF, 0.47µF, Mains Supply : 230V AC, ±10%,50Hz, Dimension (mm) : W 345 x D 240 x H 110. Schering bridge with 1 khz sine wave oscillator & sensitive pair of head phones, Schering bridge with 1 khz sine wave oscillator & sensitive pair of head phones and all other accessories & equipments to perform the above experiments. Experiment that can be performed: Determination of unknown capacitance using Schearing Bridge method.
10	Measurement of voltage, current, and resistance using DC Crompton Potentiometer	Measurement of voltage, current, and resistance using DC Crompton Potentiometer Auxiliary supply to D.C. potentiometer is 230V, 50Hz AC supply. Suitable electronic circuitry to produce a constant current source & precision reference voltage source, With the help of 'COARSE ADJUSTMENT', voltage from 0 - 1.1V D.C can be adjusted & with the help of 'FINE ADJUSTMENT' a voltage from 0 -0.1V D.C can be adjusted, Galvanometer to indicate the current flowing through the circuit due to unbalance, in unknown e.m.f & p.d. adjusted on potentiometer, Before using the potentiometer to measure e.m.f., current or resistance it must standardized according to standardizing procedure, Then the unknown e.m.f. should be connected between TEST TERMINALS with correct polarity, Then the COARSE & FINE adjustment is done such that the current through the galvanometer is zero, Arrangement to measure the total voltage i.e. Voltage at COARSE ADJUSTMENT plus voltage at FINE ADJUSTMENT of the unknown source of E.m.f., Switches & indications for POWER ON, KIT ON, and STANDARD REFERENCE VOLTAGE ON, Miliammeter to indicate the constant current through the circuit, Galvanometer to get the null point, with and all other accessories and equipments to perform the above experiment.
11	Dielectric oil testing using H.T. testing Kit	Dielectric oil testing using H.T. testing Kit Fully motorized high voltage control, Break down voltage protection, Over current protection Mains & H.T. "ON" & "OFF" Switches ,Incorporates automatic tripping mechanism Mains and H.T. "ON" indications, Test cup with adjustable gap electrode arrangement, Equipped with Kilo Voltmeter, Complies to all the safety standards, Product Tutorial (CD)

		Technical Specifications Mains Supply : 230V AC ±10%, 50Hz ,Single Phase Variac : 230V/ 0-270V, High Voltage Source : 80kV, 20mA, HV Control Motor, Type : Servo ,RPM : 500 (No Load) ,Voltmeter : 0 to 100kV, and All other accessories & equipment to perform the above experiments. Scope of Learning : Study & measurement of dielectric strength of transformer oil breakdown voltage. All other accessories & equipments to perform the above experiments.
12	Calibration LPF wattmeter- by Phantom testing	Calibration LPF wattmeter- by Phantom testing Auto Transformer 0 - 230/270V - 10A -Single Phase, MIAC Ammeter - 0 - 1/3/10A, MIAC Voltmeter - 0 - 75/150/300V, Single Phase LPF Wattmeter - 2.5/5A -150/300/600V, Rheostat - 180D / 5 A , Single Phase Fixed Inductor -50/100/150mH - 5A, Single Phase Inductive Load Bank 230V, 5A (variable Type) and all other accessories and equipments to perform the above experiment.
13	C.T. testing using mutual Inductor-Measurement of % ratio error and phase angle of given C.T.by null method	C.T. testing using mutual Inductor-Measurement of % ratio error and phase angle of given C.T. by null method Current Transformer Test Unit, 230V AC: Consist of Variable Current Source 0.30A with Digital, Ammeter Primary Resistance (RP) (NI) Bank of fixed values, Secondary Resistance (NI) Variable, Standard CT 20/1, 15/1, 5/1, (1 No each)-With known Error, Test CT 20/1, 15/1, 10/,5/1, (1 No each)-With unknown Error, Variable Mutual Inductor, Galvanometer /Digital Multimeter, Slide Wire resistor, Patch Cords and all other accessories and equipments to perform the above experiment.
14	P.T. testing by comparison-V.G. as Null detector-Measurement of % ratio error and phase angle of the given P.T.	P.T. testing by comparison-V.G. as Null detector-Measurement of % ratio error and phase angle of the given P.T. Potential Transformer Test Unit, Three phase 415V- 5 wire, Standard PT 220/110, 440/110V with known Phase angel error and ratio error, Test PT 220/110V, 440/110 V with unknown Phase angel error and ratio error, Phase Shifter 3 Phase, 500VA and all other accessories and equipments to perform the above experiment.
15	Complete setup to measure 3phase Reactive Power With Single Phase Wattmeter	Complete setup to measure 3phase Reactive Power With Single Phase Wattmeter Comprises of Voltmeter (500V), Ammeter (5A), Wattmeter (3Kw), Resistor 1K Ohms/2A -3nos., Choke (0-300mH-300mH @1.5A) -3nos., Capacitor 30uF/400v -3nos., On/Off Switch with fuse unit, 4mm Terminals (15A) mounted on heavy duty powder coated sheet metal front panel with Schematic/wiring diagram printed. Fitted in a self standing rugged design cabinet suitable for standalone operation. Features: This Unit is provided with high quality calibrated watt meters of 3KW range, AC ammeter of 0-5A, The student can measure reactive power flowing into Load. Necessary variable balanced Resistor/Capacitor/Inductor load banks are provided along with this unit, User manual and 4mm Patch cords. Accessories: Necessary Resistive, Capacitive, Inductive loads are internally provided to Conduct experiment, and all other accessories and equipments to perform the above experiment.
16	Measurement of Power and Parameters of Choke Coil using 3 Voltmeter & 3 Ammeter	Measurement of Power and Parameters of Choke Coil using 3 Voltmeter & 3 Ammeter Unit Comprises of Auto Transformer (6A), Voltmeter (300v)- 03 Nos., Ammeter(2A) – 03 Nos., Rheostat (50Ohms/1.5A), Choke (150mH@1.5A), On/Off Switch with fuse unit, 4mm Terminals(15A) mounted on heavy duty powder coated sheet metal front panel with Schematic/wiring diagram printed. Fitted in a self standing rugged design cabinet suitable for standalone operation. Features: This unit allows the user to measure the total current in the supply and current through resistor load & current through Inductor load separately. Accessories: 3 Phase Resistor and Inductor load banks are provided along with the unit and all other accessories and equipment to perform the above experiment.

FORMAT FOR QUOTATION SUBMISSION
(In letterhead of the supplier with seal)

Date: _____

To: _____
_____

Sl. No.	Description of goods \ (with full Specifications)	Qty.	Unit	Quoted Unit rate in Rs. (Including Ex-Factory price, excise duty, packing and forwarding, transportation, insurance, other local costs incidental to delivery and warranty/ guaranty commitments)	Total Price (A)	Sales tax and other taxes payable	
						In %	In figures (B)
Total Cost							

Gross Total Cost (A+B): Rs. _____

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. _____ (Amount in figures) (Rupees _____ _____amount in words) within the period specified in the Invitation for Quotations.

We confirm that the normal commercial warranty/ guarantee of _____ months shall apply to the offered items and we also confirm to agree with terms and conditions as mentioned in the Invitation Letter.
We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

Signature of Supplier
Name: _____
Address: _____
Contact No. _____