



**KAMLA NEHRU INSTITUTE OF TECHNOLOGY,
SULTANPUR (U.P)- 228118**

Phone & Fax - 05362-240454

INVITATION FOR QUOTATION
(Under National Shopping of Goods/Equipment TEQIP-III)

You are invited to submit your most competitive quotation for the following goods with item wise detailed specifications. Sealed and separate quotations for the different packages of various departments are invited for supply of items along with earnest money deposit (EMD) in the shape of Demand Draft of PNB/SBI/BOB/BOLLD/CBI/UBI in favour of Director KNIT Sultanpur Avadh (UP).

Quotation opening schedule: Quotations can be submitted on or before **06/04/2018 up to 15:00 hrs** and will be opened on same day i.e. on **06/04/2018 at 15:30 hrs** in the **committee room of the institute**.

GENERAL INSTRUCTIONS

1. 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 under National shopping is issued.
2. Each downloaded duly quoted package should be submitted along with nationalized/scheduled bank demand draft of appropriate amount as an Earnest money deposit (EMD) in favour of “**Director, K.N.I.T. Sultanpur (UP)**, (as amount mentioned in each package, @2% for each package,), else bid(s) is/are liable for rejection in toto. **Separate draft of EMD** should be for each package. **Earnest Money Deposit (EMD) in the shape of only Demand Draft will be accepted.**
3. Supplier(s)/Bidder(s) should be manufacturer/distributor/dealer/authorized firm of the mentioned product(s)/goods and should submit the copies of ST No., company/firm registration or equivalent registration with the Central/State Government of India if any. Copies of OEM / Latest authorized dealership certificate for respective items should be enclosed.
4. The quotation(s)/bid(s) shall be sent in sealed envelope either by courier / post or in person only, within stipulated time period given in the respective package/bid document. The Package no. should be clearly mentioned on the left side corner of the sealed envelope. The bid(s)/quotation(s) shall be submitted to the office of the **Coordinator (Procurement), TEQIP-III Cell, K.N.I.T. Sultanpur-228118 (UP)** before the stipulated date and time. Bidder(s) should ensure that the bids submitted should reach well within stipulated day and time. Delay in submission of bid(s) for whatsoever reason will not be considered. Such bids are liable for rejection.
5. For the suppliers quoting for more than one package, the quotations should be submitted separately in separate envelope along with separate EMD of appropriate amount.
6. Prices quoted should be inclusive of all taxes. Rate should be quoted “FOR” K.N.I.T. Sultanpur – 228118 (UP). Rate should be quoted in Indian Rupees **inclusive of** all Taxes, Duties, Transportation, Insurance, Installation, Commissioning etc. All duties and other levies payable by the supplier under the contract shall be included in the unit price. Break up of applicable taxes shall be quoted separately for all items.
7. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
8. The Prices should be quoted in Indian Rupees only. Format for submission of quotation is in Annexure-I.

9. The contract shall be for the full quantity as described above. Corrections, if any, shall be made by crossing out, initialing, dating and re writing. Signature of the Supplier should be there on every page of the bid.
10. 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. Quotation shall remain valid for a period not less than **60** days from date of opening.
11. Evaluation of Quotations: The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which are properly signed; and confirm to the terms and conditions, and specifications. The Quotations would be evaluated for all items together for each package.
12. 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.
 - (i) 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.
 - (ii) 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.
13. Payment shall be made in Indian Rupees as follows:
Satisfactory Delivery Installation and Acceptance - 100% of total cost
14. All supplied items should be under warranty of **12 months** from the date of successful acceptance of items.
15. Commissioning / Installation is at suppliers cost. Supplier should provide free demonstration for the equipment / item provided and training, if necessary. At least one hard copy/soft copy (CD) of working manual of each equipment/item(s) should be provided during the supply of goods at free of cost.
16. Conditional Bid(s)/Quotation(s) will not be accepted. Any breach of term(s) of contract at any stage and/or non-execution of firm Purchase Order by the supplier(s)/Bidder(s) shall be lead to forfeiture of Earnest money deposit(s).
17. All legal disputes are subjects to the jurisdiction of **Sultanpur (UP)** court only.
18. Right to accept or reject any bid or all bids without assigning any reason is reserved with the Institute (or Purchaser).

Sd/-

Coordinator (Procurement)

On behalf of the

Director, K.N.I.T.Sultanpur(UP) – 228118

Annexure-I
FORMAT FOR QUOTATION SUBMISSION

(In letterhead of the supplier with seal)

Date: _____

To:

The Director,
K.N.I.T. Sultanpur-228118 (UP)

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: _____

KAMLA NEHRU INSTITUTE OF TECHNOLOGY, SULTANPUR

Electrical Engineering Department

Package Name- KNIT/EED/CSLab/NS-03

Earnest Money Deposit (EMD) – Rs. 23000=00			
Delivery Period—45 days			
S.No	Item Name	Item Description/ Specification	Item Quantity
1.	Servomechanism trainer kit	Servomechanism trainer kit	2
2.	Temperature Process Control trainer kit	Temperature Process Control trainer kit	2
3.	AC servo motor trainer kit	AC servo motor trainer kit	2
4.	Synchro Transmitter/Receiver trainer kit	Synchro Transmitter/Receiver trainer kit	2
5.	Speed Torque Characteristics Of AC Servo Motor trainer kit	Speed Torque Characteristics Of AC Servo Motor trainer kit	2
6.	Linear System Simulator trainer kit	Linear System Simulator trainer kit	2
7.	DC Motor Position Controller For Electrical Lab trainer kit	DC Motor Position Controller For Electrical Lab trainer kit	2
8.	Light Intensity Control System For Electrical Lab trainer kit	Light Intensity Control System For Electrical Lab trainer kit	2
9.	PID Control System Trainer (Temperature) (MC based) Model	PID Control System Trainer (Temperature) (MC based) Model	2
10.	Closed Loop Control System (0 DC Voltage Reg. as Process trainer kit	Closed Loop Control System (DC Voltage Reg. as Process trainer kit	2
11.	Analog/ digital PID as well as PC based PID with computer interface adaptor & self-extracting PID S/W on CD with USB Adaptor	Analog/ digital PID as well as PC based PID with computer interface adaptor & self-extracting PID S/W on CD with USB Adaptor	1
12.	Process Simulator Panel	Process Simulator Panel	1
13.	Thyristor actuator panel with real life process setup for temperature & light	Thyristor actuator panel with real life process setup for temperature & light	1
14.	Stepper Motor Demonstrator Expt. Panel (P25) with Stepper Motor position feedback Set up	Stepper Motor Demonstrator Expt. Panel (P25) with Stepper Motor position feedback Set up	1
15.	AC Voltage servo stabilizer Trainer	AC Voltage servo stabilizer Trainer	1

KAMLA NEHRU INSTITUTE OF TECHNOLOGY, SULTANPUR

Electrical Engineering Department

Package Name- KNIT/EED/EMLab/NS-04

Earnest Money Deposit (EMD) – Rs. 32100=00			
Delivery Period—45 days			
S.No	Item Name	Item Description/ Specification	Item Quantit y
1.	Complete Setup For performing :- Verification of Kirchhoff's laws (KVL/KCL)	Complete Setup For performing :- Verification of Kirchhoff's laws (KVL/KCL)	4
2.	Complete Setup For performing :- Verification of (i) Superposition theorem (ii) Thevenin's Theorem (iii) Maximum Power Transfer Theorem.	Complete Setup For performing :- Verification of (i) Superposition theorem (ii) Thevenin's Theorem (iii) Maximum Power Transfer Theorem.	4
3.	Complete Setup For performing :- Measurement of power and power factor in a single phase ac series inductive circuit and study improvement of power factor using capacitor	Complete Setup For performing :- Measurement of power and power factor in a single phase ac series inductive circuit and study improvement of power factor using capacitor	4
4.	Complete Setup For performing: Study of phenomenon of resonance in RLC series circuit and obtain resonant frequency	Complete Setup For performing: Study of phenomenon of resonance in RLC series circuit and obtain resonant frequency	4
5.	Complete Setup For performing: Measurement of power in 3- phase ac circuit by two wattmeter method and determination of its power factor	Complete Setup For performing: Measurement of power in 3- phase ac circuit by two wattmeter method and determination of its power factor	4
6.	Complete Setup For performing :- Determination of parameters of ac single phase series RLC circuit	Complete Setup For performing :- Determination of parameters of ac single phase series RLC circuit	4
7.	Complete Setup For performing :- Determination of (i) Voltage ratio (ii) polarity and (iii) efficiency by load test of a single phase transformer	Complete Setup For performing :- Determination of (i) Voltage ratio (ii) polarity and (iii) efficiency by load test of a single phase transformer	4
8.	Complete Setup For performing :- To measure energy by a single phase energy meter and determine error	Complete Setup For performing :- To measure energy by a single phase energy meter and determine error	4
9.	C.R.O. up to 30 MHz	C.R.O. up to 30 MHz	4
10.	Complete Setup For performing no load and blocked rotor tests on a single phase induction motor and determine equivalent circuit.	Complete Setup For performing no load and blocked rotor tests on a single phase induction motor and determine equivalent circuit.	4

	<p>Single Phase Induction Motor Trainer Induction Motor Type :Capacitor Phase : Single Current Type : AC Rating :1 HP Voltage rating : 230 V \pm10%,50Hz MCB :10A Tachometer :20,000 RPM Mains Supply : 230 V 10%,50HzWith All Measuring instruments required as per Experiment (Fitted on Engraved Bakelite sheet enclosed in almirah type ms box with lock & handle arrangement suitable for table mounting.) With All Measuring instruments required as per Experiment (Fitted on Engraved Bakelite sheet enclosed in almirah type M S box with lock & handle arrangement suitable for table mounting.)</p>	<p>Single Phase Induction Motor Trainer Induction Motor Type :Capacitor Phase : Single Current Type : AC Rating :1 HP Voltage rating : 230 V \pm10%,50Hz MCB :10A Tachometer :20,000 RPM Mains Supply : 230 V 10%,50HzWith All Measuring instruments required as per Experiment (Fitted on Engraved Bakelite sheet enclosed in almirah type ms box with lock & handle arrangement suitable for table mounting.) With All Measuring instruments required as per Experiment (Fitted on Engraved Bakelite sheet enclosed in almirah type M S box with lock & handle arrangement suitable for table mounting.)</p>	
11.	<p>Complete Setup For performing To perform open circuit and short circuit tests on a three phase alternator and determine voltage regulation at full load and at unity, 0.8 lagging and leading power factors by (i) EMF method (ii) MMF method. Three Phase Synchronous Generator Trainer Input Supply :200 V Fixed DC 0-200 V Variable DC Machine Specification (2 Nos.) Both the Machine are flexibly coupled and mounted on a M.S. channel base DC Machine acts as a Prime Mover Type : DC Shunt Rating : 2 HP Voltage Rating : 200 Volt RPM : 1500 (No Load) Insulation : Class B Three Phase Synchronous Motor act as Generator Type :Salient Pole Motor Current type :AC Rating :3 HP Excitation Voltage :120 V Voltage rating : 415 V \pm10%</p>	<p>Complete Setup For performing To perform open circuit and short circuit tests on a three phase alternator and determine voltage regulation at full load and at unity, 0.8 lagging and leading power factors by (i) EMF method (ii) MMF method. Three Phase Synchronous Generator Trainer Input Supply :200 V Fixed DC 0-200 V Variable DC Machine Specification (2 Nos.) Both the Machine are flexibly coupled and mounted on a M.S. channel base DC Machine acts as a Prime Mover Type : DC Shunt Rating : 2 HP Voltage Rating : 200 Volt RPM : 1500 (No Load) Insulation : Class B Three Phase Synchronous Motor act as Generator Type :Salient Pole Motor Current type :AC Rating :3 HP Excitation Voltage :120 V Voltage rating : 415 V \pm10%</p>	4

12.	<p>Complete Setup For performing To determine X_d and X_q of a three phase salient pole synchronous machine using the slip test and draw the power-angle curve. Three Phase Synchronous Machine Type :Salient Pole Motor Current type :AC Rating :3 HP Voltage rating : 415 V \pm10% With All Measuring instruments required as per Experiment (Fitted on Engraved Bakelite sheet enclosed in almirah type M S box with lock & handle arrangement suitable for table mounting.)</p>	<p>Complete Setup For performing To determine X_d and X_q of a three phase salient pole synchronous machine using the slip test and draw the power-angle curve. Three Phase Synchronous Machine Type :Salient Pole Motor Current type :AC Rating :3 HP Voltage rating : 415 V \pm10% With All Measuring instruments required as per Experiment (Fitted on Engraved Bakelite sheet enclosed in almirah type M S box with lock & handle arrangement suitable for table mounting.)</p>	4
	Rehostates		
13.	2.8 Amp, 290 ohm	2.8 Amp, 290 ohm	8
14.	1.2 Amp, 600 Ohm	1.2 Amp, 600 Ohm	8
15.	1.2 Amp, 1000 Ohm	1.2 Amp, 1000 Ohm	8
16.	1.2 Amp, 1500 Ohms	1.2 Amp, 1500 Ohms	8
17.	<p>Dimerstate (Conti. Varriale) voltage Auto Transformer Indoor air cooled portable type mannuly operated suitable to work on single phase 50 hZ a.c. supply Output 0- 270v Capacity 15 amp</p>	<p>Dimerstate (Conti. Varriale) voltage Auto Transformer Indoor air cooled portable type mannuly operated suitable to work on single phase 50 hZ a.c. supply Output 0- 270v Capacity 15 amp</p>	10
18.	<p>Three Phase Dimerstate (Conti. Varriale) voltage Auto Transformer Indoor air cooled portable type mannuly operated suitable to work on three phase 50 hZ a.c. supply Input-415 V, 50 Hz,3-Phase Output 0- 470v Capacity 28 amp</p>	<p>Three Phase Dimerstate (Conti. Varriale) voltage Auto Transformer Indoor air cooled portable type mannuly operated suitable to work on three phase 50 hZ a.c. supply Input-415 V, 50 Hz,3-Phase Output 0- 470v Capacity 28 amp</p>	5
	Ammeter Dynamometer Type		
19.	0-1/2 A	0-1/2 A	15
20.	0-2.5/5A	0-2.5/5A	15
21.	0-5/10 A	0-5/10 A	10

**KAMLA NEHRU INSTITUTE OF TECHNOLOGY,
SULTANPUR**

Electrical Engineering Department

Package Name- KNIT/EED/PSLab/NS-06

Earnest Money Deposit (EMD) – Rs. 19300=00			
Delivery Period—45 days			
S.No.	Item Name	Item Description/ Specification	Item Quantity
1.	Fuse & MCB Characteristics Trainer	Fuse & MCB Characteristics Trainer	1
2.	Generation Trainer	Generation Trainer	1
3.	Power Transmission Line Trainer	Power Transmission Line Trainer	1

KAMLA NEHRU INSTITUTE OF TECHNOLOGY, SULTANPUR

Civil Engineering Department

Package Name- KNIT/CED/SALab/NS-08

Earnest Money Deposit (EMD) – Rs. 55000=00			
Delivery Period—45 days			
S.No.	Item Name	Item Description/ Specification	Item Qty.
1.	Elastic Properties of Deflected Beam Apparatus	<p>Apparatus consists of a mild steel beam 2.5cm x 3mm in cross section and 100cm long, pinned to two supports 70cm apart situated symmetrically. One of the ends can be fixed or given a known slope by applying a known moment at the end with the help of suspended loads. At the other end also a known moment can be applied. Vertical loads can be applied at various points along the span of the beam. Apparatus is supplied complete with a supporting stand .</p> <p>Two LVDT with 25mm travel (with a magnetic base) and two load cell of 10 Kg. capacity with a digital Indicator is supplied with the apparatus. Digital Indicator is capable to transfer the data through RS 232/USB to the computer. A Educational software also supplied with the set up to make calculation and complete results/data.</p>	1
2.	Apparatus for Verification of Clark's Maxwell Reciprocal Theorem	<p>Apparatus consists of a beam 100cm long and 1.25cm x 4mm in cross section with graduations at every 10cm along the length. It is supported on two knife edge supports 70cm apart with a 30cm overhang on one side. Reciprocal theorem can be verified by direct measurements of the deflections of various points with the help of a dial gauge due to a load placed at the reciprocal points. Apparatus is supplied complete with a supporting stand .</p> <p>A LVDT with 25mm travel (with a magnetic base) and one load cell of 10 Kg. capacity with a digital Indicator is supplied with the apparatus. Digital Indicator is capable to transfer the data through RS 232/USB to the computer. A Educational software also supplied with the set up to make calculation and complete results/data.</p>	1
3.	Three Hinged Arch Apparatus	<p>The model has a span of 100cm and rise 25cm, with hinges at supports and crown. One of the ends rests on rollers. Along the horizontal span of the arch various points are marked at equidistant for the application of load. This being a statically determinate structure, the horizontal thrust developed under the action of any load system can be theoretically calculated and will also be measured directly by digital Indicator. Apparatus is supplied complete with a supporting stand.</p> <p>A Load Cell of 10 Kg. capacity with a digital Indicator is supplied with the apparatus. Digital Indicator is capable to transfer the data through RS 232/USB to the computer. A Educational software also supplied with the set up to make calculation and complete results/data.</p>	1
4.	Two Hinged Arch Apparatus	<p>The model has a span of 100cm and rise 25cm. Both ends are hinged but one of the ends is also free to move longitudinally. A Load Cell of 10 Kg. capacity is fitted at this end for the application of known horizontal inward force for measuring the horizontal thrust. Along the horizontal span of the arch various points are marked at equidistant for the application of load. A LVDT with 25mm travel (with magnetic base) is supplied with the apparatus. Apparatus is supplied complete with a supporting stand.</p> <p>A digital Indicator is supplied with the apparatus. Digital Indicator is</p>	1

		capable to transfer the data through RS 232/USB to the computer. A Educational software also supplied with the set up to make calculation and complete results/data.	
5.	Curved Member Apparatus	Apparatus consists of a steel bar which is used to make the different curved members Viz. circle, semicircle with straight arm, a quadrant of a circle and quadrant of a circle with straight arm. The bottom ends of the members are fixed to the base. Under the application of load at free end, its horizontal and vertical deflection is measured with the help of LVDT. Apparatus is supplied complete with a supporting stand. Two LVDT with 25mm travel (with a magnetic base) and a Load Cell of 10 Kg. capacity with a digital Indicator is supplied with the apparatus. Digital Indicator is capable to transfer the data through RS 232/USB to the computer is supplied with the apparatus. A Educational software also supplied with the set up to make calculation and complete results/data.	1
6.	Redundant Joint Apparatus	Apparatus consists of three suspension members (spring balances) of different stiffness which are jointed at a point to form the redundant joint. The upper end of the suspension members being tied in a position to a vertical wooden board. Arrangement is provided to apply a vertical load at the joint and to measure its horizontal and vertical displacement on a paper and also elongations and forces in the suspension members by the help of LVDT. Two LVDT with 25mm travel (with magnetic bases) and A Load Cell of 10 Kg. capacity with a digital Indicator is supplied with the apparatus. Digital Indicator is capable to transfer the data through RS 232/USB to the computer are supplied with the apparatus. Apparatus is supplied complete with a supporting stand. A Educational software also supplied with the set up to make calculation and complete results/data.	1
7.	Behaviour of Column and Struts Apparatus	Apparatus consists of four spring steel columns which are put along a vertical wooden board. These four columns have different end conditions as below: <ol style="list-style-type: none"> 1. Both ends pinned 2. Both ends fixed 3. One end pinned and other fixed 4. One end fixed and other end free A Load Cell of 10 Kg. capacity with a digital Indicator is supplied with the apparatus. Digital Indicator is capable to transfer the data through RS 232/USB to the computer are supplied with the apparatus. Apparatus is supplied complete with a supporting stand. A Educational software also supplied with the set up to make calculation and complete results/data.	1
8.	Unsymmetrical Bending Apparatus	Apparatus consists of an angle of size 1" x 1" x 1/8" or in equivalent metric units of length 80cm is tied as a cantilever beam. The beam is fixed at one end such that the rotation of 450 intervals can be given and clamped such that the principal axis of its cross-section may be inclined at any angle with the horizontal and vertical planes. Also arrangement is provided to apply vertical load at the free end of the cantilever and to measure horizontal and vertical deflection of the free end. Apparatus is supplied complete with a supporting stand. Two LVDT with 25mm travel (with magnetic base) and a Load Cell of 10 Kg. capacity with a digital Indicator is supplied with the apparatus. Digital Indicator is capable to transfer the data through RS 232/USB to the computer are supplied with the apparatus. A Educational software also supplied with the set up to make calculation and complete results/data	1
9.	Portal Frame Apparatus	Portal frame is made up of M.S. plate of rectangular section of 3mm thick x 40cm wide. Frame is provided with a provision to achieve different end conditions viz. hinged, roller & fixed. The size of portal will be 40cm x	1

		<p>60cm. Portal is also having a provision for horizontal loading at different positions. Apparatus is supplied complete with a supporting stand and a set of weights.</p> <p>Two LVDT with 25mm travel (with magnetic base) and a Load Cell of 10 Kg. capacity with a digital Indicator is supplied with the apparatus. Digital Indicator is capable to transfer the data through RS 232/USB to the computer are supplied with the apparatus. A Educational software also supplied with the set up to make calculation and complete results/data.</p>	
10.	Elastically Coupled Beam Apparatus	<p>Apparatus consists of a three parallel bar suspension system with elastic beam at their upper and lower ends. The upper ends of the two outer suspension rods are tied to a vertical wooden board while central suspension rod may be tied to the centre of another elastic beam supported at two outer ends only. Apparatus is supplied complete with a supporting stand .</p> <p>A Load Cell of 10 Kg. capacity with a digital Indicator is supplied with the apparatus. Digital Indicator is capable to transfer the data through RS 232/USB to the computer are supplied with the apparatus. A Educational software also supplied with the set up to make calculation and complete results/data.</p>	1
11.	Deflection Of Truss Apparatus	<p>Apparatus consists of 4 panels of a PRATT truss, each panel being 40cm in horizontal direction and 30cm in vertical direction. Load can be applied on each panel point. All tension members are provided with detachable springs so as to obtain appreciable deformation of the member. Direction of the diagonal members may be changed. Apparatus can be used to illustrate visually the nature of forces set up in various members of the Truss. Apparatus is supplied complete with a supporting stand and a set of weights.</p> <p>Three LVDT with 25mm travel (with a magnetic base) and three Load Cell of 10 Kg. capacity with a digital Indicator is supplied with the apparatus. Digital Indicator is capable to transfer the data through RS 232/USB to the computer are supplied with the apparatus. A Educational software also supplied with the set up to make calculation and complete results/data.</p>	1

KAMLA NEHRU INSTITUTE OF TECHNOLOGY, SULTANPUR

Civil Engineering Department

Package Name- KNIT/CED/CTLab/NS-13

Earnest Money Deposit (EMD) – Rs. 11900=00

Delivery Period—45 days

S.No.	Item Name	Item Description/ Specification	Item Quantity
1.	Vibrating Machine	<p>Vibration Machine, with built-in Digital Timer, NABL Calibrated Ref. Standard - IS:4031, IS:10080, EN 196-1 413-2, EN 13454-2 It should be specially designed Vibration Machine is used for vibrating the mix in moulds at a frequency of 12,000 ± 400 cycles per minute, as per specifications. The Vibrator is mounted over coiled springs and the vibrations are developed by means of a revolving eccentric shaft. The centre of gravity of the vibrator, including the cube and mould, is either at the centre of the eccentric shaft or within 25mm below it. The simple design of the machine facilitates easy assembly and dismantling of the cube moulds. Each machine is supplied with one cube mould with ISI Certification Mark and poking rod. Suitable for operation on 220V, 50Hz, Single Phase, AC supply. The equipment consist of the following:</p> <ul style="list-style-type: none"> • Mould Steel, for 70.6 mm Cube with ISI • Certification Mark as per IS:10080 • Side Spring • Supporting Springs (Set of four) • Springs, for Fitting Mould (Set of two) • Endless Belt • Belt Guard • Eccentric Shafts with bearing 	1
2.	Bulk Density Measure Complete	<p>Cylindrical Metal Measures with ISI Certification Mark, IS:2386 (Part 3) Consists of one each of the following measures:</p> <ul style="list-style-type: none"> • Measure 3 litres • Measure 15 litres • Measure 30 litres <p>Supplied Complete with AIM 345 Tamping Rod of 16mm dia x 60 cm long having ISI Certification Mark IS:10086</p>	1
	Electronic Balance	Electronic Balance, Capacity 3000g x 0.1g with NABL Calibration Certificate	2
	Ultrasonic Concrete Tester for NDT	<p>Ultrasonic Concrete Tester Flexible UPV test instrument designed primarily for operation in laboratories. It supports all traditional UPV test modes. The Pundit Lab+ comes with an extended feature set :</p> <ul style="list-style-type: none"> • Measurement performance; Optimized pulse shaping, automated transmission settings for optimum performance and a range of new, more powerful transducers ensure accurate, stable measurements. • Integrated waveform display; Allows analysis of the received signal and manual triggering directly on the instrument. • On-line data acquisition; Full remote control of all transmission parameters, data logging function and functionality that turns your PC into an oscilloscope. • USB interface and data analysis software; Data analysis and export to third party programs. • Open interface; Control Pundit Lab using third party software • Automated combination of the transmitter voltage and the receiver gain for accurate and stable measurements • Removes the need for external amplification when used with exponential transducers • Compressive strength estimation • SONREB software * Thickness measurement from a single side * Standards: EN12504-4 (Europe), ASTM C 597- 02 (North America), BS 1881 Part 203 (UK), ISO1920-7:2004 (International), IS13311 (India) <p>Supply complete with: Display unit, 2 transducers (54kHz), 2 BNC cables 1.5 m, couplant, calibration rod, battery charger with USB-cable, 4x AA(LR6) batteries, data carrier with software, documentation and carrying case</p>	1

**KAMLA NEHRU INSTITUTE OF TECHNOLOGY,
SULTANPUR**

Mechanical Engineering Department

Package Name- KNIT/MED/MTLab/NS-19

Earnest Money Deposit (EMD) – Rs. 1000=00			
Delivery Period—45 days			
S.No.	Item Name	Item Description/ Specification	Item Quantity
1.	Table Top Lathe Machine	Table Top Lathe Machine (Mini Lathe Machine) 1. Height Of Center : 150 mm 2. Spindle Bore : 12 mm 3. Admin Between Center : 500 mm 4. Bed Length : 3 Feet 5. Spindle Speed : 1200 RPM 6. Bed Width : 180 mm 7. Cross Slide Travel : 175 mm 8. 0.5 HP Motor 3 Phase, R/F Switch, Quick Change Tool Post including with the Machine.	1

KAMLA NEHRU INSTITUTE OF TECHNOLOGY, SULTANPUR

Mechanical Engineering Department

Package Name- KNIT/MED/CAMLab/NS-23

Earnest Money Deposit (EMD) – Rs. 50000=00			
Delivery Period—45 days			
S.No.	Item Name	Item Description/ Specification	Item Quantity
1.	Spark based Optical Emission Spectrometer	<p>Optics:</p> <ol style="list-style-type: none"> 1. CCD-based spectrometer with 2 physical and 3 effective CCDs. 2. Optics should use the D-Scan technique to minimize number of CCDs while maximizing resolution 3. Number of CCDs should be minimized to ensure high optical stability and precision. Number of CCDs must be explicitly stated 4. Wavelength range of 160 – 411 nm 5. Capability to analyse Nitrogen down to 30 ppm or lower in ferrous samples 6. Optics should be either Argon or air purged and should not require any vacuum systems or pumps <p>Source:</p> <ol style="list-style-type: none"> 1. Digital pulsed current-controlled source for plasma generation 2. Settable parameters in the current source 3. Universal power input of 90-270VAC 4. Fully computer controlled 5. Multi-frequency range <p>Analytical features:</p> <ol style="list-style-type: none"> 1. Analysis of ferrous and non-ferrous metals 2. Multi-base capability 3. Auto Selection of Base, Matrix with Analysis of Chemical Composition 4. Automatic Grade Identification 5. Check-burn Facility 6. Deletion of Poor Burns 7. Display of Mean Value and RSD/SD Maintenance Assistance 8. Global Standardization 9. Type Standardization 10. Simple Re-standardization 11. Analysis Software for sorting metals 12. Carbon Equivalent (CE) 13. Analysis of Nitrogen down to 30 ppm in Ferrous base 14. Adapters for Wire Analysis down to 2 mm diameter 15. Ability to analyse Thin Sheets 16. Auto-Diagnostics for Faults <p>Software Features:</p> <ol style="list-style-type: none"> 1. Unlimited logging of all spectral data 2. Unlimited logging of all analytical data 3. Data retrieval based on using any one of at least 5 sample fields 4. Compatibility with Windows 10 (32 or 64 bit) 	1

Spark Stand:

1. Open spark stand to accommodate a wide range of sample sizes and geometries
2. Automatic system for cleaning of sample stand
3. Auto-detection of sample presence
4. Module for argon saving enabled through the operating software suite

Service Capabilities:

1. Manufacturer should offer services directly through fully employed engineers and not through any agents / distributors / freelancers
2. Manufacturer should have at least 10 locations through which they provide direct service support
3. Manufacturer should have at least 15 full-time and qualified (B.E / B.Tech or equivalent) service engineers on their own payrolls (contract employees will not be considered)

Alloy Calibration Module:

Supplier has to provide factory pre-calibrated modules for:

Fe Base: Low Alloys Steels, Cr-Ni Steel, High Mn Steel, Tool Steel

Al Base: Al-Low Alloys, Al-Si, Al-Si-Cu, Al-Mg

Mg Base: Pure Mg, Mg-Zn-Mn Alloy

Accessories:

1. Sample Surface preparation machine for Ferrous and Non-Ferrous Samples:
 - The instrument should offer facility for Turning of soft samples as well as Grinding of harder samples
 - The instrument should also offer a pointing station for pointing of electrodes to the optimal angle.
 - Ideally, an instrument from the same manufacturer as the spectrometer should be supplied.
2. 2-stage metal diaphragm regulated Argon regulator should be quoted
3. Argon Gas Cylinders-2 Nos.
4. **External PC System:** Instrument should quote latest external PC system with 22 TFT monitor and Deskjet printer along with operating software

KAMLA NEHRU INSTITUTE OF TECHNOLOGY, SULTANPUR

Electronics Engineering Department

Package Name- KNIT/EL/MWLab/NS-14

Earnest Money Deposit (EMD) – Rs. 34000=00			
Delivery Period—45 days			
S.No.	Item Name	Item Description/ Specification	Item Qty
1.	Vector Network Analyzer	Freq.Range:2-12MHz, I/P imp:50 ohm, 75 ohm, with connecting leads & accessories.	1
2.	Signal Generator	Freq.Range:10-20GHz,O/P imp:50 ohm, 75 ohm, with connecting leads & accessories.	1
3.	C-band Microwave Test bench complete set	Freq.Range:4-6GHz with wave guide and microwave source with connecting leads & accessories.	1
4.	Microwave Frequency Meters	3.7-12.5 GHz, +/- 15% accuracy , less then 10dB return loss, accessories .	1
5.	Microwave Power Meter	100 Khz-40 Ghz,-30 to +2dBm Auto ranging with accessories.	1
6.	Field Strength Measurement Systems	100 MHz to 8 GHz , triple axes, manual data memory, Peak average memory	1

KAMLA NEHRU INSTITUTE OF TECHNOLOGY, SULTANPUR

Electronics Engineering Department

Package Name- KNIT/EL/MPLab/NS-16

Earnest Money Deposit (EMD) – Rs. 20000=00			
Delivery Period—45 days			
S.No.	Item Name	Item Description/ Specification	Item Qty
1.	Microprocessor kits and data acquisition cards	,8085 &8086 based kits with peripherals and accessories.	5
2.	Universal Programmer	Universal EPROM Programmer	2
3.	Universal IC Tester	Multifunctional Transistos & IC Tester for analog and digital IC's	2
4.	PC-based Data Acquisition System	Data acquisition systems and instruments collect, digitize, and process multiple ... data acquisition and signal conditioning from a supervisory or host computer	2

KAMLA NEHRU INSTITUTE OF TECHNOLOGY, SULTANPUR

Electronics Engineering Department

Package Name- KNIT/EL/Comm.Lab/NS-17

Earnest Money Deposit (EMD) – Rs. 30700=00			
Delivery Period—45 days			
S.No.	Item Name	Item Description/ Specification	Item Qty
1.	Universal programmable communication development system	The system must have facility for digital data inputs and outputs, along with switches and indicators.Facility for various test points must be provided.Facility for on boards USB programming of FPGA thru USB 16x2 LCD DisplayClock Generation of 10KHz output Data Clock and serial data test point.Test points to measure test signals On board programming facility for developmentSelectable data generator8-bit data Generator DIP switchesOn board power supply provision with test pointsClock Generation of 10KHz output Facility for FSK –modulator /Demodulation circuit using programmable FPGA Facility for ASK –modulator Demodulation circuit using programmable FPGA Facility for PSK –modulator /Demodulation circuit	4
2.	CDMA DSSS communication boards	On board PN Sequence Generator On board switch selection for DSSS and FHSSOn board carrier freq gen On board BPSK mod / demodulator Clock Generator Data Clock and serial data test point.Selectable data generator8-bit data Generator DIP switchesOn board power supply.	4
3.	Data format and reformatting Boards using FPGA	The development boards must be designed around a FPGA with associated circuitry, for the realization of advance digital communications various data, NRZ (Mark), NRZ (L), Manchester, RB, AMI and their reformatting techniques On board Sine wave frequency generator.On board ADC and DAC up to 60MSPS and 100MSPS respectively.Facility for USB communication for programmingThe kits must be programmable using Xilinx sparton3 FPGA, along with Memory.8 bit toggle data switches for data inputSelector switches 10 nos for data format selectionLcd16x2 for displayOn board power supply 3.3 and 5v with test pointsTest points to analyze different signalsData Format – NRZ (Mark), NRZ (L), Manchester, ,RB, AMIASK / PSK / FSK Modulation TechniquesUni-polar to Bipolar & Bipolar to Uni-polar conversion8 bit variable NRZ-L pattern Data SimulatorModulation and demodulation using FPGA.user manual, connecting leads.	4
4.	Error correction and hamming code development system using FPGA	LCD 16x2 for display, 8 MHz oscillator, Spartan 3e chip with memoryOnboard power jack with power supply test points LCD 16x2 for display, 8 MHz oscillator, Spartan 3e chip with memoryOnboard power jack with power supply test points 8 bit data input switchesError generations switches with 8 bit led indicators12no. indicators for data frame transmissionData status indicators 12nos. for receiving data frame Error detection and error correction using 14nos of LED indicators user manual, connecting leads. The kit must have facility for training, various ODD, EVEN PARITY, CRC, Check Sum and Hamming code transmission and recovery Section.Facility for single bit error detection and correction. error in 8-bit binary data using Even Parity error in 8-bit binary data using Odd ParityDetect the error in 8-bit binary data using Even Parity, Detect the error in 8-bit binary data using Odd Parity	4
5.	Programmable QAM Modulation / demodulation development board	Data generators with 3 – 8 bit Dip switches,On boards 8 MB SPI SPROM , On boards ADC and DAC With signal conditioning. On boards carrier sine waves, On boards power supply Facility for 16x2 LCD display. Programming facility for FPGA programming using JTAG headerTest points to analyze different on board signals facility to study QAM Mod / DM techniques The system must have on boards memory and signal generators, Facility for carrier Modulation / Demodulation QAM, with constellation Diagram study On board facility for signal during Demodulation Data decoding NRZ(L) , Tribit data (I & Q) , differently decoded I & Q	4
6.	PCM Modulation and Demodulation Kit	Audio codec: Stereo inputs: single ended number of bits per channel : 16 bits (left and right) sampling rate: 48,24,12 and 6KHz system, analog signal sinusoidal with Frequency 1 KHz2KHz	4

7.	Delta Modulation and Demodulation Kit	Schemes: Delta Modulation, Adaptive Delta Modulation, Sigma Delta Modulation 1st order. Crystal Frequency 25MHz 8 bit DAC and ADC Sampling frequency 8, 16, 32, 64 kHz through selection switches Sin, Triangle, Variable DC Signal through Potentiometer Individual frequency Selection for signals 500 Hz, 1 KHz 2 KHz 3KHz using switches. Test point for sample and hold outputs and the final modulated output, demodulated output .2nd order & 4th order low pass filter	4
8.	Experimental kit for study of Time Division Multiplexing and de multiplexing	with built-in power supply, variable onboard data signal generation and LED indication for outputs 2 ZIF socket 8 bit data transmitter & 8 bit marker data for security & 8 bit data along with 8 led indicator receiver 8 marker data & 8 data clock signal generator facility for on board Manchester coding for tx section supplied with 4 bit counter using 74193 power supply 5volt adaptor	4
9.	PAM, PWM, PPM modulation and demodulation trainer kit	with built-in power supply, variable onboard data signal generation and LED indication for outputs 2 ZIF socket 8 bit data transmitter & 8 bit marker data for security & 8 bit data along with 8 led indicator receiver 8 marker data & 8 data clock signal generator facility for on board Manchester coding for tx section supplied with 4 bit counter using 74193 power supply 5volt adaptor	4
10.	Signal Construction and Reconstruction Trainer Kit	Sample Circuit/Output Sample & Hold Circuit/Output Switch selectable Sampling Duty cycle of 0-90% in steps 2nd & 4th order Low pass filter with cut off frequency of 3.4 KHz. 8 Nos. of Switch Faults Provided. Block Description Screen printed on glass epoxy PCB Interconnections All interconnections are made using 2mm banana Patch cords. Test points are provided to analyze signals at various points. All IC's are mounted on IC Sockets. On-board Sine Wave Generator	4
11.	Advance Digital Trainer With Built In signal Generator And Power Supply	<ul style="list-style-type: none"> § Digital voltmeter with range 0-200v dc, Data Switches: 16 Nos § Dual color indicators to observe high/low logic, standard § BNC socket facility to connect cro § Directly with trainer, DC Power supply: $\pm 5V$, $\pm 12V$, 0-12V (variable) with 1 A . § Pulse Generator: square, triangle & sine Frequency range: $\\$ 1Hz$ to 700KHZ in steps, $\\$ Leds at input as well as at output. Fine tuning for particular § frequency selection, Variable in between, Amplitude: 0 TO 5V § On Board Voltmeter Astable Pulse generation: 2 Nos. $\\$ (Push to On), Solderless IC devices for experimentation $\\$ It should be having min. 6/7 Zif Sockets On Board $\\$ Power Consumption: 3.2 VA (Approx), Weigh: 3.2kg. (approx), § To study the working of multiplexer using $\\$ Digital trainer board zif socket. $\\$ To study the working of decoder using $\\$ Digital trainer board zif socket. $\\$ Seven Segment Display: 4 Nos $\\$ 1 Buzzer, $\\$ On board ZIF socket experimentation 20 Pin § Power: 220V $\pm 10\%$, 50HZ. 	10
12.	Frequency modulation /Demodulation kit	WITH BUILT-IN VCO. ON-BOARD CARRIER AND MODULATING SIGNAL WITH POWER SUPPLIE +/- 12 V/500 mA DC POWER SUPPLY CARRIER GENERATOR 100 KHz MODULATING SIGNAL GENERATOR 1 KHz FREQUENCY MODULATOR FREQUENCY DEMODULATOR SET OF 4mm PATCH CHORDS & MANUA	5
13.	Amplitude Modulation & Demodulation Kit	ONBOARD CARRIER AND MODULATING SIGNALS ALONG WITH POWER SUPPLIES +/- 5VV/500 MA DC POWER SUPPLY CARRIER GENERATOR AT 100 KHz MODULATING SIGNAL GENERATOR AT 1 KHz AMPLITUDE MODULATOR AMPLITUDE DEMODULATOR SET OF 4mm PATCH CHORDS & MANUAL	5
14.	Delta, Adaptive Delta Sigma Modulation & Demodulation Kit With SMPS	Schemes: Delta Modulation, Adaptive Delta Modulation, Sigma Delta Modulation 1st order. Crystal Frequency 25MHz 8 bit DAC and ADC Sampling frequency 8, 16, 32, 64 kHz through selection switches Sin, Triangle, Variable DC Signal through Potentiometer Individual frequency Selection for signals 500 Hz, 1 KHz 2 KHz 3KHz using switches. Test point for sample and hold outputs and the final modulated output, demodulated output . 2nd order & 4th order low pass filter	5

KAMLA NEHRU INSTITUTE OF TECHNOLOGY, SULTANPUR

Electronics Engineering Department

Package Name- KNIT/EL/PCBLab/NS-18

Earnest Money Deposit (EMD) – Rs. 52800=00			
Delivery Period—45 days			
S.No.	Item Name	Item Description/ Specification	Item Qty
1.	PCB Machine	Prototype compatible with TARGET /PROTIOUS VSM s/w.	1
2.	CNC Drilling Machine for PCB drilling.	working format: max. 750 mm x 650 mm drilling tolerance (hole to hole): +/- 0,05 mm drilling through holes (THT): diameter min. 0,1 mm, max. 6,4 mm drilling blind vias: diameter min. 0,125 mm, depth accuracy +/- 0,025 mm drilling burried vias on inner layers: diameter min. 0,1 mm, max. 6,4 mm	1
3.	Soldering Station	ESD protected• Ceramic heating element• PTC • From room temperature to 350°C in 30 seconds • Integrated automatic "Sleep - Function" The station switches to "Sleep Mode" if the iron is not used for longer than 15 minutes. Soldering Iron 24 V Temperature range 160 - 480°C Power 60 W (heating phase 130 W) Ceramic heating element Desoldering iron 24 V Vacuum 600 mmHG Temperature range 160 - 480°C Output 80W	2
4.	Desoldering Station	Desoldering iron 24 V Vacuum 600 mmHG Temperature range 160 - 480°C Output 80W Cleaning tool Replacement filters	5
5.	Temperature Control Training kit	4 different Temperature Transducers Study of Transducer controlled switching / alarm systems On board signal conditioning circuitry Built-in DC Power Supply	2
6.	Security System Training Kit	included cameras, sensors, and alarms	3
7.	Chemical & Raw Materials	(a) PCB Single Side (b) Developer (c) Fixer (d)Development Tray (e)LPR (f)Thinner (g) Dye (h) Etching Chemical (i)Drill Bits (j)Solder (63:37	