कुलसचिव कार्यालय
लखनऊ विश्वविद्यालय
लखनऊ–226007

संदर्भ संख्या :.....

दिनांक :.....

UNIVERSITY OF LUCKNOW
LUCKNOW

Sealed tenders from eligible bidders are invited for supply and commissioning of Lab Equipments in the Faculty of Engineering, Lucknow University, Second Campus, Jankipuram, Lucknow- 226031, for the laboratories: Electrical Engineering, Mechanical Engineering, Electronics and Communication Engineering and Civil Engineering.

For details visit www.lkouniv.ac.in

Registrar

(Prof. R.K. Singh)
Registrar

No E-5896-9.1 Date..07/03/18

Copy forwarded to the following for information and necessary action:

1. Secretary to Vice-Chancellor for kind information of Hon'ble Vice- Chancellor, University of Lucknow.
2. P.S. to P.V.C. for kind information of Pro- Vice- Chacellor, University of Lucknow.
3. Coordinator, Faculty of Engineering, University of Lucknow with request to kindly arrange four tender boxes at Faculty of Engineering, Sencond Camous, Jankipuram, Lucknow- 226031.
4. Director IPPR, University of Lucknow with request to publish the advertisement in 02 newspapers.
5. Prof. Anil Mishra, Director Data Resource Center, Lucknow University, Lucknow for favour to upload on the University website.
6. P.A. to Registrar, University of Lucknow.

Registrar

FACULTY OF ENGINEERING

UNIVERSITY OF LUCKNOW

Second Campus, Jankipuram, Lucknow-226031 (U.P.)

TENDER NOTICE

The University of Lucknow, Lucknow invites sealed tender from eligible bidders for supply and commissioning of Equipments for **Electronics & Communication Engineering laboratories** of Faculty of Engineering, University of Lucknow, Second Campus, Jankipuram, Lucknow-226031 (U.P.). Separate tenders must be submitted at University of Lucknow for each package of following Electronics & Communication Engineering Laboratories:

Package – FOE/EC/01	- Solid State Devices and Circuits Laboratory
Package – FOE/EC/02	- Digital Electronics Laboratory
Package – FOE/EC/03	- Microprocessor Laboratory
Package – FOE/EC/04	- Electronics Measurement & Instrumentation Laboratory
Package – FOE/EC/05	- Electronic Workshop and PCB Laboratory
Package – FOE/EC/06	- Computer Organization Laboratory

For Tender Documents, Tender Cost, EMD, Specifications and other details please visit our website: www.lkouni.ac.in

REGISTRAR
University of Lucknow

FACULTY OF ENGINEERING

UNIVERSITY OF LUCKNOW

Second Campus, Jankipuram, Lucknow-226031 (U.P.)

SHORT TERM TENDER DOCUMENT

Tender No. - 03/FOE/LU/2018 Date: 07.03.2018

Sealed and separate tenders in two parts i.e. tender bid-I (Technical) and tender bid-II (Financial) are herewith invited for Supply & Commissioning of Electronics & Communication Engineering Laboratory Equipments at **Faculty of Engineering, University of Lucknow, Second Campus, Jankipuram, Lucknow-226031 (U.P.),** along with Earnest money (Mentioned with package/unit) in the shape of Demand Draft of Nationalized Bank in favour of Finance Officer, University of Lucknow, Luckow (U.P.). Both envelopes should be kept in one big envelope. The tender should reach to the undersigned latest by 04.04.2018 at 02.00 PM.

Terms & Conditions

1. Tenders are being invited for purchase and commissioning of equipments to establish various laboratories. Each Laboratory will be treated as one package/unit. It is expected that a firm selected for the establishment of a Laboratory shall supply all the equipments of that laboratory. The firm will also complete the work of installation/mounting and commissioning of these equipments.
2. Details of equipments/materials are as per bill of quantity attached.
3. Tenders should be submitted either in person or by post in sealed envelopes on which name of package/unit, tender number and date along with name and address of the firm will be written.
4. **TENDER BID-I** (Technical) shall contain (i) Tender cost (non refundable) (ii) Earnest Money (iii) Proof of PAN and GST registration documents (iv) Standing of the firm (v) Major supplies executed in recent past (vi) Authorized dealer certificate from OEM & Commercial terms and conditions.

   TENDER BID-II (Financial) shall contain rate schedule only. The rates must be quoted both in figures and words. Any overwriting and/or cutting must be duly signed failing which tenders are likely to be rejected.
5. Tenders received after due date and time will not be considered.
6. EMD of all unsuccessful bidders will be refunded after opening of tenders. However, EMD of successful bidder will be refunded only after installation and commissioning of equipments and due verification by concerned authority.
7. DD of Rs. 1000-/- being cost of tender has to be attached with Tender form in favour of **Finance Officer, University of Lucknow** payable at Lucknow, which is not refundable in any case.

Continued……..

8. Price quoted should be F.O.R. **Faculty of Engineering, University of Lucknow, Second Campus, Jankipuram, Lucknow-226031 (U.P.).**
9. Detailed specifications and make of the equipments/ materials must be given.
10. Quoted items should be strictly in order of merit with serial number and metric unit otherwise the tenders are liable to be ignored.
11. Conditions regarding validity of tenders, delivery period, payment discount, warrantee and guarantee period, GST, custom duty and insurance etc. should be mentioned clearly. Net prices should be quoted.
12. No sales tax form "CZX" or 'D" etc. for concessional rates shall be provided by the University.
13. Quoted rates should be valid for at least **six months** from the date of opening.
14. Tenders without sample wherever required may not be accepted.
15. In case of imported equipments, commission allowed to agents must be specifically mentioned.
16. Free demonstration shall be done in the University premises if required.
17. Insurance shall be done by the suppliers at their own cost.
18. Tenders without mentioned earnest money deposit will not be entertained.
19. Standing of the firm and major supplies in recent past with proof must be attached.
20. In case of dealers, authorized distributors, dealer's certificate from OEM is required
21. Document through bank and advance payment on proforma invoice may not be accepted.
22. The items and quantity mentioned in bill of quantity against each items will be treated as provisional and it may be changed depending on actual requirement.
23. Payment will be made only after successful installation and commissioning of equipments in the concerned Laboratory and due verification by concerned authority.
24. If the supply is not made within one month, the firm shall be liable to pay a penalty equal to 0.10% of value of purchase order per day. However this can be waved off by the Hon'ble Vice Chancellor under special circumstances. If the firm fails to supply the equipments the earnest money deposit will be forfeited.
25. Deduction of TDS as per Govt. Rules.
26. Tenders will be opened in the presence of Tender Committee and bidders or their authorized representatives who wish to be present on the date of opening.
27. Any dispute will be subject to **Lucknow (U.P.),** Jurisdiction only.
28. Conditional tenders will not be accepted.
29. Authorized signatory has to keep all the original documents at the time of opening of tender.
30. The Registrar have the right to accept or reject any or all tenders without assigning any reason.

I/We have read and understand the above conditions and agree to abide by them.

Authorized Signatory & Seal of the Bidder/Proprietor

FACULTY OF ENGINEERING

UNIVERSITY OF LUCKNOW

Second Campus, Jankipuram, Lucknow-226031 (U.P.)

TENDER BID-I (Technical)

Tender	**Purchase and Commissioning of Equipments for Electronics and Communication Engineering Laboratories**
Package No.	
Name of the firm with full address and contact number	
For	Faculty of Engineering, University of Lucknow, Second Campus, Jankipuram, Lucknow-226031 (U.P.)
Cost of Tender Document	DD No: Amount: Bank: Date: Drawn in favour of Finance Officer, University of Lucknow, payable at Luckow (U.P.).
Earnest Money Deposit	DD No: Amount: Bank: Date: Drawn in favour of Finance Officer, University of Lucknow, payable at Luckow (U.P.).
PAN/GST No	PAN GST (Attach proof)
Income Tax Return of last three years	Attach Copy
Original Equipment Manufacturers/Authorization Letter from O.E.M.	Attach proof
Turnover in the last three years	Attach proof
Details of Similar Work Executed during last Three years	Attach proof
Place of Tender Submission	Office of the Coordinator, Faculty of Engineering, University of Lucknow, Second Campus, Jankipuram, Lucknow- 226031 (U.P.)
Last Date of Tender Submission	Date:- 04.04.2018 Time:- 02.00 PM
Place of Tender Opening	Registrar Office, Committee Room, Lucknow University (Old Camous), Lucknow.
Opening of Tender	Date:- 04.04.2018 Time:- 04.00 PM

Signature and Seal of Bidders

TENDER BID-II (Financial)

Package- FOE/EC/01: Solid State Devices and Circuits Laboratory

Tender Cost: Rs. 1000/- **EMD: Rs. 10000/-**

Bill of Quantity

S.No.	Name of Kits/ Equipments	Specification/Experiments	Qty	Rate	Amount
1.	50 MHz Digital storage oscilloscope	Signal Bandwith: 50 MHz 7.0" TFT LCD Color display	05		
2.	Digital Multimeter	Resolution: $3^1/_2$ digits resolution. Measurements: DCV, DCI, True RMS ACV, ACI, Frequency, Capacitance, Temperature, Diode & continuity.	10		
3.	Function Generator 3 MHz	Frequency Range: 40mHz-3MHz in decade steps. Sine, Square, Triangle, Saw tooth/Ramp and Pulse, TTL Output and facility of DC offset.	05		
4.	DC regulated power supply	0-30 VDC, 2 A Current limit facility	05		
5	Dual DC regulated power supply	30-0-30 V, 2 Amps DC Output. Current limit: 100 mA-2A	05		
6	Bread Board	For ICs and Discrete Components	10		
7	PN Junction Diode Characteristics Kit	Characteristics of PN Junction Diode- static & dynamic resistance measurement from graph	05		
8.	Half Wave, Full Wave & Bridge Rectifier Kit	Half and Full wave rectifier Measurement of Vrms, Vdc and ripple factor.	05		
9.	Zener Diode V-I Characteristics Kit	V-I Characteristics of Zener diode, Graphical measurement of forward and reverse resistance.AS Voltage regulator.	02		
11.	Transistor Char. Kit	Characteristics of BJT in CE configuration- Graphical.	05		
12.	Measurement of Op-Amp. Parameters (IC 741)Kit	Common Mode Gain, Differential Mode Gain, CMRR, Slew Rate.	05		
13.	Applications of	Op-amp as summing amplifier,	02		

	Operational Amplifiers Kit	Difference amplifier, integrator and differentiator			
14.	FET Characteristics Kit	Single Stage Common Source FET amplifier-plot of gain in dB Vs frequency, Measurement of bandwidth, input impedance, maximum signal handling capacity (MSHC) of an amplifier.	05		
15.	Sinusoidal Oscillators Kit: (a) Wein's Bridge Oscillator (b) RC phase shift Oscillator	Find the frequency of Wein's Bridge Oscillator Find the frequency of RC phase shift Oscillator	02+ 02		

Date:

Signature of Authorized Signatory

Seal

TENDER BID-II (Financial)

Package- FOE/EC/02: Digital Electronics Laboratory

Tender Cost: Rs. 1000/- **EMD: Rs. 9000/-**

Bill of Quantity

S.No.	Name of Kits/ Equipments	Specification/Experiments	Qty	Rate	Amount
1.	Digital IC Tester	Test Digital IC's such as 74 Series, 40/45 Series of CMOS IC's, Microprocessor like 8085,8086, Z80, Peripherals like 8255,8279, 8253,8251,8155.	02		
2.	50 MHz Digital storage oscilloscope	Signal Bandwith: 50 MHz 7.0" TFT LCD Color display	05		
3.	Digital Multimeter	Resolution: $3^1/_2$ digits resolution. Measurements: DCV, DCI, True RMS ACV, ACI, Frequency, Capacitance, Temperature, Diode & continuity.	10		
4.	Function Generator 3 MHz	Frequency Range: 40mHz-3MHz in decade steps. Sine, Square, Triangle, Saw tooth/Ramp and Pulse, TTL Output and facility of DC offset.	05		
5.	Dual DC regulated power supply	30-0-30 V, 2 Amps DC Output. Current limit: 100 mA-2A	05		
6.	Bread Board	For ICs and Discrete Components	10		
7.	4 Bit Counters (Synchronous & Asynchronous) using IC 7476 kit	Verify the 4 bit synchronous counter. Verify the 4 bit asynchronous counter.	2		
8.	4 Bit Adder & Subtractor Circuits using IC 7483 Kit	Implementation of 4 bit parallel adder using 7483 IC.	02		

9.	Encoder & Decoder kit	Verification of decoder using logic gates. Verification of encoder using logic gates.	02		
10.	4 to 1 line Multiplexer Kit	Implementation of 4:1 multiplexer using logic gates	02		
11.	1 to 4 line De-multiplexer Kit	Implementation of 1:4 multiplexer using logic gates.	02		

Date:

Signature of Authorized Signatory
Seal

TENDER BID-II (Financial)

Package- FOE/EC/03: Microprocessor Laboratory

Tender Cost: Rs. 1000/- **EMD: Rs. 8000/-**

Bill of Quantity

S.No.	Name of Kits/Equipments	Specifications/Experiments	Qty	Rate	Amount
1.	Microprocessor 8085 kits	Built in assembler, 4K Monitor FIRMWARE, 8K user 6264 (expandable upto 56K), LCD display (40x2 lines), 46 parallel I/O, 8155/8255 PPI chip with 26 FRC bus, Serial I/O.	5		
2.	Microprocessor 8086 kits	6K Bytes of EPROM with 16K bytes of Battery Backup RAM,72 I/O Lines, Three Channel Timer/Counter, PC Serial Interface using USART, Interrupt Controller ,Seven Segment Display with 28 Keys Hex Keypad .	5		
3.	Interfacing kits for Microprocessors (8085 and 8086)	A/D & D/A Converter Interface, Stepper Motor Controller Interface, Logic Controller Interface, LED Display Matrix card, Traffic Controller card, Temperature Monitor.	2 each		
4.	50 MHz Digital storage oscilloscope	Signal Bandwidth: 50 MHz 7.0" TFT LCD Color display	05		
5.	Function Generator 3 MHz	Frequency Range: 40mHz-3MHz in decade steps. Sine, Square, Triangle, Saw tooth/Ramp and Pulse, TTL Output and facility of DC offset.	05		

Date: **Signature of Authorized Signatory**

Seal

TENDER BID-II (Financial)

Package- FOE/EC/04: Electronic Measurement & Instrumentation Laboratory

Tender Cost: Rs. 1000/- **EMD: Rs. 9000/-**

Bill of Quantity

S.No.	Name of Kits/ Equipments	Specification/Experiments	Qty	Rate	Amount
1.	50 MHz Digital storage oscilloscope	Signal Bandwith: 50 MHz 7.0" TFT LCD Color display	05		
2.	Digital Multimeter	Resolution: $3^1/_2$ digits resolution. Measurements: DCV, DCI, True RMS ACV, ACI, Frequency, Capacitance, Temperature, Diode & continuity.	10		
3.	Function Generator 3 MHz	Frequency Range: 40mHz-3MHz in decade steps. Sine, Square, Triangle, Saw tooth/Ramp and Pulse, TTL Output and facility of DC offset.	05		
4.	Study of LCR Bridge Kit		02		
5.	Kelvin Bridge Kit	For resistance Measurement	02		
6.	Schering's Bridge	For Capacitance Measurement	02		
7.	Hay's Bridge Kit	For Inductance Measurement	02		
8.	Wein's Bridge Kit	For Frequency Measurement	02		
9.	Study of LVDT Kit		01		
10	Transducers Kits	Temperature Transducer, Strain gauge, Pressure Transducer, Capacitive Transducer,	02 each		

Date: **Signature of Authorized Signatory**
Seal

TENDER BID-II (Financial)

Package- FOE/EC/05: Electronic Workshop and PCB Laboratory

Tender Cost: Rs. 1000/- **EMD: Rs. 16000/-**

Bill of Quantity

S.No.	Name of Kits/ Equipments	Specification/Experiments	Qty	Rate	Amount
1.	50 MHz Digital storage oscilloscope	Signal Bandwidth: 50 MHz 7.0" TFT LCD Color display	05		
2.	Digital Multimeter	Resolution: $3^1/_2$ digits resolution. Measurements: DCV, DCI, True RMS ACV, ACI, Frequency, Capacitance, Temperature, Diode & continuity.	10		
3.	Function Generator 3 MHz	Frequency Range: 40mHz-3MHz in decade steps. Sine, Square, Triangle, Saw tooth/Ramp and Pulse, TTL Output and facility of DC offset.	05		
4.	Transformer Winding Machine	1Amp & 2Amp step down transformer	02		
5.	Soldering Station	Variable Controlled Temperature: 150C to 450C Power Consumption: 60W Output Voltage 28V Display: LCD Heating Element: 2 Cores Calibration: Digital Calibration	01		
6.	Hand Drill machine		01		
7.	Art Work Film Maker	Make negative from 1x scale art work, working area 300mm x 250mm, push button operated exposure	02		
8.	PCB Drilling Machine (Motorized)	Variable Range of bits 0.8mm to 3mm,Variable Speed	02		
9.	Roller Tinning Machine	Maximum PCB width250mm, Maximum PCB thickness 6mm,	01		

		solder bath capacity 5kg., Heater 2x 500watts,			
10	Photo resist DIP coating Machine	Maximum Board size 250mm x 300mm, tank capacity 2lt.	02		
11	Photo Etching Machine	Single & Double sided PCB etching Machine, etching area 250mmx 300mm tank capacity 20 liter, Heater: Titanium –non corrosive with temperature control.	02		
12	Baking and Curing oven	Timer controlled heating system, size 250mmx 300mm	02		
13	PCB Shearing Machine	For cutting & lamination of PCB, size 400mmx 300mm	02		
14	PCB Art work Table	Includes various tapes, pad and other material for making PCB	02		
15	Dye / Developer Machine	Maximum PCB size 250mm x 300mm, tank capacity 2lt.	02		
16	PCB Chemicals	Photo resist, Photo resist thinner, Photo resist Developer, Photo Resist Dye	5 lt. each		

Date:

Signature of Authorized Signatory

Seal

TENDER BID-II (Financial)

Package- FOE/EC/06: Computer Organization Laboratory

Tender Cost: Rs. 1000/- **EMD: Rs. 5,000/-**

Bill of Quantity

S. No.	Name of Kits/ Equipment	Specification/Experiment	Qty	Rate	Total Amount
1	Digital Trainer Kit Complete setup	Kit should include the following components:- **1.** TTL/CMOS Compatible logic level inputs. **2.** Logic HIGH and LOW are displayed by dual color LED. **3.** Facility for single pulse generation by a push button switch. **4.** Eight logic switch to provide LOW logic and HIGH logic **5.** One seven segment display with BCD inputs. **6.** Capable of accepting wire diameters from 0.3 to 0.8 mm **7.** The system requires + 5V supply for its operation.	02		
2	Trainer Kit complete setup for Combinational and Sequential Circuits	Trainer Kit for 4 Bit Half Adder and Full Adder	01		
3	Trainer Kit complete setup for Combinational and Sequential Circuits	Trainer Kits for 4 Bit Half Subtractor and Full Subtractor	01		
4	Trainer Kit complete setup for Combinational and Sequential Circuits	Trainer Kit for Counters	01		
5	Trainer Kit complete setup for Combinational and Sequential Circuits	Trainer Kit for Universal Shift Register using IC 7495	01		

6	Arithmetic Logic Unit (ALU) Trainer Kit Complete setup	Trainer Kit for Arithmetic Logic Unit (ALU) using IC 74181	01		
7	RAM Trainer Kit Complete setup	Trainer Kit for Random Access Memory (RAM) static - 1K x 4 Bit - using IC 2114	01		
8	Motherboard Trainer Kit Complete setup	Kit should include the following components: Motherboard with CPU and Memory Specification **1.** Mother Board: CPU P4 1.8 GHZ. **2.** Memory: 64 MB. **3.** Input Voltages : +5V/10A, -5V/500mA, **4.** +12V/2A, -12V/500mA **5.** Power good signal. **6.** Input Wattage: 10 watts. **7.** Output Sockets: VGA, COM1, COM2, USB, LPT, FDD, HDD. **8.** Cooling facility: Fan provided. **9.** Standard Accessories : • Trainer PCB (printed circuit board). • A Manual having practical.	01		
9	Hard Disk Trainer Kit Complete setup	Kit should include the following components: **1.** Hard disk: 40GB. **2.** Input Voltages : +5V /200mA, **3.** +12V/200mA **4.** Input Wattage: 500mw. **5.** Input cables : 40 Pin FRC, 4 pin supply **6.** Standard Accessories : • Trainer PCBprinted circuit board). • A Manual having practical.	01		
10	Keyboard Trainer Kit Complete setup	Kit should include the following components: **1.** Keys : 104 Keys TVSE Gold **2.** Key Type: Spring Force type. **3.** Signals : Clock, Data	01		

		4. ASK-II Data Verification **5.** Input cables : 5 Pin DIN **6.** Standard Accessories : • Trainer PCB(printed circuit board). • A Manual having practical.			
11	PC Trainer Kit Complete setup	Kit should include the following components: A) Computer System **1.** CPU with fan : Intel Pentium IV 2.0 GHz **2.** Mother Board : 800 MHZ FSB **3.** Memory (RAM) : 256 MB DDRAM **4.** Display Adaptor card : On Board AGP 8 MB **5.** Hard Disk : 80 GB **6.** Floppy Disk Drive : 1.44 MB **7.** Monitor : 15" Colour SVGA **8.** Key board : 104 Keys Keyboard **9.** Mouse : Optical Mouse with pad **10.** SMPS : 200 Watts ATX B) Training Packages **1.** Trainer PCB Board with fault creating facilities **2.** Training Package with 50 Experiments (Software CDs, Manuals, Charts)	01		
12	50 MHz Digital storage oscilloscope	Signal Bandwith: 50 MHz 7.0" TFT LCD Color display	01		
13	Digital Multimeter	Resolution: $3^1/_2$ digits resolution. Measurements: DCV, DCI, True RMS ACV, ACI, Frequency, Capacitance, Temperature, Diode & continuity.	05		
14	Function generator 3 MHz	Frequency Range: 40mHz-3MHz in decade steps. Sine, Square, Triangle, Saw tooth/Ramp and Pulse, TTL Output and facility of DC offset.	05		
16	Bread Board	For ICs and Discrete Components	10		

17	Digital IC Tester	Test Digital IC's such as 74 Series, 40/45 Series of CMOS IC's, Microprocessor like 8085,8086, Z80, Peripherals like 8255,8279, 8253,8251,8155.	01		

Date:

Signature of Authorized Signatory
Seal