मौलाना आज़ाद नेशनल उर्दू यूनिवर्सिटी مولانا آزاد نیشنل اُردو یونیورسٹی

MAULANA AZAD NATIONAL URDU UNIVERSITY

(A Central University established by an Act of Parliament in 1998

Polytechnic

BANGALORE

TENDER DOCUMENT (E)

FOR SUPPLY AND INSTALLATION OF ELECTRONICS & COMMUNICATION EQUIPMENTS, AT POLYTECHNIC BANGALORE.

LAST DATE & TIME OF SUBMISSION OF TECHNICAL-CUM-FINANCIAL BIDS	***16-12-2016 at 11.00 a.m.***
DATE & TIME OF OPENING OF OF TECHNICAL-CUM-FINANCIAL BIDS	***16-12-2016 at 11:30 a.m.***
Cost of Application	**Rs. 1000/-**
EMD	**Rs. 26000/-**

TERMS AND CONDITIONS

1. The tenders are invited for the supply and installation of Electronics & Communication equipments at MANUU Polytechnic, Bangalore in sealed envelopes.

2. Bidders must be Original Manufacturers / Government Organization / authorized dealers / reputed firm and should have service after sale at Bangalore and to furnish the addresses of service centers with telephone number along with technical-cum-financial bid.

3. The Govt. firm, ISO/ ISI certified firms / OEM will be preferred; however the firm should enclose valid ISO / ISI certificate, TIN / PAN certificate if any.

4. The technical-cum-financial bid should be submitted in sealed envelope to the **Principal**, MANUU Polytechnic, 8th Cross, 1st Stage, 3rd Block, Nagarbhavi, Bangalore - 560072 by **16-12-2016** on or before **11:00 a.m.** Tenders received after due date and time will not be considered. The technical-cum-financial bid will be opened on the same day at **11.30 a.m.** in the presence of vendors or their authorized representative. The representative should bring the authorization letter from their vendor to attend the tender opening committee meeting.

5. The filled-in tender form without requisite **EMD of Rs. 26000/- and tender form cost of Rs. 1000/-** (even if the tender form is downloaded from University Website www.manuu.ac.in) will not be considered and both are to be drawn separately, in favour of MANUU payable at Hyderabad.

6. The Technical-cum-Financial Bid should be accompanied with an EMD as per rule. The EMD of unsuccessful bidders will be returned without any interest. The EMD of the successful bidder will be returned without any interest after the receipt of performance security.

7. 90% payment of the purchase order will be released after satisfactory supply, installation of the equipment to the satisfaction of the University/Institute authorities and balance 10% payment will be retained as performance security and later released after completion of warranty period or against submission of the bank guarantee of the same amount (i.e. 10%) to cover the warranty obligations for the supplied equipments. The performance security shall be released after a period of 60 days beyond the warranty period.

8. Total value is to be quoted both in figures and in words.

9. Detailed specifications, make, model, catalogue/literature of all the items quoted should be supplied with the technical-cum-financial bid. Incomplete Bid / inadequate specification etc., in any respect are liable to be rejected.

10. The company should indicate the financial turnover during the last three years. Legible photocopy of orders of different organizations booked during the last one year should be attached.

11. The rates quoted in technical-cum-financial bid against each item should be inclusive of all taxes, levies, octrai, freight, insurance, transportation, forwarding, installation, labour charges etc.

12. All the equipments should be with onsite comprehensive warranty for minimum period of one year or as per OEM (Original Equipment Manufacturers) warranty period, whichever is later after satisfactory installation and agreed by the University/Institute.

13. The firm should attend the fault within 24 hrs from the booking time and during warranty to attend the fault free of cost.

14. Each firm should clearly specify that the tenderer agrees to abide by the conditions of this tender document on their printed letter head.

15. The firm has to provide training on the equipment supplied to the Institute staff at free of cost to the satisfaction of the University/Institute.

16. The firm has to quote as per the required specification, however higher configuration can be considered by the University.

17. The supply and installation has to be made within a period of six weeks from the date the issue of Purchase Order by the University/Institute. In case, the firm fails to supply the equipment in the specified time, 0.5% value of the unsupplied items for every week as late supply charges may be deducted from the bill to the maximum of 10% after which the order may be cancelled and Earnest Money deposited will be forfeited.

18. For award of purchase order, the item level rates will be compared and not the total value of the bid. Further, without any purchase commitment, inspection/demonstration should be arranged in Bangalore at the cost of the supplier for the quoted items. Upon examining the samples, if it is found that the samples are not of requisite specifications or quality is not to the satisfaction of the authorities, the same shall not be considered for purchase even if it corresponds to the least price among all bids.

19. Item offered in the tender can be re-ordered at the same rate, terms & conditions within a period of twelve (12) months.

20. All pages of the tender document are to be signed and stamped by the tendering firm in agreement of the terms and conditions of the tender and attach the same along with the technical-cum-financial bid.

21. The University reserves all rights to reject or accept any tender without assigning any reason or cancel or withdraw the tender notice.

22. The University / Institute reserves the right to place part / full order against the items chosen from a given bid.

23. If at any time, any question, dispute or difference whatever shall arise between two parties upon or in relation to or in connection with this Tender document, either of the parties may give to the other notice in writing of the existence of such question, dispute or difference and the same shall be referred to two Arbitrators one to be nominated by the First Party and the other to be nominated by the Second Party. Such a notice of the existence of any question dispute or difference in connection with this Tender document shall be served by either party within three months of the beginning of such dispute failing which all rights and claims under this Tender document shall be deemed to have been forfeited and absolutely barred. Before proceeding with the reference the Arbitrators shall appoint/nominate an umpire, in the event of the Arbitrators not agreeing in their award, the Umpire appointed by them shall enter upon the reference and his award shall be binding on the parties. The venue of the arbitration shall be at Hyderabad (Telangana, India). The Arbitrators/Umpire shall give a reasoned award.

24. The provision of the Indian Arbitration Act in force and of rules framed there under and any statutory modifications thereof shall be deemed to apply and be incorporated in this Tender document.

25. Upon every or any such reference, the cost of any incidentals to the reference and award(s) respectively shall be at the discretion of the Arbitrators or in the event of their not agreeing, of the Umpire appointed by them may determine the amount thereof or direct the same to be fixed as between solicitors and client or as between parties and shall direct by whom and in what manner the same shall be home and paid.

26. The courts at Hyderabad alone will have the jurisdiction to try any matter, dispute or reference between the parties arising out this Tender document. It is specifically agreed that no court outside and other than Hyderabad courts shall have jurisdiction in the matter.

Sd/-.

Place: Bangalore
Date:

Registrar
Maulana Azad National Urdu University

Requirement and specification of Electronics & Communication Equipments:

SL No	Item Name	Item Specification	Qty Reqd.
1	Soldering Stand	For 25 W Soldering Iron	10 nos.
2	Soldering Station	Soldering Station	2 nos
3	D C milli Ammeter	(0-100 mA) Digital	8 nos
4	D C voltmeter	(0-30 v) Digital	8 nos
5	A C micro ammeter	(0-100 microA) Digital	8 nos
6	A C voltmeter	(0-30 v) Digital	8 nos
7	Soldering Gun with temp controlled	100 w	5 nos.
8	C.R.O.	Dual Trace 20MHZ with alternate triggering,x5+-10% magnification, bandwidth AC 10HZ to 20MHZ	5 nos
9	AF/RF Signal Generators	out wave forms Sine , triangular, square, 20MHZ	2 nos
10	Digital L.C.R Meter	LCD display size 49x60mm,maximum count 1999,power source 9v-24v,42.5Hz,battery life 30hr min ,inductance range 200micro Henry to 20H. Capacitance range 200Pf to 2000MF	7 nos
11	Loud Speaker	41 Hz 89 db 4 to 8 ohm impedance, 25 to 100w	5 nos
12	Soldering Iron	(25W), 230V	5 nos
13	USART 8251	Interface box for 8051	3 nos
14	8259 PIC Interface	Interface box for 8051	3 nos
15	8255 PPI	Interface box for 8051	3 nos
16	8279 LCD display and keyboard	Interface box for 8051	3 nos
17	RS-232 Cable	RS-232 Cable	1 no
18	8086 Microprocessor Trainer Kit	Works with either 8086 CPU, operations on a single +5V power supply, in standalone mode using on-board keypad or from a PC Compatible system through its RS 232-C interface, Provision for on board NDP 8087, System monitor permits entry of programs, debugging through breakpoint	1 no

		and instruction step facilities, Built in one line assembler/ disassembler, Support for a variety of interface modules, Windows driver with user friendly debugging environment, Compatible power adapter for kit only.	
19	AM Modulator & Demodulator Trainer Kit	Generation and Detection of AM	5 nos
20	FM Modulator & Demodulator Trainer Kit	Generation and Detection of FM	5 nos
21	AM receiver Trainer kit AM receiver Trainer kit Radio receiver Trainer kit	AM/FM trainer Kit Detailed Specification: (AM Super Heterodyne Receiver, Test Audio Amplifier Section of Super Heterodyne Receiver, Measurement of Sensitivity, Selectivity of Radio Receiver using field strength meter)	5 nos
22	Function Generator	Output waveforms: Sine, Triangular, Square waves. Features: Variation Frequency 1Hz-2MHz, 20-60dB (Different range of attenuation). 6 digit frequency for INT/EXT (EXT up to 10MHz counter), Amplitude 2mv-20v PP	3 nos
23	Digital Multi meter with frequency measurement	3 ½ Digit Digital Multimeter. To measure: DCV, ACV, DCA, ACA, Resistance, Capacitance. Range: Volts AC/DC 200mV to 750V, Current AC/DC 200 micro A to 20A, Resistance 10 Ohms to 20 Mega ohms, Minimum LCD size 68 x 36.3 mm, Capacitance 2nF to 200 micro farads	10 nos
24	DC Regulated Power Supply	Dual channel regulated power supply 0-30V / 0-2A, Each variable with short circuit and over load protection, with two digital meters for V & I measurement.	10 nos
25	Digital IC tester	TTL IC Tester (74LS00 Series)	1 no
26	Linear IC tester	Linear IC tester 741/555	1 no
27	Resonance Trainer kit	Series and Parallel resonance	5 nos
28	Thevinen's theorem trainer kit	Verification of Thevinen's theorem.	5 nos
29	Super Position theorem trainer kit	Verification of Super Position theorem	5 nos
30	Maximum power transfer theorem trainer kit	Verification of Maximum power transfer	5 nos
31	Differentiator and Integrator circuits trainer kit	Differentiator and Integrator circuits	5 nos
32	Decade Resistor Box	1 Ohm -1Mega ohm in 6 decades	1 no

33	Decade Inductor Box	10 Micro Henry -1000milli Henry in 5 decades	5 nos
34	Decade Capacitor Box	100Pf -10micro farad in 5 decades	5 nos
35	ASK Modulator & Demodulator Trainer Kit	Generation and Detection of Amplitude Shift keying Modulation and Demodulation	4 nos
36	FSK Modulator & Demodulator Trainer Kit	Generation and Detection of Frequency Shift keying Modulation and Demodulation	4 nos
37	PSK Modulator & Demodulator Trainer Kit	Generation and Detection of Phase Shift keying Modulation and Demodulation	4 nos
38	PCM Modulator & Demodulator Trainer Kit	Generation and Detection of Pulse Code Modulation	4 nos
39	Time Division Multiplexing / De-multiplexing	Generation and Detection of Time Division Multiplexing and Demultiplexing	4 nos
40	Fiber Optic Trainer Kit Fiber Optic Trainer Kit Optical Transmitter Trainer Kit LASER Diode Trainer kit	Analogue/ digital Trainer Kit Detailed Specifications: (Data transmission through fiber optic link, Setting of fiber optics voice link using AM Modulation, Optical Transmitter using analogue modulation, PI Characteristics of LASER Diode)	4 nos
41	DTH Antenna set	Study the DTH antenna and connect he DTH antenna to the TV	1 no
42	Antenna Radiation pattern Trainer Kit	Measurement of Radiation pattern of different antennas i.e. Dipole antenna and Half wave dipole antenna	1 no
43	Colour TV Demo set	21' Colour TV set with trainer system and DTH set	1 no
44	SCR, Diac, Triac Characteristics Trainer Kit	SCR, Diac, Triac Characteristics	5 nos
45	UJT Relaxation Oscillator circuit Trainer Kit	UJT Relaxation Oscillator circuit	5 nos
46	Study of Simple Inverter Circuit Trainer Kit	Study of Simple Inverter Circuit	5 nos
47	SCR Circuit to Drive Small Loads (AC & DC) Trainer Kit	SCR Circuit to Driver Small Loads (AC & DC)	5 nos

48	Triac Power Control Circuit Trainer Kit	Triac Power Control Circuit	5 nos
49	Study of Different Transducers Trainer Kit	Study of Different Transducers	5 nos
50	SCS, SBS, SUS characteristics Trainer Kit	SCS, SBS, SUS characteristics	5 nos
51	Study of a simply Servomotor & System Trainer Kit	Study of a simply Servomotor & System	5 nos
52	Flip-Flop Trainer kit	Minimum 2 IC sockets, frequency generator from 1Hz to 1MHz, seven segment display and minimum 10 switches for inputs.	1 no
53	D/A Converter (R-2R) Logic Trainer Kit	8-bit Digital to Analog Converter using R-2R Network and Ladder Network 8-bit Binary Counter, Summing Amplifier, 1KHz TTL Clock, 8 Logic input switches, 8 Logic Status indicators	1 no
54	A/D Converter (SA Type) Logic Trainer Kit	Analog to Digital converter using SA	1 no
55	Sound System	50Watt, Input impedance 50ohm, 1.8 to 3 MHz, USB Support, 5.1 Channel Configuration, SD Card Support, Reputed Brand	2 no
56	Speakers (with wall mountable stand)	41Hz, 89db, 4 to 8 ohm impedance, 25 to 100Watt, USB Support, 2.1 Channel Configuration, SD Card Support, Reputed Brand	2 pairs

Technical-cum-financial bid against requirement in Electronics & Communication Equipments
Tender (E): To be utilized by the bidder to quote their prices item wise.

Sl No	Items	Qty Reqd.	Make & Model	Unit Rate	Tax %	Total Value (Including taxes & all charges etc)	Variation in specification, if any (to be filled by the firm)
1	Soldering Stand (For 25 W Soldering Iron)	10 nos					
2	Soldering Station (Soldering Station)	02 nos					
3	D C milli Ammeter (0-100 mA) Digital	8 nos					
4	D C voltmeter (0-30 v) Digital	8 nos					
5	A C micro ammeter (0-100 microA) Digital	8 nos					
6	A C voltmeter (0-30 v) Digital	8 nos					
7	Soldering Gun with temp controlled (100 w)	5 nos.					
8	C.R.O. (Dual Trace 20MHZ with alternate triggering,x5+-10% magnification, bandwidth AC 10HZ to 20MHZ)	5 nos					
9	AF/RF Signal Generators (out wave forms Sine, triangular,square,20MHZ)	2 nos					
10	Digital L.C.R Meter (LCD display size 49x60mm,maximum count 1999,power source 9v-24v,42.5Hz,battery life 30hr min ,inductance range 200micro Henry to 20H. Capacitance range 200Pf to 2000MF)	7 nos					
11	Loud Speaker (41 Hz 89 db 4 to 8 ohm impedance, 25 to 100w)	5 nos					
12	Soldering iron (25W), 230V	5 nos					
13	USART 8251 (Interface box for 8051)	3 nos					
14	8259 PIC Interface	3 nos					

	(Interface box for 8051)						
15	8255 PPI (Interface box for 8051)	3 nos					
16	8279 LCD display and keyboard (Interface box for 8051)	3 nos					
17	RS-232 Cable (RS-232 Cable)	1 no					
18	8086 Microprocessor Trainer Kit (Works with either 8086 CPU, operations on a single +5V power supply, in standalone mode using on-board keypad or from a PC Compatible system through its RS 232-C interface, Provision for on board NDP 8087, System monitor permits entry of programs, debugging through breakpoint and instruction step facilities, Built in one line assembler/ disassembler, Support for a variety of interface modules, Windows driver with user friendly debugging environment, Compatible power adapter for kit only.)	1 no					
19	AM Modulator & Demodulator Trainer Kit (Generation and Detection of AM)	5 nos					
20	FM Modulator & Demodulator Trainer Kit (Generation and Detection of FM)	5 nos					
21	AM receiver Trainer kit AM receiver Trainer kit Radio receiver Trainer kit (AM/FM trainer Kit Detailed Specification: (AM Super Heterodyne Receiver, Test Audio Amplifier Section of Super Heterodyne Receiver, Measurement of Sensitivity, Selectivity of Radio Receiver using field strength meter)	5 nos					
22	Function Generator (Output waveforms: Sine,	3 nos					

	Triangular, Square waves. Features: Variation Frequency 1Hz-2MHz, 20-60dB (Different range of attenuation). 6 digit frequency for INT/EXT (EXT up to 10MHz counter), Amplitude 2mv-20v PP)						
23	Digital Multi meter with frequency measurement (3 ½ Digit Digital Multimeter. To measure: DCV, ACV, DCA, ACA, Resistance, Capacitance. Range: Volts AC/DC 200mV to 750V, Current AC/DC 200 micro A to 20A, Resistance 10 Ohms to 20 Mega ohms, Minimum LCD size 68 x 36.3 mm, Capacitance 2nF to 200 micro farads)	10 nos					
24	DC Regulated Power Supply (Dual channel regulated power supply 0-30V / 0-2A, Each variable with short circuit and over load protection, with two digital meters for V & I measurement.)	10 nos					
25	Digital IC tester (TTL IC Tester (74LS00 Series)	1 no					
26	Linear IC tester (Linear IC tester 741/555)	1 no					
27	Resonance Trainer kit (Series and Parallel resonance)	5 nos					
28	Thevinen's theorem trainer kit (Verification of Thevinen's theorem.)	5 nos					
29	Super Position theorem trainer kit (Verification of Super Position theorem)	5 nos					
30	Maximum power transfer theorem trainer kit. (Verification of Maximum power transfer)	5 nos					
31	Differentiator and Integrator circuits trainer kit (Differentiator and Integrator circuits)	5 nos					
32	Decade Resistor Box (1 Ohm -1Mega ohm in 6 decades)	1 no					
33	Decade Inductor Box (10 Micro Henry -1000milli Henry in 5 decades)	5 nos					

34	Decade Capacitor Box (100Pf -10micro farad in 5 decades)	5 nos					
35	ASK Modulator & Demodulator Trainer Kit (Generation and Detection of Amplitude Shift keying Modulation and Demodulation)	4 nos					
36	FSK Modulator & Demodulator Trainer Kit (Generation and Detection of Frequency Shift keying Modulation and Demodulation)	4 nos					
37	PSK Modulator & Demodulator Trainer Kit (Generation and Detection of Phase Shift keying Modulation and Demodulation)	4 nos					
38	PCM Modulator & Demodulator Trainer Kit (Generation and Detection of Pulse Code Modulation)	4 nos					
39	Time Division Multiplexing / De-multiplexing (Generation and Detection of Time Division Multiplexing and Demultiplexing)	4 nos					
40	Fiber Optic Trainer Kit Fiber Optic Trainer Kit Optical Transmitter Trainer Kit LASER Diode Trainer kit ((Analogue/ digital Trainer Kit Detailed Specifications: (Data transmission through fiber optic link, Setting of fiber optics voice link using AM Modulation, Optical Transmitter using analogue modulation, PI Characteristics of LASER Diode))	4 nos					
41	DTH Antenna set (Study the DTH antenna and connect he DTH antenna to the TV)	1 no					
42	Antenna Radiation pattern Trainer Kit (Measurement of Radiation pattern of different antennas i.e. Dipole antenna and Half wave dipole antenna)	1 no					
43	Colour TV Demo set (21' Colour TV set with trainer	1 no					

	system and DTH set)						
44	SCR, Diac, Triac Characteristics Trainer Kit (SCR, Diac, Triac Characteristics)	5 nos					
45	UJT Relaxation Oscillator circuit Trainer Kit (UJT Relaxation Oscillator circuit)	5 nos					
46	Study of Simple Inverter Circuit Trainer Kit (Study of Simple Inverter Circuit)	5 nos					
47	SCR Circuit to Drive Small Loads (AC & DC) Trainer Kit (SCR Circuit to Driver Small Loads (AC & DC))	5 nos					
48	Triac Power Control Circuit Trainer Kit (Triac Power Control Circuit)	5 nos					
49	Study of Different Transducers Trainer Kit (Study of Different Transducers)	5 nos					
50	SCS, SBS, SUS characteristics Trainer Kit (SCS, SBS, SUS characteristics)	5 nos					
51	Study of a simply Servomotor & System Trainer Kit (Study of a simply Servomotor & System)	5 nos					
52	Flip-Flop Trainer kit (Minimum 2 IC sockets, frequency generator from 1Hz to 1MHz, seven segment display and minimum 10 switches for inputs.)	1 no					
53	D/A Converter (R-2R) Logic Trainer Kit (8-bit Digital to Analog Converter using R-2R Network and Ladder Network 8-bit Binary Counter, Summing Amplifier, 1KHz TTL Clock, 8 Logic input switches, 8 Logic Status indicators)	1 no					
54	A/D Converter (SA Type) Logic	1 no					

	Trainer Kit (Analog to Digital converter using SA)						
55	Sound System (50Watt, Input impedance 50ohm, 1.8 to 3 MHz, USB Support, 5.1 Channel Configuration, SD Card Support, Reputed Brand)	2 nos					
56	Speakers (with wall mountable stand) (41Hz, 89db, 4 to 8 ohm impedance, 25 to 100Watt, USB Support, 2.1 Channel Configuration, SD Card Support, Reputed Brand)	2 pairs					
Total Value: (in words) ----------							

Warranty details

Items Sl. No.	**Warranty Period in years**

Declaration: It is hereby declared that the firm has carefully read and understood the tender document and hereby agrees with all the clauses, terms and conditions therein.

Place:
Date: 2016

Authorized signatory of
the firm along with seal