

OFFICE OF THE DIRECTOR
NATIONAL INSTITUTE OF TECHNOLOGY NIT RAIPUR

TENDER NOTICE NO.¹⁷⁷¹/BIOMEDICAL ENGG./NITRR/2009

Raipur Date ^{08/09/09}

Last Date for Submission: **09/10/2009** up to 14.00 hrs. from date of Publication.

Date of Opening of Technical Bid: **09/10/2009** at 15.30 hrs.

- (1) Tenders received after the date and time mentioned above will not be entertained.
- (2) The tender form is non-transferable.
- (3) Tenders should be submitted in two parts (i) Technical Bid containing only the technical specifications of the equipments without any price and (ii) FINANCIAL BID containing only the price of each equipment quoted. Both the envelopes should be sealed in separate covers superscribing in bold letters TECHNIAL BID and FINALCIAL BID and their after put together in an outer envelop. On the date of opening the tender as specified above only the TECHNICAL BID will be opened in the presence of intending tenderers and the FINANCIAL BID of only those tenderers who are found technically suitable and fulfilling all the conditions of the tender will be opened on a later date. The date and time of opening the FINANCIAL BID shall be communicated only to those tenderers who qualify for it as being technically qualified. Tenders not adhering to this condition shall be summarily by rejected.
- (4) This tender is open to be quoted by the ORIGINAL EQUIPMENT MANUFACTURERS (OEMs)/Authorized distributor of OEM, because of the sophisticated and highly technical nature of equipments. Authorized agents are also eligible to participate in this tender.
- (5) Tenders should be submitted in duplicate. They should be tagged separately and should not be mixed up with the original tender. The duplicate should be marked as duplicate.
- (6) Item No. and Page No. of the tender form should be strictly in chronological order.
- (7) Copy of the terms and conditions should be furnished in duplicate. Printed conditions on the back will not be binding unless separately mentioned.
- (8) The tenderer must furnish complete and detailed specifications of the equipment offered in the tender. Incomplete specifications of the equipment in the tender will be liable to be rejected.
- (9) In case equipments on DGS & D rate contract are available and are offered, the supplier should furnish a copy of the rate contract along with the tender and should indicate this fact against the equipment.
- (10) Leaflet/Literature etc. should be attached with the tender in duplicate, Item No. and Page No. of the equipment should also be stated on the relevant leaflet literature for reference.



- (11) The rate should be quoted F.O.R. Raipur, the forwarding, freight, Transit Insurance and excise charges to be mentioned the separately Nothing extra will be paid to the supplier except the C.S.T. as per rule.
- (12) All tenderers must deposit an E.M.D. equivalent to 3% of the total value of the equipments quoted by them. The E.M.D. should be in the form of crossed D/D drawn in favour of "Director, National Institute of Technology, Raipur" and payable at S.B.I. Raipur.
- (13) Taxes, if leviable and being claimed extra should be clearly stated failing which the rates quoted in the tender will be considered as inclusive of all taxes.
- (14) The rates should not be altered. Quotations should always be both in figures and words.
- (15) In case of non-acceptance of the tender, the E.M.D. will be refunded to the tenderer in due course of time. The E.M.D. will be treated as Security Deposit in the case of selected tenders.

E.M.D./Security Deposit will be forfeited in case:-

- (a) Supplier expresses his inability to execute the order for the quoted items if the order is placed with him within the valid period of tender, at the rates quoted in the tender and for makes/brand quoted in the tender.
- (b) If complete equipment is not supplied within the delivery period mentioned in the order or within the extended periods from time to time.
- (c) If the supplier executes only part of the tender.

Extension in the delivery period may be granted at the discretion of the undersigned, provided the tenderer is willing to accept penalty 1% Per Month of the full cost of the equipment for which the order has been placed. The equipment received after delivery period or dispatched after delivery period mentioned in the order will also be subjected to 1% Per Month penalty.

- (16) In case of any default in executing the order the undersigned reserves the right to forfeit the E.M.D./Security Deposit. The undersigned also reserves the right to cancel the order and forfeit the E.M.D./Security Deposit in case the tenderer fails to adhere strictly to all the terms and conditions of the tender.
- (17) If defects of any kind or deviations from the specifications are detected and reported to the supplier, the supplier should effect replacement or rectify the defects free of all charges within 30 days from the date of report, failing which the equipment will be returned to the supplier at his own cost and risk and E.M.D. will be forfeited. In case the equipment is sent for repairs to the firm it should be repaired within 30 days from the date of receipt of equipment failing which the same will not be accepted and E.M.D. will be forfeited. However, the undersigned may condone the delay in deserving case at his/her discretion.



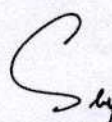
- (18) The undersigned reserves the right to increase/decrease the quantity given of the equipment at his/her discretion.
- (19) The submission of the tender will be deemed to be the acceptance of all the terms and conditions of the tender is stated herein.
- (20) Tenders should be valid at least for six months from the date of opening of the tender. The prices should be firm and should not be subject to any variation.
- (21) The undersigned does not bind himself / herself to accept the lowest of any tender and also reserves the right of rejecting all or any tender without assigning any reasons for the same and to split up the tender as he/she may seem it fit.
- (22) Request for supply of any details in respect of quotation or comparative chart or any other enquiry in respect of the tenders received will not be entertained.
- (23) Exact and earliest possible time of delivery should be indicated in the tender against each item. Other things being equal, tenderers who will give earliest delivery period given in the order will be the date of receipt of equipment in the institution and not the date of dispatch of equipment by the supplier.
- (24) SEALED ENVELOPES FOR THE TENDER SHOULD BE SUPERSCRIBED as Tender Notice No. / Date of opening and should be addressed to :-

THE DIRECTOR
NATIONAL INSTITUTE OF TECHNOLOGY
RAIPUR – 492010 (CHHATTISGARH)

- (25) **NO ADVANCE PAYMENT EITHER WITH ORDER OR AGAINST WILL BE MADE TO ANY SUPPLIER. PLEASE NOTE THAT ANY PAYMENT TERMS OF SUCH TYPE ARE NOT NEGOTIABLE. PAYMENT IN FULL WILL BE MADE WITHIN 30 DAYS AFTER RECEIPT OF EQUIPMENT IN PERFECT PHYSICALLY AND WORKING CONDITION. NO PART PAYMENT FOR DEFECTIVE OR INCOMPLETE EQUIPMENT WILL BE MADE.**
- (26) The tenderers should furnish Sales Tax Clearance Certificate for period ending 31.03.2008 from the concerned authority without which the tender will be liable for rejection.
- (27) The minimum guarantee period for the equipment supplied by the supplier will be minimum one year. The tenderers will have to undertake repair/replacement of defective parts free of charge within this guarantee period. Repairs replacement of the defective parts will be done and delivered free of cost at the Institution.



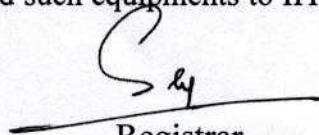
- (28) Performance guarantee equivalent to 10% of the total value of the equipments is required to be submitted by the successful tenderer at the time of bill submission in the form of joint FDR which will be released only after the expiry of guaranty period subject to satisfactory maintenance services. The EMD will be returned simultaneously.
- (29) Equipment and machinery calibrated in metric system only need be quoted.
- (30) The tenderers shall guarantee that after sales, service shall be made available as and when required.
- (31) The supplier has to undertake complete erection, installation and commissioning of the machine/equipment in the Institution free of charges.
- (32) No offer should be made for imported items, against import license to be arranged by the Director. All imported equipments will have to be delivered in the institution and payment will be made in Rupees only.
- (33) All disputes with regard to the contract of this purchase of equipment etc. will be subject to Raipur Jurisdiction only.
- (34) Please submit original authorization certificate from the manufacturer [for equipments of Indian origin] or importing agents [for the products of overseas manufacturers] addressed to the Director, NIT, Raipur. Certificate issued by the importing principals should be supported by Xerox copy of authorization from their overseas principals. The authorization should carry the tender enquiry number.
- (35) Three year comprehensive free service and spares warranty is required. The cost of service and spares for three years should either be included in the prices or should be given separately. In case nothing is mentioned then it will be assumed that the supplier has agreed for three years free spares and service warranty at no extra cost. The 5% of the total order value in form of FDR valid for three years will be required to be deposited as security money against warranty obligations.
- (36) Suppliers are required to commission, demonstrate and train the NIT staff on working of the offered equipments. Payment can only be related after successful commissioning of the equipments.



Registrar
National Institute of Technology
Raipur (C.G.)

Other Specifications

- (1) The equipment should be complete in all respects and in a ready to operate condition with all accessories and auxiliary parts.
- (2) The whole unit of equipment should be assembled rigidly on a base plate.
- (3) Quote separately for each equipment / instrument with accessories.
- (4) During installation/inspection any kind of raw material such as glass wares/chemicals required for experimentation will have to be arranged by the supplier. The institute will provide only space, power and water etc.
- (5) Most of the equipment parts/assembly unit should be powder coated and others should be painted with automotive paint.
- (6) Company Tenderers who have earlier supplied such equipments to IITs/NITs will be preferred.


Registrar
National Institute of Technology
Raipur (C.G.)

List of Equipments

No.	Name of Equipment	Specification/Technical Requirement
1.	PC Based Radiology System	Display Mode: B,B/B,B/M,M, Gray Scale: 256 Image Processing: V adjust, Window curve, enhancement, Dynamic Range, Image Reverse Application: Abdomen, Urology, Small Body part Probe: 3.5MHz Linear/Convex or Multi frequency or Mechanical Multi-frequency convex probe 5.5 MHz PC: P IV,512MB RAM, 80GB HDD,CD R/W Monitor: Color 15" Cross section of various types of probes Detail on panel Block or Circuit Diagram with sufficient no. of Test points for Voltage & Waveform measurement/analysis is Provided.
2.	Earth's field MRI & NMR Teaching System	<u>Probe:</u> Dimensions: 28 * 26 * 19 cm(11*10.2*7.4 in) Weight: 9 Kg(20 lbs) Polarizing coil diameter: 17 cm(6.7in) Polarizing field: 18.8 mT@6A Gradient Coil Diameter: 10.5 cm (4.1 in) Imaging Gradient Strength: Diffusion Gradient Strength: 9.5 mTm⁻¹ @ 2 A B₁ Coil Diameter: 8.4 cm(3.3in) Tuning Range: 1800 Hz to3000 Hz Sample Diameter: 7.5 cm Maximum(2.9in) <u>Spectrometer:</u> Dimension: 36*26*16cm (14.2*10.2*6.2 in) Weight: 4 kg(8.8 lbs) <u>Power Supply(included):</u> Input: 110~240V~50/60Hz 2.0 A Output: 24V DC 6.25 A <u>PC Requirement:(not included)</u> Windows 2000/XP PC with USB interface 100 MB of free hard disk space 256 MB of RAM minimum 700 MHz Processer or faster
3.	Operation Theater Setup Simulator	Electrically operated motorized table Adjustable height range : Electromechanical trainer panel Tele – scope 30, enlarged view, diameter 4mm, autoclavable fiber optic light transmission <u>CCD Camera with Digital processor</u> <u>ACCESSORIES</u>



		▪ C- Mount coupler ▪ Standard- Multi lenses ▪ Adjustment for Any focal length between 12mm – 50 mm <u>MONITOR:</u> Non flickering color monitor PAL, 100 Hz, High resolution <u>LIGHT SOURCE:</u> Halogen light source, rating of the bulb should be specified. Intensity control, Standby bulb, built-in cooling system. Surgical patient simulator OT light assembly trainer.																
4.	Data Formatting and Carrier Modulation/ Transmitter Trainer	<table> <tr> <td>Input</td> <td>2 channel Time Division Multiplexed Data from TDM Pulse Code Modulation Transmitter Trainer or from Data Generator</td> </tr> <tr> <td>Data Formats</td> <td>NRZ (L), NRZ (M), AMI, RB Biphase (Manchester), Bi phase (Mark), differentially encoded dibit pair</td> </tr> <tr> <td>Carrier Modulation</td> <td>ASK, FSK, BPSK, DPSK & QPSK</td> </tr> <tr> <td>On-board carrier</td> <td>Sinewave synchronized to transmit data at 1.44 MHz, 960KHz, (0deg. Phase) 960 KHz (90 deg. Phase)</td> </tr> <tr> <td>Test points</td> <td>38</td> </tr> <tr> <td>Interconnections</td> <td>4mm sockets</td> </tr> <tr> <td>Power</td> <td>220V± 10%,50/60 Hz, 3VA (approx.)</td> </tr> <tr> <td>Accessories</td> <td>Manual, Set of patch cord, Line cord.</td> </tr> </table>	Input	2 channel Time Division Multiplexed Data from TDM Pulse Code Modulation Transmitter Trainer or from Data Generator	Data Formats	NRZ (L), NRZ (M), AMI, RB Biphase (Manchester), Bi phase (Mark), differentially encoded dibit pair	Carrier Modulation	ASK, FSK, BPSK, DPSK & QPSK	On-board carrier	Sinewave synchronized to transmit data at 1.44 MHz, 960KHz, (0deg. Phase) 960 KHz (90 deg. Phase)	Test points	38	Interconnections	4mm sockets	Power	220V± 10%,50/60 Hz, 3VA (approx.)	Accessories	Manual, Set of patch cord, Line cord.
Input	2 channel Time Division Multiplexed Data from TDM Pulse Code Modulation Transmitter Trainer or from Data Generator																	
Data Formats	NRZ (L), NRZ (M), AMI, RB Biphase (Manchester), Bi phase (Mark), differentially encoded dibit pair																	
Carrier Modulation	ASK, FSK, BPSK, DPSK & QPSK																	
On-board carrier	Sinewave synchronized to transmit data at 1.44 MHz, 960KHz, (0deg. Phase) 960 KHz (90 deg. Phase)																	
Test points	38																	
Interconnections	4mm sockets																	
Power	220V± 10%,50/60 Hz, 3VA (approx.)																	
Accessories	Manual, Set of patch cord, Line cord.																	
5.	AM Transmitter and Receiver	Perfect AM transmitter which is able to produce 1MHz Use with the AM receiver experiment module for AM communications Experiments cover crystal oscillator, modulator percentage, sinewave/voice modulator, balance modulator, RF amplifier, adjust and coupling, and antenna adjustment AM Receiver (KL-93062): AM reception in the frequency range of 535KHz to 1605kHz Intermediate frequency of 455kHz Use with the AM transmitter experiment module for AM communications Experiments cover oscillator mixer, 1st IF amplifier, 2nd IF amplifier, and audio amplifier Equipped with DIP switches for fault simulation so that students can practice troubleshooting																



6.	FM Transmitter and Receiver	Perfect FM transmitter which is able to produce 10.7MHz intermediate frequency Use with the FM receiver experiment module for FM communications Experiments cover crystal oscillator, frequency modulator, RF buffer, reference oscillator, frequency tachometer, and audio modulator FM Receiver (KL-93064): FM reception in the frequency range of 88MHz to 108MHz Frequency shown by 7-segment display Use with the FM transmitter experiment module for FM communications Experiments cover tuner, FM IF amplifier, FM MPX, and audio amplifier Equipped with DIP switches for fault simulation so that students can practice troubleshooting																		
7.	Sampling & Reconstruction Trainer	<table> <tr> <td>Crystal Frequency</td> <td>6.4 MHz</td> </tr> <tr> <td>Sampling Frequency</td> <td>2,4,8,16 & 32 KHz (Switch selectable)</td> </tr> <tr> <td>On-Board Generator</td> <td>Synchronised 1KHz Sinewave (5Vpp)</td> </tr> <tr> <td>Duty Cycle</td> <td>0-90% in decade steps (Switch selectable)</td> </tr> <tr> <td>L.P. Filters</td> <td>Butterworth 2nd & 4th order Filter Cut-off frequency 3.4 KHz</td> </tr> <tr> <td>Test Points</td> <td>51</td> </tr> <tr> <td>Interconnections</td> <td>4mm Sockets</td> </tr> <tr> <td>Power</td> <td>220V $\pm$ 10% 50/60 Hz, 3VA (approx.)</td> </tr> <tr> <td>Accessories included</td> <td>Manual, Set of patch cord, Line cord.</td> </tr> </table>	Crystal Frequency	6.4 MHz	Sampling Frequency	2,4,8,16 & 32 KHz (Switch selectable)	On-Board Generator	Synchronised 1KHz Sinewave (5Vpp)	Duty Cycle	0-90% in decade steps (Switch selectable)	L.P. Filters	Butterworth 2 nd & 4 th order Filter Cut-off frequency 3.4 KHz	Test Points	51	Interconnections	4mm Sockets	Power	220V $\pm$ 10% 50/60 Hz, 3VA (approx.)	Accessories included	Manual, Set of patch cord, Line cord.
Crystal Frequency	6.4 MHz																			
Sampling Frequency	2,4,8,16 & 32 KHz (Switch selectable)																			
On-Board Generator	Synchronised 1KHz Sinewave (5Vpp)																			
Duty Cycle	0-90% in decade steps (Switch selectable)																			
L.P. Filters	Butterworth 2 nd & 4 th order Filter Cut-off frequency 3.4 KHz																			
Test Points	51																			
Interconnections	4mm Sockets																			
Power	220V $\pm$ 10% 50/60 Hz, 3VA (approx.)																			
Accessories included	Manual, Set of patch cord, Line cord.																			
8.	X-RAY Machine	Power Supply: 230v, 50Hz, X-ray system, high voltage generation circuit simulation of X-ray setup. X-Ray tube std. & Dummy x-ray tube with visible radiations to simulate x-ray setup, tube with visible radiations to simulate x-ray controls: 60mA, kvp:30 to 100KVP Fluoro:0 to 20KVP Mas selection, Radio/Fluoroscopy selection Timer :0.06 to 6 seconds Remote Hand switch The machine supplied with complete setup. Lead glass with stand fluorescent screen & required accessories. With test points for analysis of various signals and waveforms																		