

Tender Form Fee = Rs. 2360/- (Rs.
2000/- + 18% GST)
(Non -Refundable)



भारतीय सूचना प्रौद्योगिकी संस्थान, नागपुर

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY,
NAGPUR - 441108

TENDER DOCUMENT FOR

“2nd Call for Supply, Installation and Commissioning of Trainer
Kits & Software for ECE Lab”

at IIT, Nagpur Campus
located at

Survey No. 140,141/1 Behind
Br. Sheshrao Wankhade Shetkari Soot Girni,
Village: Waranga, PO: Dongargaon (Butibori),
District: Nagpur (Maharashtra) -441108

TENDER NO. : IITN/ADMIN/ TKS-2nd Call /2022-23/22

DATE OF ISSUE OF TENDER	01-03-2023
LAST DATE OF SUBMISSION OF TENDER	21-03-2023
DATE OF OPENING OF TENDER	21-03-2023
ESTIMATED COST OF TENDER	Rs. 20 Lakhs

TOTAL PAGES – 29

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INDIAN INSTITUTE OF INFORMATION TECHNOLOGY, NAGPUR

TENDER NOTICE No: IIITN/ADMIN/ TKS-2nd Call /2022-23/22

Bids in Sealed Envelope are invited for “2nd Call for Supply, Installation and Commissioning of Trainer Kits & Software for ECE Lab” at IIIT, Nagpur Campus located at Survey No. 140,141/1, Behind Br. Sheshrao Wankhade Shetkari Sahkari Soot Girni, Village - Waranga, PO - Dongargaon (Butibori), District : Nagpur - 441108 (Maharashtra)

The Bidders can download the Tender Documents / Forms containing Detailed Specification, Terms and Conditions etc from 01-03-2023 to 21-03-2023 up to 3.00 PM from the Institute website viz. www.iiitn.ac.in as well as from the Central Procurement Portal (CPPP) Website viz. <https://eprocure.gov.in>.

They have to submit the bids by mentioning the Tender Notice No. and invariably submit a separate Bank Draft of Rs. 2,360/- (Rs. Two Thousand Three Hundred and Sixty Only) drawn in favour of The Director, IIIT, Nagpur OR Online Payment Receipt as Non-Refundable cost of Tender Form / Tender Processing Fees to Administrative Section, IIIT Nagpur in the sealed envelope during submission of the Tender.

The Bids are to be submitted in hard copies only and IIIT Nagpur will not be responsible for postal delay / non-receipt of Tender Form / DD sent through the post. Tender Forms duly filled in all respects only in the prescribed format, duly super-scribed, should reach office of the Registrar, Indian Institute of Information Technology, Nagpur, Survey No. 140,141/1, Behind Br. Sheshrao Wankhade Shetkari Sahkari Soot Girni, Village - Waranga, PO - Dongargaon (Butibori), District : Nagpur-441108 (Maharashtra) on or before 21-03-2023 up to 3.00 PM. The Tender Forms are likely to be opened at 3.30 PM on the same day. **TENDERS received after stipulated date and time will not be accepted.**

The Director, IIIT Nagpur reserves the right to accept or reject any or all of the submitted bids without assigning any reasons thereof.

For complete details visit our website: www.iiitn.ac.in

For inquiries, Contact: Administration Section, IIIT Nagpur Telephone: 9405215010, Time - 10.30 am to 4.30 pm (During Working Hours Only).

Note: - The Bidders are requested to serially number the submitted documents and put page numbers in the Check List.

A. ESTIMATED COST OF TENDER & BID SECURITY/EMD

The estimated cost of the scope envisaged in this Tender Document is **Rs. 20 Lakhs**. The EMD in the form of Demand Draft, drawn in favour of the Director, IIIT, Nagpur for an amount of **Rs. 50,000/-** to be invariably enclosed with the tender in a separately sealed envelope.

Alternatively, the EMD Amount can also be paid online in the Institute Bank Account, details of which are provided in the tender document. Bidders registered with NSIC, MSMEs etc are exempted from payment of EMD subject to submission of documentary evidence.

B. PAYMENT OF TENDER FEES

All the Bidders shall be required to submit Tender Form/Tender Processing Fees in the form of Demand Draft of **Rs. 2,360/- (Rs. Two Thousand Three Hundred and Sixty Only)** drawn in favour of The Director, IIIT, Nagpur and payable at Nagpur.

Alternatively, the Tender Fees/Tender Processing Charges may be paid Online by NEFT/RTGS in the following Bank Account:

Account Name	IIITN GENERAL
Account Number	37236982961
Name of the Bank	State Bank of India, VRCE Branch, South Ambazari Road, VNIT, Nagpur
Bank Code	06702
IFSC Code	SBIN0006702
MICR Code	440002005

The Bidder is required to write name of the Company on back side of the Demand Draft or NEFT/RTGS Receipt. A copy of the receipt is to be attached with the hard copy of the submitted Bid.

The Tender Form/Tender Processing Fees is non-refundable.

C. TENTATIVE SUPPLY, INSTALLATION & COMMISSIONING:

The Successful Bidder shall have to supply, install and commission the Trainer Kits & Software for ECE Lab at IIIT, Nagpur within 30 days from the date of issue of work order by the Institute. It will be presumed that the rates quoted by the firm are inclusive of all taxes on F.O.R. IIIT Nagpur basis.

The Director, IIITN shall have the sole authority to reschedule the date of 2nd Call for supply & delivery, if required. The decision of the Director, IIITN shall be final in this matter.

D. SCOPE OF WORK :

The scope of work shall be as per the detailed Specifications provided in “**Detail Scope of Work**”. However, the requirement may vary as per Institute need.

E. ELIGIBILITY CRITERIA:

The Bidder, fulfilling the following criteria shall be eligible to apply:

- 1) The Bidder must have **minimum Three Years of experience** of Supply, Installation and Commissioning of Trainer Kits & Software and / or equipment required for Electronics & Communication Labs.
- 2) The Bidder must have **minimum One Order Completed of Rs. 15 Lakhs** for Supply, Installation and Commissioning of Trainer Kits & Software and / or equipment required for Electronics & Communication Labs.
- 3) The Bidder must have **minimum average annual turnover of Rs. 1 Cr.** for the three years i.e. 2019-10, 2020-21 and 2021-22.
- 4) They must have following registrations :
 - a. Goods and Services Tax (GST)
 - b. Income Tax (PAN)
 - c. Shop and Establishment Registration (Gumasta) / Company Registration.

Bidders are requested to note that in case of non-availability of any of the mentioned Registration, the Institute may decide to reject the Bid summarily. The decision of the Competent Authority on this shall be binding.

- 5) The Bidder must be in a position to provide 24X7 Service Support to the Institute.
- 6) The Bidder should not have been debarred and/ or blacklisted by any Central Government / or any State Government / Autonomous Department(s) / Body as on the last date of submission of the Tender.

F. GENERAL CONDITIONS OF TENDER

1. The Institute reserves the right to reject any or all tenders, wholly or partly or close the tender at any stage prior to the award of contract without assigning any reason whatsoever.
2. The Institute reserves the right to carry out the capability assessment of the Bidders and the Director, IITN decision shall be final in this regard.
3. The bid of any bidder who has not complied with one or more of the conditions of eligibility criteria and / or fails to submit the required documents as required / or mentioned in tender document is liable to be summarily rejected.
4. It shall be the responsibility on the Bidder to fully inform / acquaint / familiarize itself with local conditions and factors, which may have any effect on the execution of supply and services to be rendered under the Tender. All Bidder (s) intending to bid shall visit,

if required to the IIITN Permanent Campus and make themselves thoroughly acquainted with the local site conditions.

5. The Institute shall presume that the Bidder has understood and agreed that all the relevant factors have been kept in view while submitting the bid. No financial adjustment arising thereof shall be permitted by Institute, on the basis of any non-clarity of information about local conditions being pleaded by the bidder.
6. Liaisoning, if required, with outside Agency/Government Authority for undertaking & delivering any or all supply & services stipulated under this Tender, shall be the sole responsibility of the Bidder.
7. IIIT Nagpur reserves the right to reduce or increase the requirement, if considered necessary. In either case the contract amount payable to the agency shall be at actual. The requirement of "Supply, Installation & Commissioning of Trainer Kits & Software for ECE Lab" at IIIT, Nagpur will be at sole discretion of the Director IIIT Nagpur.
8. Necessary licence, permit, consent, sanction etc. as may be required or called for from / by local or any other authority for doing such work shall be obtained. The agency shall comply at its own cost with all applicable laws, rules and regulation in force from time to time whether of Central or State Govt. as applicable to him or this contract without any liability and responsibility to IIIT Nagpur, whatsoever it may be.
9. The contact person's with name, address, phone number etc. should be furnished with the tender.
10. On acceptance of the tender, the **Earnest money Deposit (EMD)** amount of **Rs 50,000/-** shall be converted in to Security Deposit and balance amount to be paid by the bidder within 10 days after receipt of the order, which will be refunded after 60 days of completion of order or expiry of contract, without any interest.
11. In case of any change of constitution of the Agency, the rights of IIIT, Nagpur should not suffer.
12. The scope of work & rate schedule of contract and conditions of tender shall form the part and basis of the contract and decision of the Institute in reference to all matters of dispute shall be final and binding.
13. Work experience along with work /job orders of the Bidder for providing Supply, Installation & Commissioning of Trainer Kits & Software along with work completion certificate during the last three years shall be furnished.
14. Any violations of these terms and conditions will lead to termination of the job contract with the Service Provider/Agency, forfeiture of the security amount and blacklisting of the agency for future works.
15. In the event of any accident and/or injury, in respect of which compensation may become payable under the Workman's Compensation Act of 1923 including all amendments thereof, IIIT, Nagpur shall have full powers to retain out of any sums

payable / becoming payable to the agency, any sum as may be deemed sufficient to meet such liability on receipt of award of compensation from the competent authority under the said Act, and the same shall be adjusted from this amount. Any shortfall shall be recovered and any excesses shall be refunded. The opinion of the Director of IIIT, Nagpur shall be final in regard to all matters arising under this clause.

16. The decision of Director, IIIT Nagpur in regard to interpretation of the terms and conditions and the agreement shall be final and binding to the agency.
17. The Director, IIITN Nagpur shall be the sole authority to decide and judge the quality of service rendered by the agency and all other matters and his decision shall be final and binding.
18. The bidder shall enclose necessary supporting all technical documents and details with technical bid and financial bid. The bidder shall submit any evidence or document as requested by IIIT, Nagpur. If failing the same, In such cases, the tender shall be summarily rejected.
19. The Director IIIT reserves the right to accept or reject any or all tender offer.
20. The delivery should be completed within 30 days from the date of issue of Purchase Order.
21. Any corrigendum/Addendum/Notification regarding 2nd Call for Supply, Installation and Commissioning of Trainer Kits & Software for ECE Lab at IIIT, NAGPUR will be published on IIIT, Nagpur website www.iiitn.ac.in.
22. The Bidder would ensure that all the applicable rules & regulations of Central/State/Local Authority shall be strictly followed wherever applicable.
- 23. The bidder shall give 5 years warrantee for the items supplied and installation work carried out.**
24. The Financial / Price Bid(s) shall be evaluated on the basis of the quoted price in accordance with the Price Bid Format provided in the Tender Document.

The Lowest Bidder (L1) for Individual Section shall be awarded the Work/Contract subject to fulfilment of all the conditions of the Tender.

G. BID PRICE:

1. The work shall be as described in Technical / Qualifying Bid Document (**Detail Scope of Work**).
2. Corrections, if any, shall be made by crossing out, initialling, dating and rewriting.
3. GST, if applicable, shall be paid by the Institute as per prevailing rates.
4. The Price quoted by the Bidder shall be in “Indian Rupees” in accordance with the Price Bid Format provided in this Tender Document.

5. The Price Quoted by the Bidder shall be Section wise for supply, installation & commissioning of all the items listed under the Lab Equipment Requirements in the Technical / Qualifying Bid Document.
6. The Financial / Price Bid(s) shall be evaluated **Section wise** on the basis of the quoted price in accordance with the Price Bid Format provided in the Tender Document.
7. **The Bidder may opt to quote only the price for the section which he / she intends to supply completely. For example if a Bidder can't supply all items of section VI, he/she may opt to skip the quoting of price for that section.**
8. **The Lowest Bidder (L1) for Each Section shall be awarded the with the Supply & Service Contract subject to fulfilment of all the conditions of the Tender.**
9. The Price quoted by the Bidder shall be fixed for the duration of the Contract and shall not be subjected to adjustment on any account.
10. The Price quoted by the Bidder shall be inclusive of all costs for providing smooth supply & services in accordance with the terms and conditions of the Tender.
11. The Director, IIIT Nagpur and its officers/employees will not be responsible to any liabilities, entitlement or claims in the context of any statutory.

H. SINGLE BID BY INDIVIDUAL BIDDER:

Each Bidder shall submit only one bid.

I. VALIDITY OF TENDER

Tender shall remain valid for a period of not less than 180 days after the deadline date specified for submission.

J. EVALUATION OF BIDS:

IIIT Nagpur will evaluate and compare the tender(s) determined to be substantially responsive i.e., which:

- a) Are properly signed & submitted in original; and
- b) Confirm to the terms & conditions, of the tender.

Conditional Tenders and late submitted Tenders will not be accepted.

K. BID SYSTEM AND INSTRUCTIONS FOR SUBMISSION OF BIDS:

“Two Bid” Systems will be followed for this tender. Two sealed envelopes, namely. “Technical Bid” and “Financial Bid” are to be put in one sealed envelope super-scribed with “2nd Call for Supply, Installation and Commissioning of Trainer Kits & Software for ECE Lab” at IIIT NAGPUR”.

The Contents of “Technical Bid”:

The qualification bid should be placed in a sealed cover. This envelope should be super-scribed “Technical/Qualifying Bid for 2nd Call for Supply, Installation and Commissioning of Trainer Kits & Software for ECE Lab” at IIIT NAGPUR.

The envelope containing the Technical / Qualifying Bid should also contain the EMD in the form of Demand Draft (DD) drawn in favour of Director, IIIT Nagpur. Technical Bid should have proper indexing along with page no. mentioned. Technical bid should contain papers as per Technical Bid Check list. Failing which tender will be out rightly rejected.

1. The technical bid will include all technical and associated supporting documents, indicating the compliance of technical specifications as per the tender.
2. It is essential to fill complete forms as per prescribed format only to qualify the technical bid. Incomplete forms should be summarily rejected. If needed separate sheet should be enclosed for furnishing complete details. Any other format will lead to disqualification.

The Contents of “Financial Bid”:

1. Item wise rate should be indicated in the prescribed format in the financial Bid only.
2. Each cover should also indicate clearly the name and address of the bidder and tender no.

SELECTION CRITERION IN CASE OF TIE OF SAME RATES OF L1

1. Bidder who have completed more number of Rs. 15 Lakh and above work of Supply, Installation and Commissioning of Trainer Kits & Software for ECE Lab will be selected.
2. In case of tie in Clause 1 above, the bidder having more number of experience shall be considered.

L. AWARD OF WORK:

The IIIT Nagpur will award the work to the bidder, whose tender has been determined to be substantially responsive, and who has offered the lowest rate.

1. Notwithstanding the above, the IIIT Nagpur reserves the right to accept or reject any tender(s) and to cancel the bidding process and reject all tenders at any time prior to the award of work.
2. The bidder whose bid is accepted will be notified of the award of work, by the IIIT Nagpur / prior to expiration of the Tender validity period. The terms of the accepted offer shall be incorporated in the work order.

M. SECURITY DEPOSIT:

The Selected Bidder shall be required to submit a Security Deposit within 10 Days from the date of receipt of the Intimation Letter from the Institute for an amount equal to **10%** of accepted cost including applicable taxes and duties.

The Accepted Cost shall be the price quoted by the Selected Bidder for that particular section in the Financial / Price Bid including the applicable taxes and duties.

The Security Deposit shall be furnished in the form of Demand Draft of any Scheduled Bank drawn in favour of the Director, IIIT Nagpur and payable at Nagpur. This Security Deposit shall remain with the Institute, interest free, as Security for the entire duration of the Contract and will be replenished from time to time in case of deductions, if any, by the Institute towards recovery from the Agency. The aforesaid Security Deposit shall be

returned to the Agency after 60 days of completion of order or expiry of the contract without any interest, after deductions, if any, made by the Institute.

In the event of the Selected Bidder's failure to provide Supply, Installation and Commissioning of Trainer Kits & Software for ECE Lab at IIIT NAGPUR, or the services as per the contract, the Institute reserves the right to hire Supply, Installation and Commissioning of Trainer Kits & Software for ECE Lab at IIIT NAGPUR from other source at the Selected Bidder's risk and cost and all such expenses and losses incurred by the Institute in this regard shall be borne by the Selected Bidder. Further, the Institute shall retain the right of forfeiture of Security Deposit and or any other action(s) as deemed fit.

N. PAYMENT TERMS & CONDITIONS :

The payment will be released after complete installation, commissioning and testing by the Institute authorized person.

O. PENALTY :

Penalty if any shall be deducted from the bill. A sum equivalent to 0.5 percent of the price of the material undelivered to the stores, at stipulated rate, for each week or part there of during which the delivery of such may be delayed, subject to maximum limit 10% of the stipulated price of material undelivered to stores.

P. SINGLE TENDER TO BE CONSIDERED:

This tender is being floated for the 2nd time and therefore the Price Bid shall be opened irrespective of number of bids received and even if only one bid is found technically eligible.

Q. Any amendment or corrigendum regarding the Tender will be issued on the Institute Website only.

R. For any disputes, the place of jurisdiction shall be Nagpur, Maharashtra (India) only.

S. You are requested to submit your bid **on or before 3.00 PM on 21-03-2023.**

T. All Communication is to be addressed to : –

**The Registrar,
Indian Institute of Information Technology, Nagpur
At Survey No. 140,141/1,
Behind Br. Sheshrao Wankhade Shetkari Soot Girni,
Village: Waranga, Po: Dongargaon (Butibori),
District: Nagpur -441108 (Maharashtra)**

Detail Scope of Work

2nd Call for Supply, Installation and commissioning of Trainer Kits & Software for ECE Lab at IIIT, Nagpur as per the directives of Institute authorized representative. The details of the equipment & material is as given below.

Sr. No.	Section	Description	Quantity
1	I	VHDL Kits FPGA Kit Specifications: Xilinx FPGA development board (Spartan 6 OR Higher version) Software for programming the FPGA board in VHDL as well as Verilog HDL Kit and programming software should be compatible with Windows 11, 64 bit operating system with USB connectivity with computer/laptop and following I/O peripherals – “ 8 Toggle switches for I/P selection, 8 LEDs to indicate switch status, 16 x 2 LCD display, At least four 7 segment displays, 4 X 4 key matrix, Stepper Motor, ADC - DAC, Relay”	20
2	II Sr. No. 2 to Sr. No. 7	Theorem's And Laws Trainer-I (Ohm's Law, Kirchhoff's Law, Norton's, Thevenin's Theorem)	5
3		Theorem's And Laws Trainer-II (Millman, Super Position, Reciprocity, Maximum Power Transfer Theorem)	5
4		Theorem's And Laws Trainer-III (Two Port Network, Charging & Discharging of Capacitor)	5
5		Transient Analysis Trainer	5
6		Passive Filter-II (RC 1st Order High/ Low Pass, RC 2nd Order High/ Low Pass, Notch)	5
7		Series & Parallel Resonance	5
8		III	TMS320C6748 DSP development kit (LCDK) with XDS 100V3 EMULATOR (spectrum digital only)(EDAS) Integrated floating-/fixed-point DSP with up to 456 MHz performance Software, expansion headers, schematics and application demos SDKs, DSP/BIOS RTOS, drivers, stacks and protocol, algorithm libraries, flash and boot utilities, and Starter Ware. Xilinx Kintex-7 FPGA DSP development kit with MATLAB Simulink support.
9	IV Sr. No. 9 to Sr. No. 15	Screw jack apparatus	3
10		Flywheel apparatus	3
11		Universal vibration apparatus	3
12		rope/belt friction apparatus	3
13		universal force table	3

14		Young's modulus apparatus	3
15		Cantilever beam apparatus	3
16		Micro Solder Stations	2
17		PCB Drilling Stand/ Pillar Drill Drill holding by precision chuck with lapped jaws Mains operated DC motor – Direct drive (no belt and pulley) 3 Step Speed Control Technical Data Motor Speed: 12,000 - 20,000 R.P.M. Range : 0.6 to 3.0 mm Base : Metal Working Area : 280 mm X 170 mm Electrical Power: 230V/50Hz, 5A Socket	1
18		PCB Cutting Machine	1
19	V Sr. No. 16 to Sr. No. 24	3D Printing Machine Build Volume : 400MM X 400MM X 400MM Printing Technology : Fused Filament Fabrication (FFF) Layer Resolution : 100 -400Microns Number of Extruder : 1 Extruder Temperature : upto 300 O C, HeatBed Temperature : upto 150 O C Extruder : Must have E3D Hemra Direct Drive 1.75MM Print Speed : 20 -150MM/s Power AC input: 110-220V, 360W, 50-60 Hz Display : TFT 5Inch Touch Display Motor Drivers : TMC 2209 with Silent Processor Extruder : E3D Hemra Direct Drive 1.75MM Smart Filament Sensor: Detect broken material / filament runout feature Fully Enclosed Body with Sheet Metal Frame Stepper Motors : Nema17 Must have HIWIN Linear Rails in XY Axis Supported Filament : PLA /ABS /PETG/ HIPS/ FLEXIBLE /PVA Must Support : USB /SD- Card/ WIFI Supported Software : CURA Slicer Must have fully automatic bed levelling system, Emergency Restart Button, Must use GATES Timing Belt	2
20		Raspberry Pi 4B Board (WiFi+Bluetooth), 8 GB RAM	15
21		Nvidia Jetson Nano Development Board	2
22		Dremel 4000 Tool set	3
23		Mini Drone:	1

		<p>Specification: Up to 4K60p Video & 48MP Raw Stills , Tri-Directional Obstacle Avoidance, Regulation-Friendly 8.8 oz Weight, RC Remote Included, Up to 34 Minutes of Flight Time, Rotating Gimbal for Vertical Shooting, Slow Motion Video at Full HD 1080p120, Up to 7.5 Mile Range with OcuSync 3, FocusTrack Subject Tracking System, Foldable Design for Easy Travel/Storage</p> <p>Peripherals: Mini Drone with Smart RC Remote, RC Remote Controller, Mini Drone with Intelligent Flight Battery, Mini Drone with Gimbal Protector, Mini Drone with Propellers, USB Type-C to, USB Type-C PD Cable, Screwdriver, 6 x Screws</p>	
24		PCB Design and Circuit Simulator Software	30 User
25	VI	<p>1. AI SCARA Robot + Conveyor System+ Vision Based system</p> <p>1) SCARA robot with rigid frame, enabled with gripper Axis Specification:</p> <p>2) o X- Axis: 225 MM</p> <p>3) o Y- Axis: 175 MM</p> <p>4) o Z- Axis: 100 MM</p> <p>5) o End effector Rotation: 360 degree</p> <p>6) • Accuracy: 0.1 MM</p> <p>7) • Number of Axis / Joints: 4</p> <p>8) • Pay load: 2 Kg</p> <p>9) • Weight: 14 kg</p> <p>10) The Scara robot should come with all necessary separate parts like motors, driver, gripper, base for lifting minimum 3 Kg payload, with 400 mm reach, pose repeatability +/- 0.01, cycle time of 0.44 sec, Wiring and</p> <p>1.1 Conveyer systems:</p> <p>1) The Conveyer system should be providing with auto mechanism object counter for auto account and detection of the component received at the station. The conveyer system should be mounted on standard platform. The System should work continuously for eight hours for continuous reading system for research. The Heating parameters of the motor should be optimized for results accuracy.</p> <p>1.2 Mitsubishi PLC</p> <p>1. Upto 512 point of control,</p> <p>2. Open coding</p> <p>3. Program step upto 48 K steps</p> <p>4. Highly functional module atleast to 8 ports and points of control, should support position up to three axis, the CPU module inbuilt, it should have the facility for USB and Hardware connectivity. Students should able to work on it for development</p> <p>1.3 Software:</p> <p>1. MITSUBSHI PLC Software</p> <p>2. SCARA SOFTWARE</p>	1

	<p>The software interface should be able to access any program through PLC The vendor should integrate the communication of SCARA, PLC, Conveyor systems & be able to communicate / work with Python etc.,</p> <p>1.4. Miscellaneous</p> <ol style="list-style-type: none"> 1. The system should have provision to be monitored by interference of IOT based system. 2. Sufficient cables should be provided with frame of aluminium section mounted complete system on it. The system should be covered with glass for dust free environment. The Controller, PLC, Conveyor system should be placed well within enclosed environment. 3. The same robot can be further experimented for different applications like Vision System, sorting etc...,by using the PLC. 4. A few days training on the system to be provided by vendor. 5. Hybrid integrated system working with Embedded C, C++, Python and ladder programing along with Melfa basic 4 for the arm functioning. 6. Real time and close loop software simulation in the environment considering and taking external factors of the real world. 7. AI based image processing functionality for sorting based on shape and size, mapping boundary for the object, differentiating object based on area, classifying different shades of the color. <p>1.5 Peripherals:</p> <ol style="list-style-type: none"> 1. Motor 2_D Lidar (12M) 3. Camera module 4. Battery 5. Battery Charger 6. Controller 7. Slave controller*2 8. Accessories (Wires, wifi module, attachments, Cover shields, controller charger) 9. Power management(converters, power bank) 	
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Note:

1. **The Bidder may opt to quote only the price for the section which he / she intends to supply completely. For example if a Bidder can't supply all items of section II, he/she may opt to skip the quoting of price for that section.**
2. **This tender is being floated for the 2nd time and therefore the Price Bid shall be opened irrespective of number of bids received and even if only one bid is found technically eligible.**

**CHAIRMAN
SPC**

भारतीय सूचना प्रौद्योगिकी संस्थान, नागपुर

**INDIAN INSTITUTE OF INFORMATION TECHNOLOGY,
NAGPUR - 441108**

QUALIFYING / TECHNICAL BID

FOR

**“2nd Call for Supply, Installation and Commissioning of
Trainer Kits & Software for ECE Lab”**

**at IIT, Nagpur Campus
located at**

**Survey No. 140,141/1 Behind
Br. Sheshrao Wankhade Shetkari Soot Girni,
Village: Waranga, PO: Dongargaon (Butibori),
District: Nagpur (Maharashtra) -441108**

The Bidder should clearly specify Yes / No in the following format towards the checklist for Technical Evaluation of Bids:

Sr. No.	Particulars	Criteria / Documents to be submitted	YES / NO	Page No.
1	Submission of Tender Form Charges Rs. 2,360/-	To be submitted in the form of Demand Draft of a Scheduled Bank in favour of the Director, IIIT, Nagpur payable at Nagpur OR through Online Payment Mode. Bidder should write Name of firm and address on the reverse side of DD /Online Payment Receipt.	Yes / No	
2	Submission of Earnest Money Deposit/ Bid Security Declaration. Rs. 50,000/-	To be submitted in the form of Demand Draft of a Scheduled Bank in favor of the Director, IIIT, Nagpur payable at Nagpur OR through Online Payment Mode. Bidder should write Name of firm and address on the reverse side of DD /Online Payment Receipt. Bidders registered with NSIC, MSMEs etc are exempted from payment of EMD subject to submission of documentary evidence.	Yes / No	
3	Details of the Bidder	The Bidder should submit the information sheet in the prescribed format. Annexure-1	Yes / No	
4	The Bidder must have minimum Three Years of experience of Supply, Installation and Commissioning of Trainer Kits & Software and / or equipment required for Electronics & Communication Labs.	The details of the experience to be provided in Annexure-2 along with copies of the Work Order / Experience Certificate.	Yes / No	
5	The Bidder must have minimum One Order Completed of Rs. 15 Lakhs for Supply, Installation and Commissioning of Trainer Kits & Software and / or equipment required for Electronics & Communication Labs.	Copy of the Purchase Order shall be enclosed.	Yes / No	

6	The Bidder must have minimum average annual turnover of Rs. 1 Cr. for the three years i.e. 2019-20, 2020-21 and 2021-22.	Copy of Balance Sheets for the Year 2019-20, 2020-21 and 2021-22 OR Copy of Certificate from Chartered Accountant certifying the Annual Turnover for the Year 2019-20, 2020-21 and 2021-22.	Yes / No	
7	Valid GST registration certificate	Copy of GST Registration certificate shall be submitted	Yes / No	
8	Valid PAN card	Copy of the PAN Card to be submitted	Yes / No	
9	Shop & Establishment Registration (Gumastha) / Valid Registration certification of the Agency/Firm / Company	Copy of Proof of Registration shall be submitted	Yes / No	
10	The Bidder must be in a position to provide 24X7 Service Support to the Institute. The Bidder should have office in Nagpur to facilitate seamless services as per the requirement of the Institute.	Declaration to be submitted in the prescribed format attached on the Company/Agency Letterhead. Annexure-3	Yes / No	
11	The Bidder should not have been debarred and/ or blacklisted by any Central Government / or any State Government / Autonomous Department(s) / Body as on the last date of submission of the Tender.	Affidavit on Rs.100/- Stamp Paper in prescribed Annexure – 4 to the effect that the Bidder is not blacklisted by any Government Department/PSU/Bank/ Central Autonomous Body as on the date of Tender submission. Undertaking on Letterhead shall not be accepted.	Yes / No	
12	Submission of Letter of Transmittal	The Bidder should submit the Letter in the prescribed Annexure – 5.	Yes / No	
13	Submission of Proposal	The Bidder should submit the Proposal in the prescribed Annexure – 6.	Yes / No	
14	Submission of Price Bid	The Bidder should submit the Price Bid in a separate sealed cover in the prescribed Annexure – 7.	Yes / No	

BIDS OF AGENCIES NOT MEETING ABOVE ELIGIBILITY CONDITIONS WILL SUMMARILY BE REJECTED.

Details of the Bidder
(To be filled by the Bidder)

1	Name & Address of the Agency / Firm / Company	
2	Year of Establishment:	
3	Registered Office Address	
4	Nature of the firm (Proprietorship / Partnership / Private Limited or Cooperative body etc)	
5	Registration No of Firm	
6	GST Registration No.	
7	PAN No.	
8	Name & Address of the Authorized Person	
9	Phone No.	
10	Email-ID	
11	Branch office in Nagpur address	

Year wise List of Similar Type Contracts completed by the Bidder

List of Purchase Orders of State Government or Govt. of India Department(s) /Reputed Organization(s) for Supply, Installation and Commissioning of Trainer Kits & Software and / or equipment required for ECE Labs. Attach copy of JOB COMPLETION CERTIFICATE in support of every claim.

Year	Name of the Organization & Address	Order No. & Date	Order Value

Note: Order of minimum three years are required to be attached towards establishment of three years of experience.

DECLARATION FORMAT

I, the undersigned, herewith declare that:

We have Permanent Office at Nagpur located at (Please enter the address of Nagpur Office)

Name of Authorized Person:

Contact No:

Email:

Signature of the Bidder Seal of the Agency Date:

Format for Affidavit on Rs. 100/- Stamp Paper

I / We age residence of
..... hereby declare that
..... (Name of the Agency) has not been black
listed by any Government Department / Public Sector Undertaking / Bank / Central Autonomous Body
or any other Government Authority as on the last date of submission of this Tender.

(Name, Designation and Address of the Executants)

(Seal)

DEPONENT

Date: -

Place: -

VERIFICATION

I, the above-named deponent(s) do hereby verify that the facts stated in the above Affidavit are true to
the best of my knowledge. No part of the same is false and no material has been concealed there from.

Verified aton this the .../.../.....

(Name, Designation and Address of the Executants)

(Seal)

DEPONENT

**Solemnly affirmed and signed before me by the deponent on this..... Of..... 2023 at my office.
(Judicial Magistrate-First- Class / Notary Public/ Oath Commissioner)**

LETTER OF TRANSMITTAL

From:
[Full address of the Agency]

To,
The Director
Indian Institute of Information Technology, Nagpur
Nagpur-441108

Sub: Submission of Tender for “2nd Call for Supply, Installation and Commissioning of Trainer Kits & Software for ECE Lab” at IIIT, Nagpur Permanent Campus located at Survey No. 140,141/1, Behind Br. Sheshrao Wankhade Shetkari Sahkari Soot Girni, Village - Waranga, PO - Dongargaon (Butibori) Tahsil- Nagpur (Rural), Dist. Nagpur (MH) 441108.

Sir,

Having examined the details given in invitation for Technical/Price Bid published in the newspaper and technical bid document for the above work, we hereby submit the application with complete details.

1. We certify that all the statements made and information supplied in the enclosed forms and accompanying statements are true and correct.
2. We have furnished all information and details necessary for pre- qualifications and have no further pertinent information to supply
3. We authorize the Director, IIIT Nagpur to approach individual(s), employer(s), Firm(s), Bank(s) and corporation(s) to verify our competence and general reputation.

Signature of the bidder or
his authorized signatory with

Seal of the Agency

Dated:

PROPOSAL SUBMISSION FORM

To
The Director
IIIT Nagpur

Dear Sirs,

We, the undersigned, offer to provide our services for the work of “2nd Call for Supply, Installation and Commissioning of Trainer Kits & Software for ECE Labs” at IIIT, Nagpur Permanent Campus located at Survey No. 140,141/1 behind Br. Sheshrao Wankhade Shetkari Sahkari Soot Girni, Village - Waranga, PO - Dongargaon (Butibori) Dist. Nagpur (MH) 441108 in accordance with your Tender Notice. We are hereby submitting our proposal, which includes this Technical Proposal and Financial Proposal duly sealed in a single envelope.

We hereby declare that all the information and statements made in this proposal are true and we accept that any misinterpretation contained in it may lead to our disqualification.

We undertake, if our proposal is accepted, to initiate the work of “2nd Call for Supply, Installation and Commissioning of Trainer Kits & Software for ECE Labs” at IIIT, Nagpur Permanent Campus located at Survey No. 140,141/1 behind Br. Sheshrao Wankhade Shetkari Sahkari Soot Girni, Village - Waranga, PO - Dongargaon (Butibori), Dist. Nagpur (MH) 441108 not later than the date indicated in the Work / Purchase Order.

We understand that, you are not bound to accept any proposal you receive.

We remain,

Yours sincerely,

Authorized Signature [In full and initials]: _____

Name and Title of Signatory: _____

Name of Agency: _____

Address: _____

भारतीय सूचना प्रौद्योगिकी संस्थान, नागपुर

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY,

NAGPUR 441108

PRICE BID FOR

**“2nd Call for Supply, Installation and Commissioning of
Trainer Kits & Software for ECE Lab”**

**at IIIT, Nagpur Campus
located at**

**Survey No. 140,141/1 Behind
Br. Sheshrao Wankhade Shetkari Soot Girni,
Village: Waranga, PO: Dongargaon (Butibori),
District: Nagpur (Maharashtra) -441108**

FINANCIAL / PRICE BID**TENDER NO. : IIITN/ADMIN/TKS-2nd Call/2022-23/22**

Sr. No.	Section	Description	Quantity	Price per Unit	GST per Unit (18%)	Total Amount Section wise (Including GST)	
1	I	VHDL Kits FPGA Kit Specifications: Xilinx FPGA development board (Spartan 6 OR Higher version) Software for programming the FPGA board in VHDL as well as Verilog HDL Kit and programming software should be compatible with Windows 11, 64 bit operating system with USB connectivity with computer/laptop and following I/O peripherals – “ 8 Toggle switches for I/P selection, 8 LEDs to indicate switch status, 16 x 2 LCD display, At least four 7 segment displays, 4 X 4 key matrix, Stepper Motor, ADC - DAC, Relay”	20				
2	II	Theorem's And Laws Trainer-I (Ohm's Law, Kirchhoff's Law, Norton's, Thevenin's Theorem)	5				
3		Theorem's And Laws Trainer-II (Millman, Super Position, Reciprocity, Maximum Power Transfer Theorem)	5				
4		Sr. No. 2 to Sr. No. 7	Theorem's And Laws Trainer-III (Two Port Network, Charging & Discharging of Capacitor)	5			
5			Transient Analysis Trainer	5			
6			Passive Filter-II (RC 1st Order High/ Low Pass, RC 2nd Order High/ Low Pass, Notch)	5			
7			Series & Parallel Resonance	5			
8	III	TMS320C6748 DSP development kit (LCDK) with XDS 100V3 EMULATOR (spectrum digital only)(EDAS) Integrated floating-/fixed-point DSP with up to 456 MHz performance	5				

		Software, expansion headers, schematics and application demos SDKs, DSP/BIOS RTOS, drivers, stacks and protocol, algorithm libraries, flash and boot utilities, and Starter Ware. Xilinx Kintex-7 FPGA DSP development kit with MATLAB Simulink support.				
9	IV Sr. No. 9 to Sr. No. 15	Screw jack apparatus	3			
10		Flywheel apparatus	3			
11		Universal vibration apparatus	3			
12		rope/belt friction apparatus	3			
13		universal force table	3			
14		Young's modulus apparatus	3			
15		Cantilever beam apparatus	3			
16	V Sr. No. 16 to Sr. No. 24	Micro Solder Stations	2			
17		PCB Drilling Stand / Pillar Drill Drill holding by precision chuck with lapped jaws Mains operated DC motor – Direct drive (no belt and pulley),3 Step Speed Control Technical Data Motor Speed : 12,000 - 20,000 R.P.M. Range : 0.6 to 3.0 mm Base : Metal Working Area : 280 mm X 170 mm Electrical Power: 230V/50Hz, 5A Socket	1			
18		PCB Cutting Machine	1			
19		3D Printing Machine Build Volume : 400MM X 400MM X 400MM Printing Technology : Fused Filament Fabrication (FFF) Layer Resolution : 100 -400Microns Number of Extruder : 1 Extruder Temperature : upto 300 O C, HeatBed Temperature : upto 150 O C Extruder : Must have E3D Hemra Direct Drive 1.75MM	2			

	<p>Print Speed : 20 -150MM/s Power AC input: 110-220V, 360W, 50-60 Hz Display : TFT 5Inch Touch Display Motor Drivers : TMC 2209 with Silent Processor Extruder : E3D Hemra Direct Drive 1.75MM Smart Filament Sensor: Detect broken material / filament runout feature Fully Enclosed Body with Sheet Metal Frame Stepper Motors : Nema17 Must have HIWIN Linear Rails in XY Axis Supported Filament : PLA /ABS /PETG/ HIPS/ FLEXIBLE /PVA Must Support : USB /SD- Card/ WIFI Supported Software : CURA Slicer Must have fully automatic bed levelling system, Emergency Restart Button, Must use GATES Timing Belt</p>			
20	Raspberry Pi 4B Board (WiFi +Bluetooth), 8 GB RAM	15		
21	Nvidia Jetson Nano Development Board	2		
22	Dremel 4000 Tool set	3		
23	<p>Mini Drone:</p> <p>Specification: Up to 4K60p Video & 48MP Raw Stills , Tri-Directional Obstacle Avoidance, Regulation-Friendly 8.8 oz Weight, RC Remote Included, Up to 34 Minutes of Flight Time, Rotating Gimbal for Vertical Shooting, Slow Motion Video at Full HD 1080p120, Up to 7.5 Mile Range with OcuSync 3, FocusTrack Subject Tracking System, Foldable Design for Easy Travel/Storage</p> <p>Peripherals: Mini Drone with Smart RC Remote, RC Remote Controller, Mini Drone with Intelligent Flight Battery, Mini Drone with Gimbal Protector, Mini Drone with Propellers, USB Type-C to, USB Type-C PD Cable, Screwdriver, 6 x Screws</p>	1		
24	PCB Design and Circuit Simulator Software	30 User		

25	VI	<p>1. AI SCARA Robot + Conveyor System+ Vision Based system</p> <p>1) SCARA robot with rigid frame, enabled with gripper Axis Specification:</p> <p>2) o X- Axis: 225 MM</p> <p>3) o Y- Axis: 175 MM</p> <p>4) o Z- Axis: 100 MM</p> <p>5) o End effector Rotation: 360 degree</p> <p>6) • Accuracy: 0.1 MM</p> <p>7) • Number of Axis / Joints: 4</p> <p>8) • Pay load: 2 Kg</p> <p>9) • Weight: 14 kg</p> <p>10) The Scara robot should come with all necessary separate parts like motors, driver, gripper, base for lifting minimum 3 Kg payload, with 400 mm reach, pose repeatability +/- 0.01, cycle time of 0.44 sec, Wiring and</p> <p>1.1 Conveyor systems:</p> <p>1) The Conveyor system should be providing with auto mechanism object counter for auto account and detection of the component received at the station. The conveyor system should be mounted on standard platform. The System should work continuously for eight hours for continuous reading system for research. The Heating parameters of the motor should be optimized for results accuracy.</p> <p>1.2 Mitsubishi PLC</p> <p>1. Upto 512 point of control,</p> <p>2. Open coding</p> <p>3. Program step upto 48 K steps</p> <p>4. Highly functional module atleast to 8 ports and points of control, should support position up to three axis, the CPU module inbuilt, it should have the facility for USB and Hardware connectivity. Students should able to work on it for development.</p> <p>1.3 Software:</p> <p>1. MITSUBSHI PLC Software</p> <p>2. SCARA SOFTWARE</p> <p>The software interface should be able to access any program through PLC</p> <p>The vendor should integrate the communication of SCARA, PLC, Conveyor</p>	1			
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	<p>systems & be able to communicate / work with Python etc.</p> <p>1.4. Miscellaneous</p> <ol style="list-style-type: none"> 1. The system should have provision to be monitored by interference of IOT based system. 2. Sufficient cables should be provided with frame of aluminium section mounted complete system on it. The system should be covered with glass for dust free environment. The Controller, PLC, Conveyer system should be placed well within enclosed environment. 3. The same robot can be further experimented for different applications like Vision System, sorting etc...,by using the PLC. 4. A few days training on the system to be provided by vendor. 5. Hybrid integrated system working with Embedded C, C++, Python and ladder programing along with Melfa basic 4 for the arm functioning. 6. Real time and close loop software simulation in the environment considering and taking external factors of the real world. 7. AI based image processing functionality for sorting based on shape and size, mapping boundary for the object, differentiating object based on area, classifying different shades of the color. <p>1.5 Peripherals:</p> <ol style="list-style-type: none"> 1. Motor 2. D Lidar (12M) 3. Camera module 4. Battery 5. Battery Charger 6. Controller 7. Slave controller*2 8. Accessories (Wires, wifi module, attachments, Cover shields, controller charger) 9. Power management(converters, power bank) 				
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Note:

- 1. The Bidder with lowest Total Quoted Price (L1) for Individual Section shall be selected subject to fulfillment of all the other applicable conditions of the Tender.**
- 2. The Bidder may opt to quote only the price for the section which he / she intends to supply completely. For example if a Bidder can't supply all items of section II, he/she may opt to skip the quoting of price for that section.**
- 3. The Financial / Price Bid(s) shall be evaluated Section wise on the basis of the quoted price in accordance with the Price Bid Format provided in the Tender Document.**
- 4. Bidder who have completed more number of Rs. 15 Lakh and above work of Supply, Installation and Commissioning of Trainer Kits & Software for ECE Lab will be selected.**
- 5. In case of tie in Clause 1 above, the bidder having more number of experience shall be considered.**
- 6. This tender is being floated for the 2nd time and therefore the Price Bid shall be opened irrespective of number of bids received and even if only one bid is found technically eligible.**