



**DIRECTORATE OF TECHNICAL
EDUCATION AND TRAINING, ODISHA
(DTE&T)**



Killa Maidan, Buxi Bazar, Cuttack-753001
Phone No-0671(2301061), Fax-0671(2301961)

NIT No. DTET/2025-26/16934/02

Date: 23/12/2025

File No: DTET-PROC-ET-0002-2025

REQUEST FOR PROPOSAL (RFP)
TO
ESTABLISH CENTRE OF EXCELLENCES IN
REFRIGERATION & AIR
CONDITIONING AT
GOVT. ITI ROURKELA
(OMBADC DISTRICT)

DTE&T under the administrative control of Skill Development & Technical Education Department, Government of Odisha (the Client) invites both Technical & Financial proposals from the world's leading OEM companies or their authorised channel partners through e-tender process for **“Establishment of Centre of Excellence (CoE) in Refrigeration & Air Conditioning at Govt. ITI Rourkela”** on Turnkey Basis. Bidders fulfilling the prescribed eligibility criteria of the RFP can access and download the complete RFP Document and other details from www.dtet.odisha.gov.in/www.tendersodisha.gov.in.

The major events under the bid process are:

Sr. No.	List of Key Events	Critical Dates
1	Date of Issue of RFP	24.12.2025
2	Last date for submission of Pre-Bid Queries	07.01.2025 (by 02:00 PM)
3	Date of Pre-proposal Meeting	09.01.2026 (at 03:00 PM)
4	Issue of Addendum/Corrigendum (if any)	20.01.2026 (by 05:00 PM)
5	Due Date for Submission of Proposal	07.02.2026 (by 5:00 PM)
6	Date of Opening of Technical proposal	08.02.2026 (by 12:00 PM)
7	Date of Technical presentation	To be informed to the technically qualified bidders later
8	Date of Opening Financial Proposal	Through the e-tender portal to be intimated later by e-mail to the technically qualified bidders.
9	Method of Selection	Least Cost Selection (LCS)

The proposals complete in all respect must be applied through e-tender process latest by 07.02.2026 before 5:00 PM clearly mentioning **“Request for Proposal for establishment of CoE in Refrigeration & Air Conditioning at Govt. ITI Rourkela”**. The proposals received beyond the last date and time will be rejected without assigning any reason. Prospective bidders are advised to regularly visit the DTE&T Odisha website (www.dtet.odisha.gov.in/en/tenders) and e-procurement (Tenders Odisha) Portal <https://tendersodisha.gov.in> for any Updates/Corrigendum/Amendment. Any subsequent updates will be announced on the DTE&T Odisha website and e-procurement Odisha portal. The authority reserves all the rights to reject any/ all proposals at any stage without assigning any reason thereof.

Sd/-
Director
DTE&T, Odisha

Memo No.

Date:

1. Copy to e-Governance Cell, SD&TE Department, Government of Odisha for publication in the website of the Department for wide publicity.
2. Copy to Smt. Kalpana Panigrahi, I/c S&B Section, for publication in the Website and Notice Board of DTE&T without delay for wide publicity.

Sd/-
Director
DTE&T, Odisha



REQUEST FOR PROPOSAL
FOR
ESTABLISHMENT OF CENTRE OF EXCELLENCE IN
REFRIGERATION & AIR CONDITIONING AT GOVT.
ITI ROURKELA

Directorate of Technical Education and Training, Odisha

Killa Maidan, Buxi Bazar,

Cuttack-753001

Phone No-0671(2301061),

Fax-0671(2301961)

Email: dtetorissa@gmail.com; dtetodisha.procurement@gmail.com

Table of Contents

1.	FACT SHEET	6
2.	E-TENDERING	8
3.	SECTION I: Letter of Invitation	10
4.	SECTION II: Information to the Bidders	11
5.	SECTION III: Terms of Reference (ToR)	29
6.	List of Equipment & Technical Specification.....	37
7.	Deliverables & Payment Schedule.....	68
8.	SECTION IV: Technical Bid Submission Forms (Cover-1)	70
9.	SECTION V: Financial Bid (Cover-2).....	86
10.	Section VI: Annexures.....	88

Disclaimer

The information contained in this Request for Proposal (herein after referred to either "RFP") document or subsequently provided to the Bidders, whether verbally or in documentary or any other form by or on behalf of the Directorate of technical Education and Training, Odisha herein after referred to as DTE&T, or any of their employees or advisors, is provided to the Bidder(s) on the terms and conditions set out in this RFP document and all other terms and conditions subject to which such information is provided.

DTE&T reserves the right to reject any or all of the proposals submitted in response to this RFP document at any stage without assigning any reasons whatsoever. DTE&T, ODISHA also reserves the right to withhold or withdraw the process at any stage with intimation to all who submitted the RFP document response. DTE&T, ODISHA reserves the right to change/ modify/amend any or all of the provisions of this RFP document. Such changes would be posted only in its website (www.dtetodisha.gov.in). Prospective bidders are requested to visit the website frequently to keep them abreast with the latest developments on this tender.

This is not an agreement and is not an offer or invitation to enter into an agreement of any kind with any party. The purpose of this RFP is to provide interested parties with information that may be useful to them in making their technical & financial offers (Bids) pursuant to this RFP. This RFP includes statements, which reflect various assumptions and assessments arrived at by the DTE&T, ODISHA in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. This RFP document may not be appropriate for all persons, and it is not possible for the DTE&T, ODISHA, their employees or advisors to consider the business/investment objectives, financial situation and particular needs of each Bidder who reads or uses this RFP document.

The assumptions, assessments, statements and information contained in this RFP may not be complete, accurate, adequate or correct. Each Bidder should conduct its own investigations and analysis and should check the accuracy, reliability and completeness of the information in this RFP document and wherever necessary obtain independent advice from appropriate sources. DTE&T, ODISHA, their employees and advisors make no representation nor warranty and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of the RFP document.

1. FACT SHEET

Sl. No.	Particular	Details
1.	Name of the Client	Director, Directorate of Technical Education and Training (DTE&T) under the administrative control of Skill Development & Technical Education Department, Government of Odisha.
2.	Method of Selection	Least Cost Selection (LCS)
3.	Mode of Submission	Online (e-tender) www.tendersodisha.gov.in
4.	Date of Issue of RFP(e-tender)	24.12.2025
5.	Deadline for Submission of Pre-Proposal Query	07.01.2026 (by 2:00 PM) (Through email to: dtetodisha.procurement@gmail.com)
6.	Date of Pre-Proposal Meeting	09.01.2026 (at 03:00 PM) (Through Hybrid Mode)
7.	Due date for submission of proposals	07.02.2026 (by 5:00 PM) (www.tendersodisha.gov.in)
8.	Date of opening of Technical Proposal	08.02.2026 (by 12:00 PM)
9.	Date of Technical Presentation and	To be informed to the technically qualified bidders later.
10.	Date of Opening of Financial Proposal	Through the e-tender portal to be intimated later by e-mail to the technically qualified bidders
11.	Bid Processing Fee (Non-Refundable)	Rs. 10,000/- + GST: 18 % = Rs. 11,800/- (Rupees Eleven Thousand Eight Hundred Only) through Demand Draft in favour of “DTE&T Odisha” & payable at Cuttack).
12.	Earnest Money Deposit (EMD) (Refundable)	2% of the Total Quoted Price without tax. EMD amount to be submitted in shape of Bank Guarantee/e-Bank Guarantee in favour of “DTE&T Odisha” from any scheduled commercial bank.
13.	Performance Security	The selected Bidder shall furnish 5% of the Contract value in shape of Bank Guarantee/e-Bank Guarantee in favour of “DTE&T Odisha” from any scheduled commercial bank.
14.	Address of the Client:	Director, Directorate of Technical Education and Training (DTE&T) Odisha, Killa Maidan, Buxi Bazar, Cuttack, Pin Code: 753001 E-mail: dtetorissa@gmail.com ; & dtetodisha.procurement@gmail.com Contact person: 1. Sri. S. K. Patra, Joint Director (Procurement), DTE&T Odisha, Mob. 9437404277

NOTE:

- Amendments/Corrigendum(a) to the RFP document, if any, would be published on the website of DTE&T Odisha and Odisha e-Procurement portal only. Please visit the website: www.dtet.odisha.gov.in/www.tendersodisha.gov.in regularly for the same.
- A bidder may submit their both technical and commercial proposals after fulfilling the minimum eligibility criteria mentioned in Section 4.
- Proposals must be submitted before the date, time and venue mentioned in the Factsheet through Online (e-tender) www.tendersodisha.gov.in. Proposals that are received after the deadline will not be considered.
- The Director, DTE&T reserves all the rights to cancel the Selection Process and reject any or all the proposals at any point of time.
- No contractual obligation whatsoever shall arise from the RFP document unless and until a formal contract is signed and executed between the Director, DTE&T and the Selected Bidder.
- The Director, DTE&T disclaims any factual or other errors in the RFP document (the onus is purely on each Bidder to verify such information) and the information provided therein are intended only to help the Bidder(s) to prepare a proposal in accordance with the terms and conditions as set out in this RFP document.
- **Exemption may be given to the local MSMEs/local Start-Ups (registered in Odisha) for submission of Tender Fee & EMD as per the Odisha Procurement Preference Policy for Micro and Small Manufacturing Enterprises-2023 (MSME Department Notification No. 566/MSME dated 24.01.2024) and Odisha General Finance Rules (OGFR) only after submission of proper documents as proof. An AFFIDAVIT may be submitted as per the TECH-11.**
- **Price Preference is not applicable in this tender.**
- Tender Fee and EMD exemption are not available to any Dealer/ Distributor/ Trader etc., who is not registered as a Manufacturer of similar category of Goods in Odisha.
- If a Bidder participates as Joint Venture (JV) /Consortium, the exemptions for submission of Tender Fee & EMD shall not be applicable for them.

2. E-TENDERING

Procedure for Participation in e-tendering

- 1) Web address of E-tendering website: [https:// www.tendersodisha.gov.in](https://www.tendersodisha.gov.in).
- 2) The Digital Signature enrollment has to be done with the e-token, after logging into the portal. The e-token may be obtained eMudhraCA/GNFC/IDRBT/MtnlTrustline/SafeScripT/TCS.
- 3) Bidder then logs into the portal giving user id / password chosen during enrolment.
- 4) The e-token that is registered should be used by the bidder and should not be misused by others.
- 5) DSC once mapped to an account cannot remap to any other account. It can only be inactivated.
- 6) The Bidders can update well in advance, the documents such as certificates, purchase order details etc., under My Documents option and these can be selected as per tender requirements and then attached along with bid documents during bid submission. This will ensure lesser upload of bid documents.
- 7) After downloading / getting the tender schedules, the Bidder should go through them carefully and then submit the documents as per the tender document; otherwise, the bid will be rejected.
- 8) The BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for that tender. Bidders are allowed to enter the Bidder Name and Values only.
- 9) If there are any clarifications, this may be obtained online through the eProcurement Portal, or through the contact details given in the tender document. Bidder should take into account of the corrigendum published before submitting the bids online.
- 10) Bidder, in advance, should prepare the bid documents to be submitted as indicated in the tender schedule and they should be in PDF formats. If there is more than one document, they can be clubbed together.
- 11) Bidder should arrange for the EMD as specified in the tender.
- 12) The bidder reads the terms and conditions and accepts the same to proceed further to submit the bids
- 13) The bidder has to submit the tender document(s) online well in advance before the prescribed time to avoid any delay or problem during the bid submission process.
- 14) There is no limit on the size of the file uploaded at the server end. However, the upload is decided on the Memory available at the Client's System as well as the Network bandwidth available at the Client side at that point of time. In order to reduce the file size, bidders are suggested to scan the documents in 75- 100 DPI so that the clarity is maintained and also the size of file also gets reduced. This will help in quick uploading even at very low bandwidth speeds.
- 15) It is important to note that, the bidder has to Click on the Freeze Bid Button, to ensure that he/she completes the Bid Submission Process. Bids which are not Frozen are considered as Incomplete/Invalid bids and are not considered for evaluation purposes.
- 16) The Tender Inviting Authority (TIA) will not be held responsible for any sort of delay, or the difficulties faced during the submission of bids online by the bidders due to local issues.

- 17) The bidder may submit the bid documents online mode only, through this portal. Offline documents will not be handled through this system.
- 18) At the time of freezing the bid, the eProcurement system will give a successful bid updating message after uploading all the bid documents submitted and then a bid summary will be shown with the bid no, date & time of submission of the bid with all other relevant details. The documents submitted by the bidders will be digitally signed using the e-token of the bidder and then submitted.
- 19) After the bid submission, the bid summary has to be printed and kept as an acknowledgement as a token of the
- 20) The bid summary will act as a proof of bid submission for a tender floated and will also act as an entry point to participate in the bid opening event.
- 21) Successful bid submission from the system means, the bids as uploaded by the bidder is received and stored in the system.
- 22) System does not certify for its correctness.
- 23) The bidder should see that the bid documents submitted should be free from virus and if the documents could not be opened, due to virus, during tender opening, the bid is liable to be rejected
- 24) The time that is displayed from the server clock at the top of the tender Portal, will be valid for all actions of requesting bid submission, bid opening etc., in the e-Procurement portal. The Time followed in this portal is as per Indian Standard Time (IST) which is GMT+5:30. The bidders should adhere to this time during bid submission.
- 25) All the data being entered by the bidders would be encrypted at the client end and the software uses PKI encryption techniques to ensure the secrecy of the data. The data entered will not be viewable by unauthorized persons during bid submission and not viewable by any one until the time of bid opening. Overall, the submitted bid documents become readable only after the tender opening by the authorized individual transferred over secured Socket Layer (SSL) with 256-bit encryption technology. Data encryption of sensitive fields is also done.
- 26) The bidders are requested to submit the bids through online eProcurement system to the TIA well before the bid submission end date and time (as per Server System Clock).

3. SECTION I: Letter of Invitation

RFP No: DTET/2025-26/16934/02

Date: 23/12/2025

Name of the Assignment: “RFP for establishment of CoE in Refrigeration and Air Conditioning at Govt. ITI Rourkela”.

1. DTE&T under the administrative control of Skill Development & Technical Education Department, Government of Odisha (The Client) invites online Bids (both Technical & Financial) from the Original Equipment Manufacturer (OEM) or authorised Technology Partner/Channel Partner for “Establishment of CoE in Refrigeration and Air Conditioning at Govt. ITI Rourkela”. More details on the proposed assignment are provided at **Section-3: Terms of Reference (ToR)** of this bid document.
2. Bidder will be selected under **Least Cost Selection (LCS) method** as prescribed in the RFP Document.
3. The proposal, complete in all respect as specified in the RFP document must be accompanied with a **Non-refundable** amount of **Rs. 10,000/- + Rs. 1800 (GST @18%) = Rs. 11,800 (Rupees Eleven Thousand Eight Hundred)** towards **Tender Processing Fee** and a **refundable amount of equal to 2% of the Total Quoted Price without tax** towards **EMD**, failing which the bid will be rejected.
4. The last date and time for submission of Bid complete in all respects is mentioned as per the data sheet in www.tendersodisha.gov.in and the date of opening of the technical proposal, Technical Presentation & financial bid in the presence of the bidder’s representative at the specified address as mentioned in the Bidder Data Sheet . Representative of the bidder may attend the meeting with due authorization letter on behalf of the bidder.
5. This RFP includes following sections:
 - a. Letter of Invitation [**Section – I**]
 - b. Information to the Bidder [**Section – II**]
 - c. Terms of Reference [**Section – III**]
 - d. Technical Bid Submission Forms [**Section – IV**]
 - e. Financial Bid Submission Forms [**Section – V**]
 - f. Annexure [**Section – VI**]
6. While all information/data given in the RFP are accurate within the consideration of scope of the proposed assignment to the best of the Client’s knowledge, the Client holds no responsibility for accuracy of information and it is the responsibility of the bidder to check the validity of information/specifications/narrations included in this document. No claim whatsoever shall be admissible for the alleged loss/damage suffered by the bidders on account of such rejection. In case of any dispute/ ambiguity arising in the process relating to documents, the decision of the Tender calling authority shall be final, binding and cannot be challenged.
7. **The Client reserves the right to accept / modify/ reject any/all Bids / cancel the complete tender or part of it at any stage without assigning any reason thereof.**

Sd/-
Director
DTE&T Odisha

4. SECTION II: Information to the Bidders

4.1 Pre-Qualification/Eligibility Criteria:

Before opening and evaluation of the technical proposals, each bidder will be assessed based on the following pre-qualification criteria. The bidder is required to produce the copies of the required supportive documents / information as part of their technical proposal failing which the proposals will be rejected.

Sr. No.	Pre-Qualification Criteria	Specific Requirement	Documents Required
1	Legal Entity	The Bidder must be registered as either of the following: a. Company under Companies Act, 1956/2013 or b. Partnership Firm registered under the Indian Partnership Act, 1932 or c. Joint Ventures (JV)/Consortium* or d. Limited Liability Partnership registered under The Limited Liability Partnership Act, 2008 registered	Registration documents of the Bidder as a duly registered legal entity in India along with: <ul style="list-style-type: none"> ● Registration document showing incorporation of the Bidder, ● Certified copy of registered Partnership Deed, ● PAN Card of the registered legal entity, ● GST certificate of the registered legal entity (Form GST REG-06), ● Any other supporting document, as may be required.
2	OEM or Authorised Technology/ Channel Partner	The bidder should be an original equipment manufacturer (OEM) or Authorised Channel Partner/Technology Partner of the OEM.	<ul style="list-style-type: none"> ● For Original Equipment Manufacturer (OEM) - Copy of the manufacturing license, or ● For the Authorized Channel Partner/ Technology Partner: An undertaking from the OEM is required stating that they would facilitate the Bidder on a regular basis with technology/product updates and extend support for the warranty as well and along with manufacturing license of OEM. (TECH-9)
3	Operation	The Bidder Firm should have been in operation in relevant field for the past 07 (seven) years as on the date of issue of RFP and filed ITRs for the last three FYs (i.e., FYs 2022-23, 2023-24 & 2024-25)	Audited Financial Statements for the last three financial years duly sealed & signed by a Chartered Accountant in practice, along with ITR for the said periods and the latest GST Return (GSTR-3B). Provisional Audit Report for any of the FYs will not be accepted.
4	Financial Capacity	The Bidder shall have an average annual turnover of at least Rs. 20.00 Crore over the last three Financial Years i.e., FY: 2022-23, 2023-24 & 2024-25. This must be the Bidder's turnover and not that of group companies/ organizations.	Audited financial statements/CA certified true copy stating the turnover. Financial Details of the bidder (TECH - 3) along with copies of last three FY's Audited Financial

			Statement duly sealed & signed by a Chartered Accountant in practice.
5	Net Worth	i) The net worth of the Bidder firm (manufacturer or authorized partner) should not be negative in 'FY 2024-25' and ii) also should have not eroded by more than 30% (thirty per cent) in the last three years, ending on '31 st Mar'2025'.	A Certificate duly sealed & signed by a Chartered Accountant in practice with Registration Number
6	ISO Certificate	The Technology Partner/Channel Partner or the OEM company should have ISO 9001, ISO 14001 & ISO 45001 certification.	Copy of valid ISO certificates of the agency/ the OEM must be submitted.
7	Past Experience		
7.1	Setting-up CoEs	The bidder, during last 03 (Three) financial years must have the experience in i. Setting-up at least 01 (One) Centre of Excellence (CoE) in same sector or execution of single work order involving supply of equipment/machineries of same sector with minimum order value of Rs.10.00 Crore or above , Or ii. Setting-up at least 02 (Two) Centre of Excellences (CoEs) in same sector or execution of two work orders involving supply of equipment/machineries of same sector with minimum order value of Rs.5.00 Crore or above , in any Government or Private organization/ Government or Private educational institute/ Government or Private training institute/ any Industry.	Copies of Relevant Work Orders/Sanction Orders/ Contract or MOUs/MOAs containing value of the supplies/ Work Completion Certificate/ Successful Project Completion and Performance Certificate/Commissioning Certificates or equivalent documentary evidence from the client should be provided as proof (TECH-5)
7.2	Training & Placement	The bidder must have experience of providing training to the minimum 100 trainees/students in last 03 years in similar sector and must achieved minimum 50% placements for 100 trainees trained and certified in last 03 years.	Bidder shall submit Documentary evidence: Draft agreements/ MoUs/ Work Orders with numbers/ completion certificates. & Documentary evidence: records of placement with average salaries – with contact details of employers.
8	Quality Certification	The bidder/vendor should have ISO/ISI Certification with every Machinery Test Certificate Mandatory as applicable.	Copy of valid ISO/ISI certificates along with Machinery Test Certificate as applicable.
9	Mandatory Documents	The bidder shall submit the Technical data in compliance with the minimum technical specifications mentioned in the tender document (ToR).	Submission of product wise brochure & catalogues and relevant pages from the website with available technical data in compliance with the minimum technical specifications mentioned in the ToR.

10	Blacklist	The Bidder shall not have been blacklisted by any Central / State Government Ministry in India or Public Sector Undertakings or any Government Agencies. Any Bidder that has been barred by the Central Government, any State Government, a statutory authority, or a Public Sector Undertaking from participating in any project and the bar subsists as on the date of the Proposal Due Date, would not be eligible to submit a Proposal.	Notarized Undertaking by the Authorized Signatory (TECH-6)
11	*Consortium /Joint Venture	Consortium /Joint Venture may be allowed but with a condition that OEM should be the lead partner and will be responsible for execution of contract. Sub-Contracting will not be allowed.	Submission of a consortium agreement, power of attorney for the lead partner, proof of legal status for each member (like registration or partnership deeds), and a GST registration certificate for the lead member. (TECH -7)
12	Authorized Representative	A Power of Attorney in the name of the person signing the proposal.	Original Power of Attorney (Notarized on a Rs.100/- Non-Judicial Stamp Paper) (TECH-4)
13	No failure of performance	A Bidder including any Associate should, in the last 3 (three) years, have neither failed to perform on any contract, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award against the Bidder, or Associate, as the case may be, nor has been expelled from any project or contract by any public entity nor have had any contract terminated by any public entity for breach by such Bidder, or Associate.	The Director, DTE&T would place sole reliance on the certification provided by the Bidder in this regard in its Cover Letter. Any misrepresentation or concealment of any information in this regard shall render the Bid liable for outright rejection at the sole discretion of the Director, DTE&T.
14	Bid Processing Fee (Non-Refundable)	The Bidder shall furnish a Tender Fee of Non-refundable amount of Rs. 10,000/- + Rs. 1800/- (GST @18 %) = Rs. 11,800 (Rupees Eleven Thousand Eight Hundred Only).	Payment to be done through Demand Draft in favour of "DTE&T Odisha" & payable at Cuttack.
15	Earnest Money Deposit (EMD) (Refundable)	The Bidder shall furnish EMD amount equal to 2% of the Total Quoted Price without tax.	EMD to be submitted in shape of Bank Guarantee/e-Bank Guarantee in favour of "DTE&T Odisha" from any scheduled commercial bank.

4.2 Documents to be submitted along with TECHNICAL BID (PART-A):

The bidder must furnish the following documents duly signed in along with their Technical Proposal:

- Filled in Bid Submission Check List in Original (Annexure-I)
- Covering letter (TECH – 1) on bidder’s letterhead requesting to participate in the selection process
- Bid Processing Fee & EMD as applicable

- Copy of Certificate of Incorporation/ Registration
- Copy of PAN
- Copy of Goods and Services Tax Identification Number (GSTIN)
- Copies of IT Return for the last three financial years i.e., FY:2022-23, 2023-24 & 2024-25 and the copy of latest GST Return (in GSTR-3B)
- General Details of the Bidder (TECH – 2)
- Financial Details of the bidder (TECH – 3) along with all the supportive documents such as Balance Sheet and Income/ Expenditure Statement duly signed as per the instruction.
- Power of Attorney (TECH – 4) in favour of the person signing the bid on behalf of the bidder or Board of Directors
- List of setting-up of CoEs/supply of equipment/machines from same sector (Past Experience Details, (TECH – 5) along with copies of contracts / work orders / completion certificate from previous Clients (as provided in the RFP).
- Notarized Undertaking from the Bidder on not blacklisted(TECH - 6)
- Consortium Agreement (if Consortium/JV) (TECH-7)
- Technical Compliance Sheet (Requirements and specifications as per the ToR) (Tech-8)
- Manufacturing License or the Manufacturer’s Authorization Form (TECH-9)
- Declaration regarding “Restrictions on procurement from a Bidder of a country which shares a land border with India” (TECH - 10)
- Bidder’s Affidavit for Micro and Small Manufacturing Enterprises to get an exemption as per the Odisha Procurement Preference Policy (TECH - 11).
- Net worth Certificate duly sealed & signed by a Chartered Accountant.
- Copy of valid ISO/ISI certificates along with Machinery Test Certificate as applicable.
- Submission of product wise brochure & catalogues and relevant information on products supplies
- Certification in its Cover Letter by the Bidder regarding non-failure to perform on any contract

Note:

Bidders should submit the required supporting documents as mentioned above. Bids not conforming to the eligibility criteria and non-submission of required documents as listed above will lead to rejection of the bid. Submission of forged documents will also result in rejection of the bid. Bidders are advised to study all instructions, forms, terms & conditions, and other important information as mentioned in the RFP document. The proposal must be completed in all respect, indexed. Each page should be numbered and signed by the authorized representative. Client at its own discretion reserves the right to ask for clarifications/supporting documents at any time during evaluation.

4.3 In case of Joint Venture/Consortium

***Joint Venture (JV)/Consortium**

Two Companies/Agencies may jointly undertake contract(s). Each entity will be jointly and severally responsible for completing the task as per the contract.

Joint Venture/Consortium details:

Name of all Members of a JV/Consortium (not more than 2):

1. Lead Member (minimum participation share – 50%)
2. Other Member (minimum participation share – 20%)

Joint Venture/Consortium must comply the following requirements:

- I. The qualifying criteria parameter e.g. past experience, financial capacity/turnover (of the relevant period) and other eligibility of the individual member of the JV/Consortium will be added together and the total criteria should not be less than as spelt out in qualifying/ Experience and Eligibility criteria as specified in e-tender Notice/ Bid document/ Experience and Eligibility Criteria.
- II. In case the Bidder is a Joint Venture, the work experience of any one, or two of the individual Partners of JV or the JV itself may be furnished as the work experience of the Bidder.
Work Order, BOQ, TDS etc. may be sought during clarification or along with deficient documents, if felt necessary by the Tender Committee.
- III. The formation of JV/Consortium or change in the JV/Consortium character/ members after submission of the bid and any change in the bidding regarding JV/Consortium will not be permitted.
- IV. The bid, and in case of a successful bid - the agreement, shall be signed so as to legally bind all members jointly and severally and any bid shall be submitted with a copy of the JV/Consortium Agreement providing the joint and several liabilities with respect to the contract.
- V. The bid submission must include documentary evidence to the relationship between JV/Consortium members in the form of JV/Consortium Agreement to legally bind all partners jointly and severally for the proposed agreement which should set out the principles for the constitution, operation, responsibilities regarding work and financial arrangements, participation (percentage share in the total) and liabilities (joint and several) in respect of each and all of the firms in the JV/Consortium. Such JV/Consortium Agreement must evidence the commitment of the parties to bid for the facilities applied for (if pre-qualified) and to execute the contract for the facilities if their bid is successful.
- VI. One of the members shall be nominated as 'In-charge' of the contract and shall be designated as Lead Partner. This authorization shall be evidenced by submitting with the bid a Power of Attorney signed by legally authorized signatories of all the members.
All the partners of a JV/Consortium may together authorize the Lead Partner to submit the bid on behalf of the JV/Consortium, along with an undertaking that in case of a successful bid. the work shall be executed by the JV/Consortium as per contract terms of the bid document.
Note: This authorization must be a part of the JV/consortium agreement if the Bid is submitted by the lead partner on behalf of the JV/Consortium.
- VII. The JV/Consortium must provide that the Lead Member shall be authorized to incur liabilities and receive instructions for and on behalf of any and all members of the JV /Consortium and the entire execution of the contract shall be done with active participation of the Lead Member.
- VIII. The contract agreement should be signed by each JV/Consortium members. Subsequent declarations/letters/documents shall be signed by lead member authorized to sign on behalf of the JV/Consortium or authorized signatory on behalf of JV /Consortium.

- IX. The bid should be signed by the person submitting the bid, duly authorized by all the members of the JV /Consortium.
- X. An entity can be a member of only one JV /Consortium. Bid submitted by JVs /Consortium /Lead Partner, consisting of the common entities as member will be rejected.
- XI. The JV /Consortium agreement may specify the share of each individual member for the purpose of execution of this contract. This is required only for the sole purpose of apportioning the value of the contract to that extent to individual member for subsequent submission in other bids if he intends to do so for the purpose of the qualification in that Bid.
- XII. The earnest money / bids security can be submitted by the Joint Venture /Consortium or one or more partners of the Joint Venture /Consortium.
- XIII. The JV /Consortium agreement must specifically state that it is valid for the project for which bidding is done. If JV/Consortium breaks up midway before award of work and during bid validity period bid will be rejected.
- If JV /Consortium breaks up midway before award of work and during bid validity/after award of work/during pendency of contract, in addition to normal penalties as per provision of bid document, all the members of the JV /Consortium shall be debarred from participating in future bids for a minimum period of 24 months.
- XIV. JV /Consortium agreement shall be registered in accordance with law so as to be legally valid and binding on the members before making any payment.
- Note: If the work is awarded to a JV /Consortium firm, they will register the JV /Consortium agreement under Registration Act in accordance with law
- XV. JV/Consortium shall open a bank account in the name of JV/Consortium and all payments due to the JV/Consortium shall be credited by purchaser to that account only. To facilitate statutory deductions all statutory documents like PAN, GST registration etc. shall be submitted by JV/Consortium at the time of execution of Agreement.
- XVI. In case of JV /Consortium, PAN card for each partner of JV /Consortium must be submitted.
- XVII. In case of Joint Venture/Consortium, the Bidder should submit Scanned Copy of GST status of Lead Partner of the Joint Venture/Consortium.
- XVIII. Scanned copy of JV /Consortium Agreement as per **TECH-7** of General Terms and Conditions/SLA, containing name of partners and lead partner, Power of Attorney to the lead partner and share of each partner.
- XIX. Power of Attorney of the respective partners from the Board of Directors of the concerned Company, or from the partners of the entity, or from the proprietor, authorizing the signatory of JV /Consortium agreement on behalf of them;
- XX. The document(s) (any of them as applicable) regarding legal status of all the individual partners of JV /Consortium mentioned below:
- a) Affidavit or any other document to prove proprietorship/Individual status of the Bidder,
- OR

b) Partnership deed containing name of partners.

OR

c) Memorandum & Article of Association with certificate of incorporation containing name of Bidder.

1. Bid Processing Fee (Non-Refundable):

The bidder must furnish as part of technical Bid, the required bid processing fee amounting to **Rs. 10,000/- + Rs. 1800 (GST @ 18 %) = Rs. 11,800** (Rupees Eleven Thousand Eight Hundred) through Demand Draft in favour of “DTE&T Odisha” & payable at Cuttack. ‘Bid Processing Fee’ must reach DTE&T Office at least 3 days before the last date of bid submission. Proof of submission must be attached with the technical bid. Bids received without bid processing fee will be rejected.

2. Earnest Money Deposit (EMD):

The bidder must furnish, as part of the technical Bid, an Earnest Money Deposit (EMD) amounting equal to **2% of the Total Quoted Price without tax** in shape of Bank Guarantee/e-Bank Guarantee in favour of “DTE&T Odisha” from any scheduled commercial bank. Bids received without EMD will be rejected. ‘Bid Security’ must reach DTE&T Office at least 3 days before the last date of bid submission. Proof of submission must be attached with the technical bid.

The EMD amount is interest free and would be refunded to the unsuccessful Bidders within 30 Days of the Bidder being notified as being unsuccessful. The EMD, for the amount mentioned above, of the successful Bidder would be returned within 60 Days, only after furnishing the required Performance Security and signing of the contract. The EMD will be forfeited on account of the following reasons:

- A Bidder engages in a corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice as envisaged under this RFP (including the standard form of Work Order); or,
- If any Bidder withdraws its Proposal during the Bid Validity Period as specified in this RFP and as extended by the Bidder from time to time; or,
- In the case of the Selected Bidder, if the Selected Bidder fails to accept the Work Order or execute the Contract or fails to furnish the Performance Security within the specified time limit; or,
- If the Bidder commits any breach of terms of this RFP or is found to have made a false, representation to the client.

3. Performance Security:

- a. The successful bidder, within 15 days after the receipt of notification of award of the Contract (LoA) from DTE&T, shall furnish Contract Performance Guarantee to the DTE&T, Odisha which shall be equivalent to **5%** of Total Bid Value (excluding taxes) and shall be in the form of a Bank Guarantee /e-Bank Guarantee from any of the commercial banks in India in the Performa given here-in-after in this document valid initially **44 months** and may be extended beyond three years of completion of warranty period from the date of award of Contract as specified in the document.
- b. The proceeds of the performance guarantees shall be payable to the DTE&T, Odisha as compensation for any loss/ penalties resulting from the Selected Bidders failure to complete its obligations under the Contract.
- c. The performance guarantee will be released by DTE&T, Odisha and returned to the Selected Bidder after 60 days of completion of warranty period subject to fulfillment of all obligations on recommendation of respective Principal.

4. **Proposal Validity:**

Proposal shall remain valid for a period of **180 (One Hundred Eighty) days** from the date of opening of the technical proposal. The Client reserves the right to reject a proposal valid for a shorter period as non-responsive and will make the best efforts to finalize the selection process and award of the contract within the bid validity period. The bid validity period may be extended on mutual consent. If agreed upon, the bid security so deposited shall also be suitably extended.

5. **Pre- Proposal Queries and Meeting:**

The Bidder may request a clarification of any part of the RFP prior to the last date for submission of queries through email, as indicated in the Bidder's Data Sheet. Bidders are allowed to submit their queries in respect of the RFP and other details if any, to DTE&T in the following format.

Sl	Section/Page No and RFP Clause reference.	Content of RFP requiring clarifications	Queries/ Change/Clarification requested

A Pre-Bid meeting will be organized by DTE&T to address the queries relating to the overall selection process and scope of the work through Hybrid Mode (**both virtual & physical mode**) **as per the timeline mentioned in the Data Sheet.** The client will address the queries submitted by the bidders.

- i. The purpose of Pre-Bid discussion is to provide the Bidders with information regarding the RFP, project requirements, and opportunity to seek clarification regarding any aspect of the RFP and the project. However, DTE&T, Odisha, reserves the right to hold or to reschedule the Pre-Bid meeting.
- ii. DTE&T, Odisha shall not be responsible for ensuring that the Bidder's queries have been received by them. Any requests for clarifications received after Pre-Bid meeting will not be entertained.
- iii. However, DTE&T, Odisha makes no representation or warranty as to the completeness or accuracy of any response made in good faith, nor does it undertake to answer all the queries that have been submitted by the Bidders
- iv. The Client's responses to Bidder queries will be made available to all Bidders and shall be uploaded on the Client's website. It shall be the Bidder's responsibility to check the Client's website for the responses to the queries or requests for clarification.
- v. Any such corrigendum shall be deemed to be incorporated into this RFP and binding on all Bidders.

6. **Submission of Proposals:**

The bid should be submitted through Online mode only in www.tendersodisha.gov.in.

The tender is to be submitted electronically in two separate Cover No.1 (Technical Cover) and Cover No. 2 (Financial Cover) and contents as indicated below:

Cover No.1 (Technical Cover)

The bidder must furnish the following documents duly signed in along with their Technical Proposal:

- Filled in Bid Submission Check List in Original (Annexure-I)
- Covering letter (TECH – 1) on bidder's letterhead requesting to participate in the selection process
- Bid Processing Fee & EMD as applicable
- Copy of Certificate of Incorporation/ Registration
- Copy of PAN
- Copy of Goods and Services Tax Identification Number (GSTIN)

- Copies of IT Return for the last three financial years i.e., FY:2022-23, 2023-24 & 2024-25 and the copy of latest GST Return (in GSTR-3B)
- General Details of the Bidder (TECH – 2)
- Financial Details of the bidder (TECH – 3) along with all the supportive documents such as Balance Sheet and Income/ Expenditure Statement duly signed as per the instruction.
- Power of Attorney (TECH – 4) in favour of the person signing the bid on behalf of the bidder or Board of Directors
- List of setting-up of CoEs/supply of equipment/machines from same sector (Past Experience Details, (TECH – 5) along with copies of contracts / work orders / completion certificate from previous Clients (as provided in the RFP).
- Notarized Undertaking from the Bidder on not blacklisted (TECH - 6)
- Consortium Agreement (if Consortium/JV) (TECH-7)
- Technical Compliance Sheet (Requirements and specifications as per the ToR) (Tech-8)
- Manufacturing License or the Manufacturer’s Authorization Form (TECH-9)
- Declaration regarding “Restrictions on procurement from a Bidder of a country which shares a land border with India” (TECH - 10)
- Bidder’s Affidavit for Micro and Small Manufacturing Enterprises to get an exemption as per the Odisha Procurement Preference Policy (TECH - 11).
- Net worth Certificate duly sealed & signed by a Chartered Accountant.
- Copy of valid ISO/ISI certificates along with Machinery Test Certificate as applicable.
- Submission of product wise brochure & catalogues and relevant information on products supplies
- Certification in its Cover Letter by the Bidder regarding non-failure to perform on any contract.

Cover No.2 (Financial Cover)

Price Bid. (Cover -2 in BoQ Ms-Excel format.)

The following supporting documents to be attached (in PDF format) with the seal & signature of the signing authority along with the Price Bid (BoQ Ms-Excel format) within the Cover-2.

1. FIN-1: Financial Bid covering letter.
2. Annexure: Equipment wise cost breakup

The offer must be submitted in Two Bid - Two covers only though uploading in the eProcurement Portal, before the last date & time for bid submission.

Tender document (s) and all enclosures must contain the signature of the competent authority of the firm.

7. Evaluation of Proposals

A Three stage evaluation process will be conducted as explained below for evaluation of the proposals:

A. Preliminary Evaluation (1st Stage):

Preliminary evaluation of the proposals will be done to determine whether the proposal complies with the prescribed eligibility condition and the requisite documents / information have been properly furnished by the bidder or not. Submission of documents/ information as per Pre-Qualification/Eligibility Criteria will be verified.

The bidder is required to produce the copies of the required supportive documents/information as part of their technical proposal failing which the proposals will be rejected.

B. Technical Evaluation (2nd Stage):

Technical proposal will be opened and evaluated for those bidders who qualify the preliminary evaluation stage. Detailed evaluation process as per the following parameters will be adopted for proposal evaluation:

Sl. No.	Criteria	Maximum Mark	Documents Required
1	Financial Capacity & Experience	30 Marks	
1.1	<p>Turnover: The Bidder should have an Average annual turnover of Rs. 20.00 Crore in the last three financial years (i.e., FY: 2022-23, 2023-24 & 2024-25).</p> <p><i>Scoring Criteria:</i></p> <ul style="list-style-type: none"> Greater than or equal to Rs.20 Crore and less than Rs.50 Crore: 05 Marks Greater than or equal to Rs.50 Crore: 10 Marks 	10	Financial details of the Bidders in TECH-3 duly signed by the CA
1.2	<p>Past Experience: The bidder, during last 03 (Three) financial years must have experience in Setting-up of Centre of Excellence (CoE) in any Government or Private organization/ Government or Private educational institute/ Government or Private training institute/ any Industry same sector or execution of work order involving supply of equipment/ machineries of same sector with order value as follows.</p> <p><i>Scoring Criteria:</i></p> <ul style="list-style-type: none"> For every work order value of Rs.10 Crore or more: 10 Marks will be given. For every work order value of Rs.5 Crore or more but less than Rs.10 Crore: 05 Marks will be given. <p>(Maximum up to 20 marks)</p>	20	Copies of Relevant Work Orders/ Sanction Orders/ Contract, MOUs containing value of the work/ Work Completion Certificate/ Successful Project Completion and Performance Certificate/ Commissioning Certificates or equivalent documentary evidence from the client should be provided as proof (TECH-5)
2	Quality, Training & Placement	60 Marks	
2.1	<p>Quality of proposed equipment/ machines: Quality of the proposed Equipment/ Machines with respect to the technical specifications offered by the bidder, subjected to adherence of minimum technical specifications asked for</p>	50	Technical Compliance Sheet (Tech-8) with Submission of product wise brochure & catalogues and relevant pages from the website with available technical data in compliance with the minimum technical specifications mentioned in the tender document.
2.2	<p>Experience in Training: Bidder during last 03 financial years must have experience of imparting training to the minimum trainees/Students:</p> <ul style="list-style-type: none"> Trained and certified to 100 – 200 students: 05 marks trained and certified to more than 200 students: 10 marks 	10	<p>Documentary Evidence:</p> <p>Training: Draft agreements/ MoUs/ Work Orders with numbers/ completion certificates</p>

3	Technical Presentation	10 Marks	
3.1	Technical PPT Presentation: <ul style="list-style-type: none"> • Understanding the scope of work – 02 Marks • Methodology and Implementation – 02 Marks • Response to questions - 02 Marks • Proposed Plan for Training and Certification of Trainees – 02 Marks • Placement plan for certified trainees etc.- 02 Marks 	10	
	Grand Total (1 + 2 + 3)	100	
<ul style="list-style-type: none"> • The minimum qualifying mark is: 70 • Bidder has to score at least 50% in each category i.e. (1.1 to 1.3, 2.1 to 2.2 & 3.1). • Bidder must score at least 70% to qualify for opening of Financial Bid. • The scores provided by the Technical Committee will be considered as final. • The Technical PPT presentation on Bidder’s proposals includes description of products make, model & proposed specifications of items in their Technical Proposal, past experience, objective, proposed plan, approach and methodology etc. 			

Selection of Bidder

All responsive Bids will be considered for further processing as below:

- a. Technical Evaluation Committee will prepare a list of responsive Bidders, who comply with all the Terms and Conditions of the Tender. All eligible bids will be considered for further evaluation by the Committee according to the evaluation process defined in this RFP document. The decision of the committee will be final and binding on all bidders and cannot be questioned at any stage of evaluation.
- b. DTE&T reserves the right to ask for a technical elaboration/clarification in the form of a technical presentation from the Bidder on the already submitted Technical Proposal at any point of time before opening the Financial Proposal by providing at least 3 days of advance notice.
- c. DTE&T, Odisha also reserves the right to seek confirmation/clarification from the issuing agency for the supporting documents submitted by the bidder. To assist in the examination, evaluation and comparison of the bids, and qualification of bidders, the committee may, at its discretion, ask any bidder for a clarification of its bid. The committee’s request for clarification and the response shall be in writing through approved mode only and no other mode shall be entertained. Any clarification submitted by a bidder that is not in response to a request shall not be considered.
- d. If any bidder fails to provide the requested presentation/clarification/information within the stipulated date and time given by the DTE&T, Odisha, the bid shall be technically disqualified. The request for clarification and the response shall be in writing, without any alterations regarding the price or substance of the bid submitted.
- e. Further the scope of evaluation committee also covers taking any decision regarding the Tender document, execution/ implementation of the project including management period.
- f. A detailed evaluation of the bids shall be carried out by the Technical Evaluation Committee in order to determine whether the Bidders are competent enough and whether the technical aspects are substantially responsive to the requirements set forth in the RFP document. The bidders must submit the Make, Model, Features, and Technical Specifications along with the images of equipment for which they are submitting the bid. Bidders may propose better technical specifications which may fit for the labs.

- g. Bidders failing to comply with any of the above then the Bid will be summarily rejected. Bidders who score at least **70%** marks in Technical Evaluation criteria set forth in this RFP document will be eligible for opening of their Financial Bid. If a bid does not meet minimum score, it will be deemed technically non-compliant and will not proceed to the financial evaluation.
- h. Bidders are requested to visit the respective proposed institute for setting-up the CoE and they need to project thru 3D view, how they are planning to setup the labs and place all equipment at CoE.
- i. The bidders are expected to provide following details along with their technical bids.
 - Detailed 3D design (in CAD format) of the CoEs along with 3D view of the labs and specifications of proposed Civil, Electrical, Plumbing works, Furniture & Fittings etc.
 - Detailed Execution Plan
 - Human Resource Deployment Plan/ CV of proposed trainers.
 - Project Delivery Plan
 - Plan for Industry-Academia GAP analysis and preparation of industry relevant Course Curriculum.
 - Assessment and Certification Plan
 - Placement Plan
 - any suggestions (if any)
 - Other Requirements (if any)

C. Evaluation of Financial Proposal (3rd Stage)

The financial proposals shall be opened on the prescribed date in the presence of the bidder/bidder's representative who wishes to attend the meeting with proper letter of authorization. The name of the bidder along with the quoted financial price will be announced during the meeting.

1. The financial bids of bidders whose bids have been technically qualified (i.e., obtained minimum **70 marks** in Technical Evaluation) shall be opened by the Committee on the date and time specified in the RFP
2. Least Cost Selection (LCS) method will be followed during the Financial Evaluation and overall selection process.
3. Price Quoted without tax (as applicable) of the following will be considered together for Evaluation of the Financial Bid Evaluation.

I. Total Cost of the Projects

II. Total Cost of Comprehensive Annual Maintenance Contract (CAMC) for 03 Years

4. The bidder with Lowest Quoted Price (L1) will be considered as Final Selected Bidder.
5. In case two or more bidders quoted the same prices, the Committee shall decide on the L1 bidder based on the following **tie-breaking criteria**:
 - i. The bidder's turnover for the financial year 2024-25 will be considered first.
 - ii. If the tie persists, the turnover for the financial year 2023-24 will be considered.
[If further tie-breaking is required, the turnover for the financial year 2022-23 will be considered.
 - iii. If the tie remains unresolved after considering the above financial years, the L1 bidder will be determined by a draw, which will take place in the presence of the concerned bidders. The Committee's decision on this matter should be final and binding.
6. If a tenderer submits a bid with what appears to be **predatory pricing or an abnormally low bid**, the Tender Evaluation Committee may request a written clarification from the bidder. The bidder will be asked to provide a detailed price analysis, price break up, or justification of the quoted price, considering the scope, schedule, risk allocation, and any other requirements outlined in the tender documents.
If, after reviewing the price analysis or justification, the bidder fails to provide adequate supporting documentation, evidence, or calculations to substantiate the quoted price, the Committee may, at its sole discretion, reject the bid.

8. Contract Negotiations:

Contract negotiation, if required will be held at a date, time and address as intimated to the selected bidder/s. The bidder will, as a pre-requisite for attendance at the negotiations, confirm availability of all the proposed staff or the assignment. Representative conducting negotiations on behalf of the bidder must have written authority to negotiate and conclude a contract. Negotiation will be performed, if any and availability of proposed professionals etc.

9. Award of Contract:

- a. Being the lowest bidder (L1) is not the sole criterion for the award of the contract. The feasibility of the lowest quoted price will be assessed by the Committee, taking into consideration the relevant rules, terms and conditions outlined in the tender. The Committee's decision in this regard will be final and binding on all parties involved. Upon completion of the evaluation process, the contract will be awarded to the bidder who quoted the lowest price (L1) and complies with all applicable laws, regulations, and provisions stated in the tender.
- b. DTE&T shall inform those Bidders whose Proposals did not meet the requirement or were considered non-responsive, informing them that their Financial Proposals will not be opened after completing the selection process. DTE&T shall simultaneously notify those Bidders who technically qualify on the Technical Evaluation process, informing them of the date and time set for opening of the Financial Proposals.
- c. The Bidder's name, the Proposal Price, the total amount of each Proposal and other such details, will be announced and recorded by the DTE&T at the opening of Proposal.
- d. After acceptance of LoA (Letter of Award) of Contract, Performance Security has to be deposited as specified in this document for signing an Agreement with DTE&T.
- e. The selected Agency shall sign the Agreement within 21 (twenty-one) days from the issuance of LoA (Letter of Award) of Contract:
 - i. DTE&T will sign the Agreement with the successful Bidder for a period as mentioned in 'Duration of Contract' in the document.
 - ii. DTE&T may extend the Agreement for a time period beyond what has been specified in 'Duration of Contract' in the document.
 - iii. DTE&T will also have the right to provide extension/ increase in the scope of work as per the mutually agreed terms and conditions between both the parties.
- f. In case of unsatisfactory or rejection of equipment or performance of L1 bidder, only L2 bidder will be invited for negotiation to supply and fulfill the contract at L1 prices.

10. Payment Modalities:

Payment will be made to the selected company as per the schedule mentioned on achieving milestones/agreed work plan as per the Section-7 (Deliverables & Payment Schedule).

11. Duration of Contract and other timelines:

The contract shall be valid initially for a period of **42 months** from the date of issuance of LOA and other timelines are detailed below.

- i. **Supply of equipment/machines:** **4 months** from the date of signing the Contract.
- ii. **Installation & commissioning:** **1 month** from the date of receiving site readiness confirmation from the Principal of respective Institute.
- iii. **Comprehensive Maintenance Warranty:** **36 months** from the date of successful commissioning.

12. Conflict of Interest:

A Bidder shall not have a conflict of interest (the “Conflict of Interest”) that affects the Bidding Process. Any Bidder found to have a Conflict of Interest shall be disqualified. In the event of disqualification, the Authority shall be entitled to forfeit and appropriate the Bid Security, as mutually agreed genuine pre-estimated loss and damage likely to be suffered and incurred by the Authority and not by way of penalty for, inter alia, the time, cost and effort of the Authority, including consideration of such Bidder’s proposal (the “Damages”), without prejudice to any other right or remedy that may be available to the Authority under the Bidding Documents and/ or the Agreement or otherwise. Without limiting the generality of the above, a Bidder shall be deemed to have a Conflict of Interest affecting the Bidding Process, if:

- The Bidder or its Associate and any other Bidder or its Associate thereof have common controlling shareholders or other ownership interests.
- A constituent of such Bidder is also a constituent of another Bidder; or
- Such Bidder or any Associate thereof receives or has received any direct or indirect subsidy, grant, concessional loan or subordinated debt from any other Bidder or any Associate thereof or has provided any such subsidy, grant, concessional loan or subordinated debt to any other Bidder or any Associate thereof; or
- Such Bidder has the same legal representative for purposes of this Bid as any other Bidder; or
- Such Bidder, or any Associate thereof has a relationship with another Bidder, or any Associate thereof, directly or through common third party/ parties, that puts either or both of them in a position to have access to each other’s information about, or to influence the Bid of either or each other; or
- Such Bidder, or any Associate thereof has participated as a consultant to the Authority in the preparation of any documents, design or technical specifications of the Project.

13. Disclosure:

- a. Bidders have an obligation to disclose any actual or potential conflict of interest. Failure to do so may lead to disqualification of the bidder or termination of its contract.
- b. Bidders must disclose if they are or have been the subject of any proceedings (such as blacklisting) or other arrangements relating to bankruptcy, insolvency or the financial standing of the Bidder, including but not limited to appointment of any officer such as a receiver in relation to the Bidder’s personal or business matters or an arrangement with creditors, or of any other similar proceedings.
- c. Bidders must disclose if they have been convicted of, or are the subject of any proceedings relating to:
 - Criminal offence or other serious offence punishable under the law of the land, or where they have been found by any regulator or professional body to have committed professional misconduct;
 - Corruption including the offer or receipt of an inducement of any kind in relation to obtaining any contract;
 - Failure to fulfill any obligations in any jurisdiction relating to the payment of taxes or social security contributions.

14. Anti-corruption Measure:

- Any effort by Bidder(s) to influence the Client in the evaluation and ranking of financial Bids, and recommendation for award of contract, will result in the rejection of the Bid.

- A recommendation for award of Contract shall be rejected if it is determined that the recommended bidder has directly, or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the contract in question. In such cases, the Client shall blacklist the bidder either indefinitely or for a stated period of time, disqualifying it from participating in any related bidding process for the said period.

15. Force Majeure

“Force Majeure” means an event which is beyond the reasonable control of a Party, and which makes a Party’s performance of its obligations here under impossible or so impractical as reasonably to be considered impossible in the circumstances, and includes, but is not limited to, war, riots, civil disorder, earthquake, fire, explosion, storm, flood or other adverse weather conditions, strikes, lockouts or other industrial action (except where such strikes, lockouts or other industrial action are within the power of the Party invoking Force Majeure to prevent), confiscation or any other action by government agencies.

Force Majeure shall not include: (i) any event which is caused by the negligence or intentional action of a Party or agent’s employees thereof, nor (ii) any event which a diligent Party could reasonably have been expected to take into account or avoid or overcome in the carrying out of its obligations during the subsistence of this Agreement. Force Majeure shall not include insufficiency of funds or failure to make any payment required hereunder.

16. Language of Proposals:

The proposal and all related correspondence exchanged between the bidder and the Client shall be written in the English language. Supporting documents and printed literature that are part of the proposal may be in another language provided they are accompanied by an accurate translation of the relevant passages in English with self-certification for accuracy, in which case, for the purposes of interpretation of the Proposal, the translated version shall govern.

17. Cost of bidding:

The Bidder shall bear all costs associated with the preparation and submission of its proposal. The Client shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process. Bidder/s is/are not allowed to submit more than one proposal under the selection process. Alternate bids are also not allowed.

18. Legal Jurisdiction:

All legal disputes are subject to the jurisdiction of competent court of Cuttack /Bhubaneswar only.

19. Governing Law and Penalty Clause:

The schedule given for delivery is to be strictly adhered to in view of the strict time schedule. Any unjustified and unacceptable delay in delivery shall render the bidder liable for liquidated damages and thereafter the Client holds the option for cancellation of the contract for pending activities and complete the same from any other Bidder. The Client may deduct such sum from any money from their hands due or become due to bidder. The payment or deduction of such sums shall not relieve the bidder from his obligations and liabilities under the contract. The rights and obligations of the Client and the bidder under this contract will be governed by the prevailing laws of Govt of India/ Odisha.

- i. Notwithstanding the right of DTE&T, Odisha to cancel the order, Delay Charges for late delivery at 0.5% (Half percent) of the undelivered portion of order value per week will be charged for every week’s delay in the specified delivery schedule subject to a maximum of 5% of the value of the contract. Delay Charges should be recouped from pending payment or Performance Security as per the payment schedule. No Delay Charges will be charged in case of

circumstances beyond control of the selected Bidder. The decision of the authority placing the contract, whether the delay in delivery has taken place on account of reasons attributed to the bidder shall be final.

- ii. Please note that the above Delay Charges for delay in delivery and delay in commissioning are independent of each other and shall be levied as the case maybe.
- iii. DTET, Odisha reserves its right to recover these amounts from Performance Guarantee and the payments due to the bidder as per the payment schedule. Delay Charges will be calculated on per week basis.
- iv. The cumulative and aggregate limit of Delay Charges for delay in delivery and Delay Charges for delay in commissioning would be limited to maximum of 5% of the total Bid Value. The aggregate liability of the selected Bidder shall in no event exceed the total Bid Value under this Contract.
- v. Delay charges shall also be applicable for delay in Comprehensive Warranty (CMC) during the warranty period i.e. 36 months from the date of successful commissioning. For every week's delay, 0.5% (Half percent) of order value (excluding taxes) will be charged for the specified CMC schedule mentioned in the **Section-III** (Point No.6), subject to a maximum of **5%** of the value of the contract.

20. Client's right to accept any Bid, and to reject any or all Bid/s

The Client reserves the right to accept or reject any Bid, and to annul or amend the bidding / selection / evaluation process and reject all Bids at any time prior to award of contract award, without assigning any reason there of and thereby incurring any liability to the bidders. Misrepresentation/improper response/ by the bidder may lead to the disqualification of the bid. If such disqualification/rejection occurs after the Bids have been opened and the highest-ranking bidder gets disqualified/rejected, then the client reserves the right to consider the next best bidder, or take any other measure as may be deemed fit in the sole discretion of the Client, including annulment of the selection Process.

21. Number of Bids:

Each Bidder shall submit only one (1) Bid, in response to this RFP. Any Bidder who submits or participates in more than one Bid shall be disqualified. The Bidder shall be responsible for all costs associated with the preparation of its Bid and its participation in the bidding process.

22. Amendment of the RFP Document:

At any time before submission of proposals, the Client may amend the RFP by issuing an addendum through Department website. Any such addendum will be binding on all the bidders. To give bidders reasonable time in which to take an addendum into account in preparing their proposals, the Client may, at its discretion, extend the deadline for the submission of the proposals.

23. Confidentiality:

Information relating to evaluation of proposals and recommendations concerning awards shall not be disclosed to the bidders who submitted the proposals or to other persons not officially concerned with the process, until the publication of the award of contract. The undue use by any Consultant of confidential information related to the process may result in rejection of its proposal and may be subject to the provisions of the Client's antifraud and corruption policy. During the execution of the assignment except with prior written consent of the Client, the consultant or its personnel shall not at any time communicate to any person or entity any confidential information acquired in the course of the contract.

24. Settlement of Dispute:

The Client and the Bidder shall make every effort to resolve amicably, by direct negotiation, any disagreement or dispute arising between them under or arising from or in connection with the contract. All claims and disputes arising under or relating to this Agreement are to be settled by binding arbitration in the state of Odisha. An award of arbitration may be confirmed in a court of competent jurisdiction. Arbitration shall be as per Indian Arbitration Act, 1996.

Disputes not so resolved amicably within 30 days of receipt of notice of such as a dispute shall be resolved by Commissioner –cum-Secretary to Government, SD&TE Department, Government of Odisha which is binding and final.

25. Disqualification of Proposal:

The proposal is liable to be disqualified in the following cases as listed below:

- Proposal submitted without Bid Processing Fee & EMD as applicable
- Proposal not submitted in accordance with the procedure and formats as prescribed in the RFP
- During validity of the proposal, or its extended period, if any, the bidder increases his quoted prices
- Proposal is received in incomplete form
- Proposal is received after due date and time for submission of bid
- Proposal is not accompanied by all the requisite documents / information
- A commercial bid submitted with assumptions or conditions
- Bids with any conditional technical and financial offer
- If the bidder provides any assumptions in the financial proposal or qualifies the commercial proposal with its own conditions, such proposals will be rejected even if the commercial value of such proposals is the lowest / best value
- Proposal is not properly sealed or signed
- Proposal is not conforming to the requirement of the scope of the work of the assignment.
- Bidder tries to influence the proposal evaluation process by unlawful/corrupt/fraudulent means at any point of time during the bid process
- If, any of the bid documents (including but not limited to the hard and soft/electronic copies of the same, presentations during evaluation, clarifications provided by the bidder), excluding the commercial bid, submitted by the bidder is found to contain any information on price, pricing policy, pricing mechanism or any information indicative of the commercial aspects of the bid;
- Bidders or any person acting on its behalf indulges in corrupt and fraudulent practices
- Any other condition / situation which holds the paramount interest of the Client during the overall section process.

26. Fraud and Corrupt Practices

The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Bidding Process. Notwithstanding anything to the contrary contained herein, Director, DTE&T may reject a Bid without being liable in any manner whatsoever to the Bidder, if it determines that the Bidder, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bidding Process. In such an event, Director, DTE&T shall be entitled to forfeit and appropriate the Bid Security or Performance Security, as the case may be, as Damages, without prejudice to any other right or remedy that may be available to Director, DTE&T under the Bidding Documents and/ or the Agreement, or otherwise.

Without prejudice to the rights of the Director, DTE&T herein above and the rights and remedies which Director, DTE&T may have under the RFP, or otherwise if a Bidder is found to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Bidding Process such Bidder, at the sole and absolute discretion of Director, DTE&T, shall not be eligible to participate in any tender or RFP issued by Director, DTE&T during a period of 2 (two) years from the date such Bidder, is found to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practices, as the case may be. The following terms shall have the meaning hereinafter respectively assigned to them.

5. SECTION III: Terms of Reference (ToR)

“RFP for establishment of CoE in Refrigeration and Air Conditioning at Govt. ITI Rourkela”.

I. Introduction:

The Directorate of Technical Education and Training, Odisha, having its principal office at Killa Maidan, Buxi Bazaar, Cuttack-753001 (herein after referred to as the “DTE&T” which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and permitted assigns), looks after technical education at Technical Institutes/Colleges, Diploma and formal CTS training at ITI level. It also provides Dual System Training, On-the-Job Training, Apprenticeship Training in order to prepare the Youth suitable for gainful wage and self-employment through Nano Unicorn Project of OSDA for a decent livelihood.

The goal of the DTE&T is to impart quality skill development training to build a knowledgeable workforce to cater to the demand of the labour market. Additionally, generation of such industry- ready manpower would ensure India’s competitiveness in the global market.

DTE&T invites proposals from the leading OEM/Authorised Channel Partner/Authorised Technology Partner of OEM having experience of setting-up Centre of Excellences (CoEs) in similar sectors or supply, installation and commissioning of the similar advanced lab equipment.

The project will support the Directorate of Technical Education & Training, Odisha, (herein after called “DTE&T”) in training youth in the age group of 18–34 to increase their skills, employability, and income. The project aims to produce appropriately qualified and multi-skilled workers with excellent employment and career prospectus which meet the needs of the economy. The project will benefit youth, women, and disadvantaged groups.

II. Objective:

The objective of this RFP is to give momentum to skill driven employability initiatives in the State. DTE&T intends to empanel its existing institutes as Centres of Excellence” (“CoE”) and invites bidders to establish CoE and provide knowledge, soft-skill as well as technical-skill driven training in the identified industry sectors to the youth of the State in adherence with National Skills Qualifications Framework (“NSQF”) notified by the Government of India Vide Office Memorandum F.No. 30003/04/2016/NSDA/684 dated 24.04.2018.

This CoE should bridge the skill gap of students vis-à-vis industry needs and impart state-of-the-art industry-oriented training to help foster significant innovation and learning in technical education. The center is aimed at Industry connected skill development programs and hence the hand-holding training by the selected OEM/Technology Partner for minimum 3 years, will be the part of the Memorandum of Agreement (MoA).

This center should be on Build, Operate and Transfer Mode. All the Hardware should be of industrial standards. The software should not be restricted to educational limits. Should be provided with industrial features allowing DTE&T to offer Industrial consultancy apart from the skill development.

DTE&T shall provide the lab infrastructure with required space with electrical power supply, water supply (if required), furniture and other pre-requisite amenities before supply of equipment. The role of the successful bidder shall be to design and set up the CoE on turnkey basis. (including complete setup of CoE, supply and installation of equipment/machineries, commissioning & maintenance, and provide hand-holding support for minimum 3 (three) years. The selected bidder will be responsible for Comprehensive Annual Maintenance (CAMC) for 36 months, and provide operational training (as per the requirement) to the nominated staff from the consignee institutes.

III. Scope of the Project

The mission of establishing Centre of Excellences are to promote advancement and implementation of automation concepts through Skill Development of students in state of Odisha along with self-sustainability of the institute through technology support services to the industries.

The CoE, to be designed by the Technology Partner (TP), is envisioned to be setup as a State of the Art Centre of Excellences (CoE) in which the TP brings in their best-in-class equipment/ tools/ machines/ software (commonly referred to as equipment) to be used for training purposes. The COE will be located in an appropriate space offered by the DTE&T. This CoE will be managed professionally by the Technology Partner. The infrastructure for the CoE will be made ready by Technology partner as per the proposed design by them and the specifications finalized and provided by DTE&T Odisha.

This CoE will run under the overall operational management of the CoE Management Committee. The CoE Management Committee, under the Guidance of the DTE&T Odisha, will be responsible for devising and implementing a three-year rolling plan and ensuring that the CoE is constantly upgraded and provides a high technology ecosystem for skilling/ up- skilling/ re-skilling/ cross-skilling and multi-skilling. The Technology Partner, under the Guidance of the CoE Management Committee, will be expected to assist the DTE&T Odisha to mobilize students from other Private Technical Training Institutes/employees from the relevant industries for skilling, upskilling or re-skilling training, which will help to generate internal revenues (IRG) at the CoE, and can help in the sustainability of this CoE.

Overall monitoring, administrative, quality and financial responsibilities including the management of this CoE, management of hostels etc. will be the responsibility of the DTE&T. But, marketing, branding, development of training course content, training plan, deployment of technical experts to provide training, assessments, award certificates to the successful trainees/trainers, provide placement to the successfully certified trainees etc. will be the responsibilities of the Technology Partner.

A- Scope of DTE&T (the Buyer/Client):

The scope of work of the DTE&T inter alia states that;

- I. DTE&T shall provide required space in the lab along with design/layout of the labs within the premises of the Govt. ITIs and Polytechnics/Engineering Schools.
- II. Facilitate additional space (covered area) if required upon availability at the institute premises at free of cost.
- III. Provide basic amenities like approach road and water supply (if required) nearest to the lab for running the machinery/equipment. Three phase electrical connection at nearest distribution/panel board will be provided at the designated labs by the consignee institutes.
- IV. Required space, furniture, air conditioners (if required) etc. will be provided by DTE&T Odisha.
- V. Conduct Pre-Delivery Inspection of sample equipment through Physical mode by its own technical experts or 3rd party agency/consultants/advisors appointed by DTE&T before the proposed equipment dispatch by the selected bidder and Post Delivery Inspection of all equipment by its own technical experts or by an independent agency appointed by DTE&T at any point of time. The operational expenses like testing the machines/equipment will be borne by the supplier.
- VI. Provide the requisite hostel facilities for the students/trainees to be trained from other Govt. ITIs/Polytechnics within the existing infrastructure of the institute.
- VII. CoE, may train the passed-out trainees for nearby private ITIs & Polytechnics as a value addition course, on the fees as fixed by CoE Management Committee. CoE can generate revenue through fees deposited by the admitted trainees and provide skilling, upskilling/re-skilling training to the trainees from other private institutes.
- VIII. CoE may train the semi-skilled technicians of nearby industries on payment, as fixed by CoE Management Committee.

IX. DTE&T Odisha and the consignee institutes will be responsible to monitor the performance of the Selected Bidders and progress of the work.

B- Scope of the Successful Bidder:

1. The CoE, to be designed by the OEM/Technology Partner, is envisioned to be setup as a State of the Art Centre of Excellence (CoE) in which the selected company brings in their best-in-class equipment/ tools/ machines/ software (commonly referred to as equipment) to be used for training purpose.
2. Supply, installation and commissioning of all machines/equipment in compliance to the minimum specifications mentioned in **Section-III (Clause –VI)** (of the RFP, will be done by the Selected Bidders to setup the CoE at the consignee institutes.
3. Complete lab infrastructure readiness including necessary civil works for installation and commissioning of the equipment, electrical connections from nearest distribution panel board to the machines, plumbing (if required) and other works to setup the CoE and installation of the equipment/machines at this CoE, falls within the ambit of scope of work of selected bidder.
4. All necessary works including minor civil (i.e. earthing/grounding of the machines), electrical (i.e. all type of cables connections, circuit breakers etc. required for connecting power supply point to machine), plumbing and other works for the installation & commissioning of the equipment/machines at the designated labs, falls within the ambit of scope of work of selected bidder.
5. Required Room/space, Furniture, Air Conditioners, Water Supply etc. will be provided by DTE&T Odisha but Selected Bidder is expected to supply all other installation accessories, facilities and services required for successful installation and smooth operation of the equipment. Bidders may conduct the site survey before installation at no additional cost.
6. Any accessories that must be needed for operation of the equipment but not mentioned in the specification shall also be quoted by the selected bidder.
7. Suitable and essential tool kit is to be supplied by the selected bidder with the equipment for the required maintenance.
8. The equipment/machines should be installed and commissioned at site. Site requirement along with the layout drawing for installation of equipment, electrical & water supply if any from main/nearest sources shall be provided by the selected bidder upon issuance of Letter of Award of Contract (LoA).
9. The bidder shall not charge extra for additional items including fuel & lubricants, Gas Cylinders (if required), raw materials, consumables etc. required to meet the operational requirement during installation, commissioning and hand-holding training at consignee institutes.
10. Arrangement of Fire safety equipment like Carbon Dioxide or Dry Chemical Fire Extinguishers or any superior fire safety equipment with sensors.
11. Provide necessary safety & training posters for the CoE. Branding and Marketing of these CoE, along with the Digital Hoarding Board and banner at each CoE.
12. The selected bidder shall provide comprehensive warranty of supplied machineries/equipment for 36 months from the date of successful commissioning. The warranty does not include tools & tackles, consumables, PPE etc (if any).
13. The selected bidder must sign an agreement for Comprehensive Annual Maintenance Contract (CAMC) with DTE&T Odisha for 03 (three) years for the all equipment/machines of the CoE. This CAMC contract must be signed 02 (two) months before expiry of the comprehensive warranty period i.e. 36 months. A performance security @5% of the Annual awarded Value of Comprehensive Annual Maintenance Cost (CAMC) (without tax) for the respective year must be submitted by the selected bidder and the same will be initially valid for fifteen months and may be extended further, if necessary.

14. Handholding for 36 months from the date of successful commissioning. Handholding should include the following but not limited to
- I. The OEM/Technology Partner shall identify and formulate training programs to develop skills in futuristic/ disruptive technologies and associated skill sets required for industry ready.
 - II. To develop courses, course content, course work, manuals, standard operating procedures and standards, disseminate the same with the overall intent of improving the skill sets of individuals.
 - III. To impart high-end skills (and not generic skills) to Students, unemployed individuals and employed individuals (looking to up skill/ re-skill themselves).
 - IV. To conduct train the trainers program for 01 (one) month of each batch and train the trainees' programs for 03 (three) months of each batch with a batch size of 20 students/trainees. Maximum 04 (four) batches of trainees may be trained in a year.
 - V. To conduct need based/ on-request training programs to cater to specialized requirements of corporate, and to generate revenues through these programs.
 - VI. To carry out assessment, certification of trainees as per the NSQF/NCVT prescribed guidelines.
 - VII. Preparation of Training Modules for Train the Trainers and Trainees. Advanced skill training curriculum with minimum equivalent to NSQF level 5 or 6, in addition as per the demand of the industries should be included.
 - VIII. Select appropriate courses; design the course structure, curriculum and pedagogy based on industry demand. Selected bidder shall identify and formulate training programs to develop skills in futuristic/disruptive technologies and associated skill sets required for industry ready.
 - IX. The OEM/Technology Partner shall design courses, curriculum, and pedagogy based on industry demand for placing before the CoE Management Committee constituted by DTE&T and shall comply with the recommendations of CoE Management Committee and the same should be incorporated in the curriculum prior to the course commencement.
 - X. Conduct training that meets industry standards by engaging appropriate faculties (qualified & experienced), facilities and technology like virtual classroom. **The agency must provide at least two (02) Qualified and Experienced Faculties for each CoE with minimum Graduate Engineer and minimum 5 years of industry experience in relevant field. Hand-holding training (Skilling/Up-Skilling/Re-Skilling) to be given for minimum 03 (three) years to the Trainers and Trainees from Govt. & Private ITIs/Polytechnics or Employees from nearby industries etc.**
 - XI. Providing Soft Copies or Hard Copies of Training materials for at least 01 (one) batch with minimum 20 trainees during hand-holding training of the Trainers and Trainees.
 - XII. The company has to ensure that the assessment is completed as per the standards in a fixed time frame and shall issue joint certificate to the passed-out students with the help from Principal of designated institute or any valid certificate from international bodies.
 - XIII. The selected bidder shall furnish the proposal with details of courses, course content, course, work, manuals, pedagogy, standard operating procedures and standards, disseminate the same with the overall intent of improving the skill sets of individuals.
 - XIV. Provide necessary Raw Materials & Consumables (if any) during hand-holding period.
 - XV. Selected OEM/Technology Partner shall provide Placement Support to the successfully trained and certified students. Placement opportunities to be given at least 50% of the successfully trained/certified trainees within maximum 01 (one) Year from their

successfully certification. Overall Placement Assistance to be given for 03 (three) Years from the start date of hand-holding training.

C- Specifications of Civil & Electrical Works:

Design of CoE including interior design with fire retardant, plastic coating painting, design of shop floor/labs with anti-skid, electrical insulating, fire retardant with epoxy flooring (with minimum 3mm thickness), required electrical, civil and plumbing works and furnishing of the labs etc. Selected Bidder shall mutually finalize the design and drawing of the labs and specifications of the Civil and other works with DTE&T Odisha. DTE&T Odisha will monitor the entire CoE setup centrally.

D- Pre-Delivery Inspection and Post-Delivery Inspection of all equipment:

DTE&T may conduct a Pre-Delivery inspection of all equipment/sample equipment through Physical mode by its own technical experts or 3rd party agency/consultants/advisors appointed by DTE&T before the dispatch of the proposed equipment by the selected bidder at the supplier's premises or at the manufacturer's factory site. The operational charges i.e. testing charges for samples, raw material, consumables (if any) etc. shall be borne by the supplier. But, other expenses like travelling, boarding and lodging of the technical experts, will be borne by the Authority.

All tests and inspections of all equipment during Post-Delivery Inspection shall be made at the place of delivery. Officers authorized by DTE&T shall be entitled at all reasonable time to inspect and supervise and test during installation and commissioning. Such inspection will not relieve the selected Bidder of their obligation in the contract.

If the OEM/Technology Partner fails to comply with any of the quality, technical specification or clause mentioned in the RFP, and then the Contract will be terminated by DTE&T Odisha.

E- Management of CoEs:

I. The CoE Management Committee will be consisting of representatives from selected bidder company, DTE&T, representatives from industries, DSDE officer, and Principal of the institute as member convener.

II. DTE&T Odisha shall be sole authority to oversee all the training and administrative activities in the best interest of the State of Odisha.

III. Company/firm shall support placement of trainees with the help of the particular Industry of each skill.

IV. CoE Management Committee will be constituted by DTE&T for the overall guidance and the role of the committee will generally be limited to:

a) Review the periodic updating of syllabus, curriculum and course content ii). Review adequacy of courses offered viz - a - viz industry demand and suggest addition/ modification or discontinuation of courses and fixation of fees.

b) Periodic performance and placement evaluation against pre - defined milestones detailed under RFP document to be published.

c) Review, and if necessary, engage third party to evaluate the quality of equipment and training.

d) It will fix the eligibility criteria for admission/reservations etc. and mobilize students/industry employees from nearby cluster for admission.

IV. Special Terms and Conditions:

1. Manufacturer (OEM) / Authorized Channel Partner/ Authorized Technology Partner having valid manufacturing license of OEM/ authorization certificates from OEM are eligible to participate in this tender. OEM must provide necessary documentary evidence of being an Original Equipment Manufacturer of the related equipment. Bid specific authorisation must be submitted in case of participation by channel partner/technology partner of OEM.
2. OEM should be nationally / internationally reputed Company.
3. For Technology Partner/Channel Partner, an undertaking from the OEM is required stating that they would facilitate the Bidder on a regular basis with technology/product updates and extend support for the warranty as well.
4. In this tender, either the authorized channel partner/technology partner on behalf of the OEM or OEM itself can submit bid proposals, but both cannot submit bids simultaneously for the same CoE.
5. If authorized channel partner/technology partner submits bid on behalf of the OEM, the same authorized channel partner/technology partner shall not submit a bid on behalf of another OEM for the same CoE.
6. In a scenario, if both OEM and or its channel partner/authorized dealer participated in the bidding process, bids of both OEM & an authorized partner/dealer will be technically disqualified and EMD will be forfeited as per prevailing rules. The authorization from OEM should indicate bid reference number.
7. The supplier of the equipment must confirm in writing that the spares for the entire supplied equipment will be available for a period of at least five years after the model of equipment supplied has been phased out. For frequently required spares, there should be adequate inventory with the Indian agency.
8. The successful bidder is responsible for the supply, installation and maintenance of the equipment. Equipment documentation including user manuals and operation and troubleshooting guides to be provided.
9. Comprehensive Warranty period shall specifically be mentioned in the offer. The selected bidder must adhere to the warranty clause mentioned herein.
10. Selected Bidder must sign Comprehensive Annual Maintenance Contract (CAMC) with DTE&T Odisha for at least 03 (three) years for the equipment/machines mentioned here in this RFP.
11. Financial Proposal must be submitted as per the BoQ MS-Excl format along with formats shared in **FIN-1 & Annexure** (PDF file).
12. Bidders must submit Technical Specification Compliance sheet within their technical bid. The bidders must be kept in their mind that mere copying of our specifications in the technical specification compliance sheets, shall not make the technical bid eligible for consideration. A bid has to be supported with original catalogue of the quoted item/s duly signed by the authorized person participating in the bid. Non-compliance with the above conditions shall be treated as incomplete/ambiguous and the bid shall be rejected without giving an opportunity to the bidder for further clarification/negotiation etc.
13. The bidder must produce documentary evidence of past supply experience of the offered make & model of the major equipment/machineries to any Govt./Private organization/industry.

14. Details of foundation drawing for instruments and equipment, if any, should be provided.
15. The Bidder shall quote their lowest possible price, and prices quoted by the Bidder shall be “fixed” during the Bidder’s performance of the contract and not subject to any variation and/or escalation.
16. Bidder must quote **Cost of the Project**, which shall indicate clearly the including all taxes and charges towards packing, forwarding, handling, insurance, comprehensive warranty for 36 months, freight, incidental service, civil, electrical and other works, (if any), installation & commissioning of the goods and training to the consignee’s personnel at site and **Cost of Comprehensive Annual Maintenance Cost (CAMC) in FIN-1**, indicating the total cost of Comprehensive Annual Maintenance Cost for the equipment/machines offered for the CoE’ for 03 Years and applicable after the expiry of comprehensive warranty of 36 months. The price shall be quoted in Indian Rupees only.
17. The cost of standard accessories shall be included in basic price and optional accessories shall have to be quoted separately.
18. Any component, fitting etc. which may not have been specifically mentioned in the specifications but which are usual and necessary for the equipment, shall be supplied by the bidder at no extra cost.
19. In case of items of import, the bidder should take full responsibility for customs clearance, handling, tax payment, etc. and same should be inclusive in the financial bid.
20. DTE&T Odisha shall sign a **Comprehensive Annual Maintenance Contract (CAMC)** for 03 (three) years (which may be extended further as per the requirement of DTE&T Odisha) for the equipment/machines mentioned in ‘**Point No. 6**’ of the RFP, with the Selected Bidder beyond the warranty period of 36 months and shall be as per the terms and conditions mentioned in Annexure-XV. Year wise cost of such maintenance contract (CAMC) shall be quoted.
21. Higher technical specifications may be considered subject to competitive price offer.
22. DTE&T Odisha reserves the right to accept, split, divide, negotiate, cancel or reject any bid or to annul and reject all bids at any time prior to the award of the contract without incurring any liability to the affected bidders or any obligation to inform affected bidder, the grounds of such action.
23. Price bid should be submitted in the given BoQ MS-Excel format and price bid should have equipment wise breakup in **FIN-1 & Annexure (PDF file)**.
24. Performance Security – A performance security in the form of Bank Guarantee/e-Bank Guarantee for 5% of the Awarded Value (excluding taxes) to be submitted within 15 days of issuance of the Letter of Award (LoA). The Bank Guarantee will be valid initially for **44** months and may be extended further if required. The performance guarantee will be released by DTE&T, Odisha and returned to the Selected Bidder after 60 days of completion of warranty period subject to fulfillment of all obligations on recommendation of respective Principal of the institutes.

V. Comprehensive Warranty (36 Months) Clause:

The final selected bidder must provide Comprehensive Warranty Maintenance Services for all supplied equipment/machines (except consumables, PPE and tools & tackles) at the CoE for 36 months from the date of successful installation & commissioning. The scope of the bidders is as below.

- i. Maintenance Services shall consist of Preventive and Corrective maintenance of equipment specified in **Point No. 6** (excluding consumables, PPE and tools & tackles) & will include repair and replacement of parts free of cost.
- ii. Preventive maintenance, half-yearly once, which includes:
 - i. Check-up to ensure that device connection is proper; cabling is at proper condition etc.
 - ii. Cleaning of the above instruments & equipments and checking the System Performance.
- iii. The selected bidder must conduct preventive maintenance services at least twice (2 times) in a year at the CoE.
- iv. The parts replaced must be new parts or equivalent in performance to new parts.
- v. Any complaint informed through telephone/email must be acknowledged with a Complaint No. by the Supplier which will be noted by Consignee. All further contact with the Supplier on such complaint will be initiated through that Complaint No. Once rectification done, that No. will be cancelled by both parties. A register is to be maintained by the Supplier where complaints are to be noted along with Complaint No.
- vi. The maintenance shall be attended by the service engineer within **3 days** of intimation to the Bidder.
- vii. The Service Engineer of the Supplier will be allowed to handle the respective plant & machineries only in the presence of the officer in charge at the institute site.
- viii. The selected bidder should ensure that maintenance job is not hampered/ delayed due to paucity of spares/inadequate manpower etc.
- ix. Minor repair to be done within **3 days** of complaint registered and for major breakdown or replacement of parts must be completed by 15 days from the complaint registered to supplier. For imported parts, the replacement should be done within 4 weeks maximum.

VI. Comprehensive Annual Maintenance Contract (CAMC):

- i. The Selected Bidder shall be under the obligation of entering into a Comprehensive Annual Maintenance Contract (CAMC) with DTE&T Odisha for a minimum period of 03 (three) years, renewable if felt necessary, on mutually acceptable rates, terms, and conditions mentioned herein. CAMC shall start after the completion of Warranty.
- ii. The scope of CAMC shall cover maintenance and supply/replacement of materials and components, for smooth and reliable operation of the systems without trouble.
- iii. Accordingly, the Bidders has to offer CAMC charges for the CoE in the Price Bid (in BoQ MS-Excel format) and in the **FIN-1**.
- iv. Selected agency must sign the Comprehensive Annual Maintenance Contract (CAMC) with DTE&T Odisha for 03 (three) years for the equipment/machines supplied at the CoE (except tools, tackles, raw materials, PPE etc.). This CAMC contract must be signed before expiry of the comprehensive warranty period i.e. 36 months. A performance security @5% of the Annual cost of CAMC (excluding Taxes) in the form of Bank Guarantee/Fixed Deposit Receipt/Term Deposit Receipt, must be submitted by the selected Agency before signing the CAMC contract for the respective lot and which will be initially valid for 15 months and may be extended further if necessary.
- v. The Performance security towards CAMC for the particular year shall be returned only after submission and confirmation of BG/TDR/FD/DD of subsequent years.

6. List of equipment/machines and their Technical Specifications /Compliance Statement:

SL No	NAME OF EQUIPMENT	REQUIRED QUANTITY
1	Inverter Air Condition Training kit with simulator.	1 SET
2	Hermetic Compressor Performance Tester	1 SET
3	Deep Freezer Operation & Servicing Trainer	1 SET
4	Frost Free Fridge Operation & Servicing Trainer	1 SET
5	Refrigerant Recovery Unit with Storage Cylinders	1 SET
6	Heat Exchanger Temperature Control Trainer	1 SET
7	Water Cooling Tower Trainer	1 SET
8	Frozen Confection Processing Laboratory Trainer	1 SET
9	Passenger Vehicle Air Conditioning Training Rig(LMV)	1 SET
10	Heavy Vehicle Air Conditioning Control Training System	1 SET
11	Combined Refrigeration Installation Training System	1 SET
12	Variable Refrigerant Volume Climate Control Training Rig	1 SET
13	Low-Temperature Storage Management Training Module	1 SET
14	Integrated HVAC Training System with Duct, Heating, and Control Components– Commercial	1 SET
15	Integrated HVAC Training System with Duct, Heating, and Control Components– Residential	1 SET
16	Multi meter digital type	2 NOS.
17	Pressure gauge Digital type	2 NOS.
18	Electronic Halogen Refrigerant Leak Detector	2 NOS.
19	Advanced Electronic Leak Detector	2 NOS.
20	Smart Digital Weighing System with Mobile Interface	2 NOS.
21	Two-Stage Rotary Vacuum Pump with Wireless Control and Monitoring	1 SET

SL No	LIST OF TOOLS	Qty.
1	Tube Cutter with reamer 3mm to 32mm	5 Sets
2	Pinch off pliers 6mm to 18 mm DA	5 Sets
3	Hacksaw frame with blade	5 Sets
4	Combination Pliers 200mm length	5 Sets
5	Double ended spanner set 6 to 32 mm	5 Sets
6	Measuring Tape 3m	5 Nos
7	Electric hand drill machines capacity 6.4mm	5 Nos
8	Reamers 3mm to 16mm	5 Sets
9	Tachometer	5 Nos
10	Clamp on meter 0-10-30amp 0-500V	5 Nos
11	Work Tables (4'x6')	5 Nos
12	Flaring tools 4.7mm to 16mm OD Universal type	5 Sets
13	Tube benders (lever type/spring type) 3-16mm	5 Nos
14	File smooth flat : 150 mm	5 Nos
15	File Triangular type:150 mm	5 Nos
16	Punches (Hollow, Centre & Number Punch) length 100mm, 4.7 to 16mm DIA	5 Nos
17	Spanners Set (mm&Inch) 16 mm to 32mm	5 Sets
18	Adjustable screw wrench (8" &12")	5 Nos
19	Refrigerant cylinder up to 10kgs	5 Nos
20	Wire Brushes (Brass)	5 Nos
21	Ratchet wrench 6.4 sq.mm reversible	5 Nos
22	Gas welding set with complete accessories like pressure regulator, oxygen and acetylene hose pipe, trolley to hold both oxygen and acetylene cylinder. Nozzle set of various diameter.	2 Nos
23	Thermometers (digital & Dial type) -30 °c to +40 °c	5 Nos
24	1000 Volt magger Insulators	5 Nos
25	Testing & Charging gauge manifold set	5 Sets
26	Humidity meter digital	5 Nos
27	Air velocity meter (Digital type)	5 Nos
28	Swagging tools 4.7 mm to 16 mm OD	5 Sets
29	Hammer set 220 gm	5 Sets
30	Screw drivers set (Philips Made)	5 Sets
31	Socket set (inch& mm)	5 Sets
32	Allen Key Set 1.5mm to 6.4 mm (L & Ttype)	5 Nos
33	Fin comb set for Aluminium fins	5 Nos
34	Spirit Level	5 Nos
35	Micron vacuum gauge up to 30 microns	5 Nos
36	Decibel meter 30 to 100 DB	5 Nos
37	Nitrogen cylinder set	5 Nos
38	Capillary tube cutter	5 Nos
39	Long nose pliers 200 mm	5 Nos
40	Digital weighing Machine 100kg	2 Nos
41	Hand electric blower heavy duty	2 Nos
42	Flat nose plier 150 mm	5 Nos

Technical Specifications of Training Stands

SL No	NAME OF EQUIPMENT	SPECIFICATIONS	BIDDER'S COMPLIANCE
1	Inverter Air Condition Training kit with simulator.	<p>1. General Description The Inverter Air Conditioner Training Kit with Simulator shall be a fully functional educational trainer designed to demonstrate, test, and simulate common faults of an inverter-type split air conditioning system. It shall enable trainees to understand the working principles, performance characteristics, and fault diagnosis of inverter-controlled systems through both practical operation and simulation-based experiments. The system shall be suitable for use in HVAC, Mechatronics, or Refrigeration and Air Conditioning laboratories of engineering, polytechnic, and vocational institutions.</p> <p>2. Constructional Features</p> <p>1. Frame & Structure: - Mounted on a mobile rigid frame made of anodized aluminum extrusion profile with lockable castor wheels. - Transparent Plexiglas/Acrylic panels for component visibility and safety. - All components shall be easily accessible for testing, observation, and maintenance.</p> <p>2. System Type: - Split type inverter air conditioning system, consisting of Indoor Unit (IDU), Outdoor Unit (ODU), refrigerant piping, and simulation control panel.</p> <p>3. Power Supply: - 230V ±10%, 50 Hz, Single Phase AC. - Protected by MCB, ELCB, and emergency stop button.</p> <p>3. Main Components</p> <p>A. Indoor Unit (IDU): - Equipped with inverter-compatible PCB, evaporator coil, electronic expansion valve, and blower fan. - Integrated sensors: Room temperature sensor, Coil temperature sensor, Remote receiver sensor. - Drain pipe and filter assembly included.</p> <p>B. Outdoor Unit (ODU): - Variable speed rotary/scroll inverter compressor. - Condenser coil with axial flow fan. - Sensors: Discharge sensor, ambient sensor, and liquid line sensor. - Electrical and electronic control circuits for compressor drive and communication with indoor unit.</p>	

C. Refrigerant Piping & Instrumentation:

- Copper refrigerant pipes with insulation.
- Colour-coded gas pipes: Red for discharge line and Blue for suction line.
- Two moisture indicators for refrigerant condition monitoring.
- Service valves and charging points provided.
- Pressure gauges for high and low sides.
- Minimum seven testing points for measurement of pressures, temperatures, voltages, and sensor signals.

4. Fault Simulation and Testing

The trainer shall include a simulation module to create and demonstrate at least 11 major defects for diagnostic training. Each simulated fault shall be selectable and resettable through switches or a digital control panel.

Simulated Faults (Minimum 11):

1. No cooling condition
2. Indoor room sensor open
3. Indoor coil sensor open
4. Indoor blower not working
5. Outdoor fan not working
6. Communication wire open/no signal
7. Outdoor ambient sensor open
8. Outdoor discharge sensor open
9. Outdoor liquid sensor open
10. Remote sensor faulty
11. Moisture indicator showing contaminated refrigerant

Each fault shall be displayed through indicator lamps and reflected in the system's behavior for real-time troubleshooting.

5. Measurement and Indicators

- Pressure Indicators: High and Low pressure gauges.
- Temperature Sensors at suction, discharge, and coil points.
- Electrical Meters: Voltmeter, ammeter, wattmeter/power analyzer.
- LED indicators for power, compressor ON/OFF, fan status, and fault conditions.
- Testing terminals provided for multimeter or probes.

6. Educational and Operational Features

The trainer shall enable learners to:

- Understand the working principle of inverter-type air conditioning systems.
- Study inverter compressor speed variation with load

changes.

- Observe sensor feedback and PCB-controlled modulation.
- Perform fault diagnosis and troubleshooting using the simulator.
- Identify real-time system behavior under simulated fault conditions.
- Measure COP, power consumption, and temperature-pressure relationships.

Includes detailed training manual with circuit diagrams, fault tables, and exercises. List of at least 10 laboratory experiments provided.

7. Technical Data (Typical)

Parameter	Specification
Type	Split Inverter Air Conditioning Trainer with Simulation
Cooling Capacity	1.5 TR (approx.)
Compressor	Variable speed rotary/scroll inverter type
Refrigerant	R-32 / R-410A (eco-friendly)
Indoor Unit	Wall-mounted type
Outdoor Unit	Air-cooled type
Sensors	Temperature, pressure, ambient, discharge, liquid line
Simulation Faults	Minimum 11 selectable faults
Testing Points	Minimum 7 accessible points
Indicators	Pressure, fault, and operation indicators
Power Supply	230V AC $\pm 10\%$, 50 Hz
Safety	MCB, ELCB, emergency stop button
Frame	Aluminum profile, mobile with locking wheels

8. Safety Features

- Transparent guards over rotating and electrical parts.
- Overcurrent, overload, and short-circuit protection.
- Proper earthing and insulation.
- Emergency stop switch on control panel.

2 **Hermetic Compressor Performance Tester**



Hermetic Compressor Performance Tester Fixed with electrical input/ output indicating facilities: -

1. Testing of pressure.
2. Testing of efficiency.
3. Testing of current and Voltage

Following components will be fitted in compressor tester:

• **Digital Voltmeter**

Display	3-Digit, 7-Seg 0.56",red LED Display
Dimension (mm)	96 (H) x 96 (W) x 41 (D)
Panel Cutout (mm)	92 (H) x 92 (W)
Input Voltage	10 to 500V AC
Accuracy	Class 0.5
Power Supply	230V AC, 50 Hz
Network Selection	1Ø - 2Wire
Protection Level (As per request)	IP-65(Front side) AS per IS/IEC 60529:2001
Relative Humidity	0° To 55°C
Operating Temperature	Upto 95% RH Non Condensing

• **Digital Amp meter**

Display	4-Digit, 7-Seg 0.56", Red LED Display
Dimension (mm)	96 (H) X 96 (W) X 43 (D)
Panel Cutout (mm)	92 (H) x 92 (W)
Input Current	Primary: 5 to 20A Selectable
Accuracy	Class 0.5
Power Supply	230V AC, 50 Hz
Protection Level (As per request)	IP-65(Front side) AS per IS/IEC 60529:2001
Relative Humidity	0° To 55°C
Operating Temperature	Upto 95% RH Non Condensing

Suction and Discharge Guage

- Time delay relay

Time Delay: The relay provides a time delay before activating the output.

Adjustable Time Delay: The time delay can be adjusted from 6 to 60 minutes.

Potential Free Contacts: The relay has potential-free contacts that can be used to control various types of loads.

Clear Indication: The relay has clear indication lights that indicate the status of the relay and the power supply.

Compact Design: The relay has a compact and space-saving design that is suitable for panel mounting.

Technical Features:

- Type: Timer on delay relay
- Supply Voltage: 230V AC

		<ul style="list-style-type: none"> • Time Delay: Adjustable from 6-60 minutes • Contacts: NO (Normally Open) and NC (Normally Closed) • Mounting: DIN rail or wall mountable • Color: Grey enclosure with green and black terminals • Dimmer state • LP HP cut out <p>The pressure control system is designed to operate on both the low and high sides with defined ranges and differentials. On the low-pressure side, the operating range extends from -0.2 bar to 7.5 bar, with an adjustable differential between 0.7 bar and 4 bar. On the high-pressure side, the operating range is from 8 bar to 32 bar, with a fixed differential of 4 bar. This configuration ensures reliable monitoring and control of system pressures across both sides.</p> <ul style="list-style-type: none"> • Solenoid valve • M.S cylinder with gauge & Safety valve. • Main switch • Air purge valve • Three-point socket 15 Amp, 5 Amp <p>Charging lines and Gauge Manifold</p> <p>The device is designed to operate reliably within a temperature range of -20 to +50 °C and can be stored between -20 and +60 °C. It is powered by a built-in rechargeable lithium-ion battery (USB-C, LI 18650), with the option of using three replaceable AA alkaline batteries. With backlighting and BluetoothR enabled, the battery provides up to 70 hours of operation, and the unit automatically powers off after 10 minutes when not connected via BluetoothR. The compact design measures 229 × 112.5 × 71 mm, weighs 1.3 kg, and is built to IP54 protection standards. A capacitive touchscreen ensures ease of operation, while BluetoothR 5.0 technology offers a range of up to 150 m. Data logging is available as an optional in-app upgrade, supporting up to 72 hours of recording.</p> <p>In terms of sensor types, the pressure measurement range extends from -1 to 60 bar, with an accuracy of $\pm 0.25\%$ fs and a resolution of 0.01 bar. The unit can withstand an overload pressure of 65 bar and is equipped with probe connections comprising 3 × 7/16" UNF and 1 × 5/8" UNF fittings. For temperature measurement, the range is -50 to +150 °C, with an accuracy of ± 0.5 °C and a resolution of 0.1 °C, using two plug-in NTC probes.</p> <ul style="list-style-type: none"> • Temperature indicator • Test bulb • Tong tester • Main supply lead • Testing leads <p>The whole controls will be fixed on a Polycarbonate Board panel board and fixed on M.S.Stand.</p>	
--	--	--	--

<p>3</p>	<p>Deep Freezer Operation & Servicing Trainer</p> 	<p>Base Unit</p> <ul style="list-style-type: none"> • Hard Top Deep Freezer (Eco-Friendly Refrigerant R290) • Climate Class T • High Density PUF Insulation • CFC Free • Inbuilt Lock & Heavy-duty Castor Wheels <p>Instrumentation & Control</p> <p>1. Fault Insertion Panel</p> <ul style="list-style-type: none"> o Fault bank with minimum 6 toggle switch-based faults (e.g., thermostat open, compressor start failure, fan motor fault, overload trip, sensor disconnection, short circuit). o Manual fault insertion to test student troubleshooting skills. <p>An Operator Interface Terminal Panel to display the following live parameters</p> <p>The OIT module should feature a display with dimensions of 201 mm by 147.2 mm and an aspect ratio of 16:9. It must be CE certified and comply with at least FCC Class A standards for industrial environments. It must support live graphical plotting of these parameters with respect to time, allowing for visual monitoring and analysis.</p> <p>Additionally, the system should provide facilities to download all test data. It should also include a student performance tracking feature where each test can be tagged with a student's roll number, and their individual performance metrics can be stored and reviewed. Communication interfaces should include RS-485, RS-232, USB, and Ethernet, with support for protocols like Modbus RTU/TCP. Optional features may include user access control, parameter threshold alarms, multi-language support, and remote firmware updates.</p> <p>Electrical parameters</p> <ul style="list-style-type: none"> • Current • Voltage • Power consumption • Power (kW) <p>Refrigeration / Process parameters</p> <ul style="list-style-type: none"> • Suction temperature (°C) • Discharge temperature (°C) • Suction pressure (bar / kPa) • Discharge pressure (bar / kPa) <p>1. Pressure Measurement & Safety Devices</p> <ul style="list-style-type: none"> • High Pressure (HP) Gauge: <ul style="list-style-type: none"> o Dial size: minimum 70 mm diameter, clear scale marking. o Range: As per R290 refrigerant operating pressure o Casing: Stainless steel with anti-vibration o Connection: brass adaptor. • Low Pressure (LP) Gauge: <ul style="list-style-type: none"> o Dial size: minimum 70 mm diameter, clear scale marking. 	
----------	--	---	--

		<ul style="list-style-type: none"> o Range: As per R290 refrigerant operating pressure o Casing: Stainless steel with anti-vibration o Connection: brass adaptor. • HP Cut-out Switch (High Pressure Safety Control): o Suitable for R290 refrigerant working range. o Factory set to trip above maximum allowable discharge pressure. o Automatic reset type preferred. • LP Cut-out Switch (Low Pressure Safety Control): o Suitable for R290 refrigerant working range. o Factory set to trip below minimum allowable suction pressure. o Automatic reset type preferred. 2. Compressor Assembly • Compressor Type: o Hermetically sealed reciprocating/rotary compressor as supplied in the freezer unit (eco-friendly R290 refrigerant compatible). o Compressor capacity: As per freezer specification (factory matched). o Refrigerant compatibility: R290, oil-charged and factory tested. • Mounting on Test Panel: o Compressor shall be securely mounted on anti-vibration rubber dampers to reduce noise and vibration during demonstration. o The compressor, suction, and discharge lines shall be clearly identified and labelled for instructional use and should be painted in red, blue and yellow as per universal standards. o Protective shrouds or transparent acrylic covers shall be provided where moving or hot parts are exposed. 3. Frame & Supporting Structure • Material & Size: o Frame fabricated from Mild Steel (MS) rectangular hollow sections of size 50 mm × 25 mm × 1.2 mm wall thickness. • Finish: o All MS members to be degreased, treated for rust prevention, and powder-coated in standard lab-grade colors (grey/white/blue). • Rigidity & Durability: o Frame designed to withstand vibrations during compressor running without distortion. o Non-skid levelling legs/castor wheels to be provided for mobility and firm positioning. 4. Panel Board Construction • Front Panel Sheet: o Fabricated from Mild Steel sheet of minimum 1.2 mm thickness. o Surface finished with vinyl sticker labelling for all switches, meters, gauges, and safety warnings. o Covered with 2 mm transparent acrylic sheet to protect the vinyl labels and to ensure long-term durability. • Panel Layout: 	
--	--	--	--

		<p>o All meters, gauges, switches, and indicators shall be ergonomically arranged for ease of operation and learning.</p> <p>o Labels to be provided under each meter/switch with engraved or laminated tags or vinyl stickers</p> <p>5. Piping & Refrigeration Circuit</p> <p><input type="checkbox"/> Copper Tubing</p> <ul style="list-style-type: none"> • All refrigerant piping shall be made of seamless copper tube conforming to ASTM standards: o ASTM B280 – Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service (preferred). o Alternatively: ASTM B68 / B75 – for seamless copper tube drawn general purpose, annealed. • Tubes shall be degreased, dehydrated, and capped at ends to prevent contamination prior to installation. • Sizes: As per refrigeration circuit design of freezer (typ. 1/4", 3/8", 1/2", 5/8" OD). • Tolerance: As per ASTM dimensional standards. • Finish: Clean, smooth, free of dents, scales, or surface defects. <p><input type="checkbox"/> Pipe Bending & Routing</p> <ul style="list-style-type: none"> • Bends must be made using tube-bending tools only, ensuring no flattening or kinking. • Piping layout must be uniform, neat, and visible for instructional purposes. <p><input type="checkbox"/> Pipe Joints & Brazing</p> <ul style="list-style-type: none"> • All copper joints shall be brazed with silver brazing rods with appropriate flux. • Brazing work must ensure leak-proof joints that withstand the working pressure of R290 refrigerant. • Joints should be pressure-tested with dry nitrogen before commissioning and test report of Nitrogen Testing should be submitted at the time of PDI. <p><input type="checkbox"/> Pipe Insulation</p> <ul style="list-style-type: none"> • Insulation must be continuous and neatly finished, with joints properly sealed. <p><input type="checkbox"/> Service Valves & Ports</p> <ul style="list-style-type: none"> • Schrader/service ports shall be installed at suction and discharge lines. • Valves must be brass, refrigeration-duty, compatible with R290 refrigerant. • Service ports shall be easily accessible from the front of the trainer. <p>6. Safety & Wiring Protection</p> <ul style="list-style-type: none"> • Electrical Wiring: o All internal wiring shall be enclosed in PVC conduits/net guards for operator protection. o Wires shall be multi-stranded copper (wherever required) with adequate current-carrying capacity, properly ferruled and labelled. • Pipe Guarding: o A net guard / mesh cover shall be installed to protect refrigerant piping without obstructing visibility. • Operator Safety: 	
--	--	--	--

		<ul style="list-style-type: none"> o All live terminals and connections enclosed. o Emergency stop switch provided on front panel. o Clear safety stickers: High Voltage, High Pressure, Flammable Refrigerant (R290). 	
4	<p>Frost Free Fridge Operation & Servicing Trainer</p>	<p>Fridge Trainer Kit</p> <p>Base Unit</p> <p>Compressor: Hermetically sealed Capacity:492Btu/hr Displacement:8.1cc Capacitor:4/6 Micro Farad Power Source:230V 50Hz</p> <p>Condenser: Wire-mesh type, factory matched to compressor.</p> <p>Cooling Coil: Aluminium tube with fins, mounted in 8 mm PP/PC housing.</p> <p>Evaporator Fan Motor: Capacity matched to cooling coil.</p> <p>Refrigerant: R-600a (Isobutane), eco-friendly, CFC-free.</p> <p>Sight Glasses: Installed at liquid line, suction line, and evaporator inlet.</p> <p>Piping colour code: Red – Discharge, Blue – Suction, Yellow – Charging</p> <p>Fridge Model Body: Fabricated from MS powder-coated sheet, fitted with proper insulation and a handle to simulate the operation of a real frost-free refrigerator.</p> <p>Instrumentation & Control</p> <p>2. Fault Insertion Panel</p> <ul style="list-style-type: none"> o Fault bank with minimum 6 toggle switch-based faults (No cooling (Mech.), Defrost timer defective, PTC Relay, Bimetal sensor open, Thermal fuse open, cooling fan open, o Manual fault insertion to test student troubleshooting skills. <p>An Operator Interface Terminal Panel to display the following live parameters</p> <p>The OIT module should feature a display with dimensions of 201 mm by 147.2 mm and an aspect ratio of 16:9. It must be CE certified and comply with at least FCC Class A standards for industrial environments. It must support live graphical plotting of these parameters with respect to time, allowing for visual monitoring and analysis.</p> <p>Additionally, the system should provide facilities to download all test data . It should also include a student performance tracking feature where each test can be tagged with a student’s roll number, and their individual performance metrics can be stored and reviewed.</p> <p>Communication interfaces should include RS-485, RS-232, USB, and Ethernet, with support for protocols like Modbus RTU/TCP. Optional features may include user access control, parameter threshold alarms, multi-language support, and remote firmware updates.</p> <p>Electrical parameters</p> <ul style="list-style-type: none"> • Current 	

		<ul style="list-style-type: none"> • Voltage • Power consumption • Power (kW) <p>Refrigeration / Process parameters</p> <ul style="list-style-type: none"> • Suction temperature (°C) • Discharge temperature (°C) • Suction pressure (bar / kPa) • Discharge pressure (bar / kPa) <p>1. Pressure Measurement & Safety Devices</p> <ul style="list-style-type: none"> • High Pressure (HP) Gauge: <ul style="list-style-type: none"> o Dial size: minimum 70 mm diameter, clear scale marking. o Range: As per R-600a refrigerant operating pressure o Casing: Stainless steel with anti-vibration o Connection: brass adaptor. • Low Pressure (LP) Gauge: <ul style="list-style-type: none"> o Dial size: minimum 70 mm diameter, clear scale marking. o Range: As per R-600a refrigerant operating pressure o Casing: Stainless steel with anti-vibration o Connection: brass adaptor. • HP Cut-out Switch (High Pressure Safety Control): <ul style="list-style-type: none"> o Suitable for R-600a refrigerant working range. o Factory set to trip above maximum allowable discharge pressure. o Automatic reset type preferred. • LP Cut-out Switch (Low Pressure Safety Control): <ul style="list-style-type: none"> o Suitable for R-600a refrigerant working range. o Factory set to trip below minimum allowable suction pressure. o Automatic reset type preferred. <p>2. Compressor Assembly</p> <ul style="list-style-type: none"> • Compressor Type: <ul style="list-style-type: none"> o Hermetically sealed reciprocating/rotary compressor as supplied in the unit (eco-friendly 600a refrigerant compatible). o Compressor capacity: Capacity:492Btu/hr Displacement:8.1cc Capacitor:4/6 Micro Farad Test Condition: Evaporating temperature -23.3°C Condensing temperature 54.4°C Ambient temperature 32.2°C Liquid sub-cooled to 32.2°C Gas superheated to 32.2°C Power source 230V, 50 Hz. • Mounting on Test Panel: <ul style="list-style-type: none"> o Compressor shall be securely mounted on anti-vibration rubber dampers to reduce noise and vibration during demonstration. o The compressor, suction, and discharge lines shall be clearly identified and labelled for instructional use and should be painted in red, blue and yellow as per universal standards. o Protective shrouds or transparent acrylic covers shall 	
--	--	--	--

		<p>be provided where moving or hot parts are exposed.</p> <p>3. Frame & Supporting Structure</p> <ul style="list-style-type: none"> • Material & Size: <ul style="list-style-type: none"> o Frame fabricated from Mild Steel (MS) rectangular hollow sections of size 50 mm × 25 mm × 1.2 mm wall thickness. • Finish: <ul style="list-style-type: none"> o All MS members to be degreased, treated for rust prevention, and powder coated in standard lab-grade colors (grey/white/blue). • Rigidity & Durability: <ul style="list-style-type: none"> o Frame designed to withstand vibrations during compressor running without distortion. o Non-skid levelling legs/castor wheels to be provided for mobility and firm positioning. <p>4. Panel Board Construction</p> <ul style="list-style-type: none"> • Front Panel Sheet: <ul style="list-style-type: none"> o Fabricated from Mild Steel sheet of minimum 1.2 mm thickness. o Surface finished with vinyl sticker labelling for all switches, meters, gauges, and safety warnings. o Covered with 2 mm transparent acrylic sheet to protect the vinyl labels and to ensure long-term durability. • Panel Layout: <ul style="list-style-type: none"> o All meters, gauges, switches, and indicators shall be ergonomically arranged for ease of operation and learning. o Labels to be provided under each meter/switch with engraved or laminated tags or vinyl stickers <p>5. Piping & Refrigeration Circuit</p> <ul style="list-style-type: none"> □ Copper Tubing <ul style="list-style-type: none"> • All refrigerant piping shall be made of seamless copper tube conforming to ASTM standards: <ul style="list-style-type: none"> o ASTM – Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service (preferred). • Tubes shall be degreased, dehydrated, and capped at ends to prevent contamination prior to installation. • Sizes: As per refrigeration circuit design of freezer (typ. 1/4", 3/8", 1/2", 5/8" OD). • Tolerance: As per ASTM dimensional standards. • Finish: Clean, smooth, free of dents, scales, or surface defects. □ Pipe Bending & Routing <ul style="list-style-type: none"> • Bends must be made using tube-bending tools only, ensuring no flattening or kinking. • Piping layout must be uniform, neat, and visible for instructional purposes. □ Pipe Joints & Brazing <ul style="list-style-type: none"> • All copper joints shall be brazed with silver brazing rods with appropriate flux. • Brazing work must ensure leak-proof joints that withstand the working pressure of 	
--	--	---	--

		<p>R600a refrigerant.</p> <ul style="list-style-type: none"> • Joints should be pressure-tested with dry nitrogen before commissioning and test report of Nitrogen Testing should be submitted at the time of PDI. <p><input type="checkbox"/> Pipe Insulation</p> <ul style="list-style-type: none"> • Insulation must be continuous and neatly finished, with joints properly sealed. <p><input type="checkbox"/> Service Valves & Ports</p> <ul style="list-style-type: none"> • Schrader/service ports shall be installed at suction and discharge lines. • Valves must be brass, refrigeration-duty, compatible with R600a refrigerant. • Service ports shall be easily accessible from the front of the trainer. <p>6. Safety & Wiring Protection</p> <ul style="list-style-type: none"> • Electrical Wiring: <ul style="list-style-type: none"> o All internal wiring shall be enclosed in PVC conduits/net guards for operator protection. o Wires shall be multi-stranded copper (wherever required) with adequate current-carrying capacity, properly ferruled and labelled. • Pipe Guarding: <ul style="list-style-type: none"> o A net guard / mesh cover shall be installed to protect refrigerant piping without obstructing visibility. • Operator Safety: <ul style="list-style-type: none"> o All live terminals and connections enclosed. o Emergency stop switch provided on front panel. <p>Clear safety stickers: High Voltage, High Pressure, Flammable Refrigerant (R600a)</p>	
5	<p>Refrigerant Recovery Unit with Storage Cylinders</p>	<p>The refrigerant recovery unit is designed for use with a wide range of refrigerants, including Category III (R-12, R-134a, R-401C, R-500, R-1234yf), Category IV (R-22, R-401A, R-401B, R-402B, R-407C, R-407D, R-408A, R-409A, R-411A, R-411B, R-412A, R-502, R-509), and Category V (R-402A, R-404A, R-407B, R-410A, R-507, R-32). It operates on a 230V / 50Hz power supply, driven by a 1 HP oil-less, air-cooled, piston-style compressor with a motor speed of 1450 rpm and a maximum current draw of 5A. The unit features an automatic safety shut-off at 38.5 bar / 3850 kPa (558 psi), ensuring safe operation under all conditions. Recovery performance varies by refrigerant category: Category III – vapor 0.40 kg/min, liquid 3.00 kg/min, push-pull 7.50 kg/min; Category IV – vapor 0.50 kg/min, liquid 3.50 kg/min, push-pull 8.50 kg/min; Category V – vapor 0.50 kg/min, liquid 3.50 kg/min, push-pull 9.50 kg/min. The recovery unit is compact and durable, with overall dimensions of 450 × 250 × 355 mm and a weight of 14.7 kg. It operates reliably within an ambient temperature range of 0 to 40 °C. Supplied as a complete set, it includes a shoulder strap, dry filter, 15 cm hose, and 1/4” × 1/4” O.F.P. hose. Should be CE Certified & CE Certificate to be attached with Technical Bid along with operating manual</p>	

6	<p>Heat Exchanger Temperature Control Trainer</p>	<p>The system consists of a Hot Water Tank (HWT) made of polypropylene, rustproof, and top-covered, with a capacity of 80 litres and dimensions of 18” (L) × 12” (W) × 20” (H).</p> <p>The Cold Water Tank (CWT) is constructed either from SS304 (1.5 mm thick) or polypropylene (5 mm thick), with a capacity of 50 litres, a top cover, and dimensions of 18” (L) × 12” (W) × 14” (H). The system includes ½” GI Class B piping (or optional SS piping) with 20 nos. of ½” SS ball valves.</p> <p>A centrifugal pump is provided for both the HWT and CWT, each with a capacity of 1/2 HP, operating at 1φ 230 V AC, capable of handling up to 100oC with a discharge rate of 1200 LPH. The heater coil is circular, 1” in diameter, side-mounted on the tank, with a 1” connection and rated at 3KW/4KW, 1φ 230 V AC. A pneumatic control valve (two-way globe type, air-to-close, equal % characteristic) is included, with a size of ½”, CV of 5 US GPM, diaphragm actuator area of 10 sq. inch, and flange connections (PCD 60 mm, ID 16 mm, OD 90 mm).</p> <p>The system is equipped with two rotameters (range: 100–1000 LPH, glass tube or acrylic body) with SS304 bob, bottom inlet and top outlet mounting, suitable for 3 kg/cm² pressure and 100oC temperature. A bi-metallic thermostat/temperature controller is side-mounted with an 8” thermo well insertion, covering a temperature range of 0–150oC. For monitoring, a four-point temperature indicator/transmitter is included with RTD Pt-100 input, 0–200oC range, 3. digit LCD × 4 nos., panel mounting, and retransmission output of 0–2 VDC × 4 nos.</p> <p>The heat exchanger is available in shell & tube type. The shell length is 30” with an 8 mm wall thickness, while the copper tubes are 1.5 mm thick, providing 31 ft. of heat transfer length, operating up to 100oC with ½” BSP end connections. Four Pt-100 temperature sensors (2” length, 6 mm diameter, ½” BSP SS socket welded) are supplied. All components are mounted on an MS painted skid/frame of 70” × 20” × 48” (cube size 40 × 40 × 18 gauge) fitted with castor wheels for smooth mobility.</p> <p>Additional components include an E/P converter (input: 4–20 mA, output: 3–15 psi, ½” NPT/BSP connection), an A.F.R./F.R.L. unit (0–10 kg/cm² with gauge, ½” NPT/BSP connection), and a miniature level switch (side-mounted, NO/NC selectable, 24 V DC, 0.5A switching current). The system also integrates an electronic PID controller (single-loop, serial PC interface via USB/Ethernet/RS485/RS232, 92 × 92 × 144 mm, RTD input, 4–20mA output, 0–400oC range, dual PV & SP display with bar graph, Hi-Low alarms).</p> <p>The electrical control panel is MS powder-coated with switches, indicators, test points, and controllers on the fascia. It includes UK 2.5 terminal connectors on DIN</p>	
---	--	---	--

		<p>rail, 0.5 sq. mm multistrand wiring with lugs, ferruling, neat dressing, and 1" × 1" PVC cable tray routing. Dimensions: 1 ft. × 1 ft. × 1 ft. The system comes with SCADA application Software supporting experimentation, PID tuning (P, PI, PD, PID), auto/manual tuning, data storage, offline analysis, online acquisition, simulation, and graphical/tabular data printing via an interactive GUI. An air compressor with a 25-litre tank, 2 CFM discharge, 1 HP motor (230 V AC), and 5–6 kg/cm² working pressure completes the package. Learning Outcomes Study of Shell & Tube type/Plate type Heat Exchanger. Study of Feed Back Temperature Control Loop. Study of SCADA Application Software/ Computerized Control of Heat Exchanger Temperature Features: - Compact Ergonomic Design. User Friendly, Self Explanatory Systems. Leak proof Safety Measures, sturdy piping. Enhanced Electrical Safety Considerations. Training Manuals mimic Charts for Operation Ease. System Frame with Caster Wheel Arrangement for ease in movement. M.S. powder coated cubical plant with standard Instrument Mountings. Inbuilt Safety Measures to avoid improper usage. Computer Interface (Optional). SCADA Application software connectivity for analysis of temperature control loop using Tube and Shell</p>	
7	<p>Water Cooling Tower Trainer</p>	<p>The apparatus is a forced draught, counter flow type cooling tower designed to facilitate the study of evaporative cooling of water using air flow. The unit comprises a cooling tower where hot water is sprayed over a wire mesh packing, and air is forced to flow upwards in the opposite direction to the water flow, promoting heat exchange and evaporation to cool the water. Detailed Specifications Cooling tower construction: The cooling tower is fabricated using mild steel (M.S.) sheets. It has a square cross section measuring 200 mm by 200 mm, with a height of 1.2 meters. The front is made of Perspex for visibility to observe the internal processes, and the interior contains wire mesh packing to increase the surface area for water-air contact, enhancing evaporative cooling efficiency. • Hot water supply: Hot water is supplied by a geyser with a heating capacity of 3 kW. This provides a consistent source of hot water for the cooling tower during experiments. • Air supply: Air is forced through the tower by a centrifugal blower rated at 1 horsepower (HP). The blower creates a forced draught, pulling air from the bottom of the tower and pushing it upwards counter to</p>	

		<p>the downward flow of hot water.</p> <ul style="list-style-type: none"> • Temperature measurement: A multichannel digital temperature indicator is provided to measure temperatures at various points in the system. This allows precise monitoring and recording of inlet air temperature, outlet air temperature, and water temperatures at different stages. • Water flow measurement: The apparatus includes a rotameter for measuring the inlet water flow rate accurately. Additionally, a measuring tank is used to gauge the outlet water flow, enabling evaluation of water loss due to evaporation and overall flow balance. • Air flow measurement: Air velocity through the tower is measured using a calibrated orifice and water manometer. This arrangement allows determination of the air flow rate necessary for energy balance calculations. • Temperature sensors for air: Dry and wet bulb thermometers are installed at five intermediate stations along the airflow path. These sensors provide data to track the change in air temperature and humidity level as it moves through the tower, key for determining psychrometric properties and tower performance. <p>Additional Notes</p> <ul style="list-style-type: none"> • The unit comes with a technical manual assisting in the setup, operation, and calculations related to the cooling tower. • The entire structure is treated with an anticorrosion coating finished with an attractive color powder coating to ensure durability and longevity. <p>Services and Installation Requirements</p> <ul style="list-style-type: none"> • The apparatus requires a power supply of 440 volts, 32 amperes AC with proper neutral and earthing connections to operate the blower and heating elements safely. • For installation, it needs a floor area approximately 2 meters by 1.5 meters to accommodate the tower and associated equipment comfortably. • A water supply capable of providing a flow rate of 10 liters per minute at a constant head is necessary to maintain continuous water circulation and proper functioning. <p>This detailed specification supports thorough study and experimentation on energy balance, evaporative cooling, and heat and mass transfer within the forced draught cooling tower.</p>	
8	<p>Frozen Confection Processing Laboratory Trainer</p>	<p>Frozen Confection Processing Laboratory Trainer to make minimum 32 ice candy at a time with Forma tray. Complete system fitted on heavy duty iron frame with powder coated beautifully painted and controls fitted on powder coated G.I sheet Board panel. Complete charged with refrigerant. System fitted On heavy duty Trolley. System consists :</p> <p>1) Brand New hermetic Sealed Reciprocating type</p>	

		<p>compressor 2 Ton capacity with tested and certified by principal manufacturer along with Serial Number.</p> <p>2) Air cooled condenser 2-ton capacity with heavy duty fan, condenser made of copper tube and aluminium fins with housing</p> <p>3) Brine cooling coil inner tank size 16" x 16" x 16" made of Stainless Steel with lid & lid holding angle, Brine Tank covered with S.S. Sheet Metal Work, a window provided for brine filling in tank and also drainage of brine with valve facilities, minimum 2" thick insulation,</p> <p>tank made of stainless steel and cooling coil made of copper tube, forma tray minimum of 32 candy making made of food grade stainless steel.</p> <p>4. Expansion device- an arrangement of a thermostatic expansion valve with hand shut off valve.</p> <p>5. HP and LP cut out switch</p> <p>6. Liquid line indicator</p> <p>7. Receiver with inlet and outlet valve</p> <p>8. Solenoid valve</p> <p>9. Solid core filter drier</p> <p>10. Suction accumulator</p> <p>11. Pressure gauge ss glycerine type.</p> <p>12. Compound gauge ss glycerine type.</p> <p>13. Hydrometer</p> <p>There should be following minimum twelve failures/Faults switch bank, Faults details given below which are activated from fault switch bank</p> <ul style="list-style-type: none"> • Voltage failure • Dehydrator clogged. • Coil of the liquid line solenoid valve broken. • Compressor failure. • Failure of evaporator fan. • Failure of the condenser fan. • Failure of an expansion valve • Failure on the control pressure switch LP. • Failure on the temperature controller- relay broken. • Failure on the temperature controller- temperature probe broken. • Failure on the condenser- fouled exchanger • Failure on the evaporator- fouled exchanger <p>c) Other electrical items MCB, Contactor with overload relay, light indicator, rotary switch, running , starting capacitor & relay etc.</p>	
9	<p>Passenger Vehicle Air Conditioning Training Rig(LMV)</p>	<p>This car Ac Trainer should have the following components/features</p> <p>1)Original dashboard of vehicle with car AC Switch, Blower fan speed control , cold Temperature\Heater control, Fresh air/recirculation mode selector, Air flow selector and car ac vents</p> <p>2) Air conditioning compressor is run by an AC Motor Three phase electric motor 2 HP copper winding to run the compressor motor having not less than 82.8% efficiency. As Per IE2(IE2 License Copy of OEM to be attached in Technical Bid)</p> <p>3) Visible HVAC compressor, electromagnetic</p>	

		<p>compressor clutch and its operation modes</p> <p>4) With installed pressure gauges it is possible to monitor the pressure distribution of R134a refrigerant in the high and low pressure sides (circuits)</p> <p>5) Test chamber 3x2.5x6 ft (LxWxH) size for Evaporator cooling air housing made of approx. 18mm sun mica board with door facility in angle iron frame with inspection glass window size (1.5 x 2) feet . Test should have a inbuilt chair for seating. Complete system fitted on a six wheeled heavy-duty steel trolley. System in running condition with refrigerant charged</p> <p>6) An Operator Interface Terminal Panel to display the following live parameters The OIT module should feature a display with dimensions of 201 mm by 147.2 mm and an aspect ratio of 16:9. It must be CE certified and comply with at least FCC Class A standards for industrial environments. It must support live graphical plotting of these parameters with respect to time, allowing for visual monitoring and analysis and should also allow capacity control via this OIT Panel. Additionally, the system should provide facilities to download all test data . It should also include a student performance tracking feature where each test can be tagged with a student’s roll number, and their individual performance metrics can be stored and reviewed. Communication interfaces should include RS-485, RS-232, USB, and Ethernet, with support for protocols like Modbus RTU/TCP. Optional features may include user access control, parameter threshold alarms, multi-language support, and remote firmware updates.</p> <p>Electrical parameters</p> <ul style="list-style-type: none"> • Current • Voltage • Power consumption • Power (kW) <p>Refrigeration / Process parameters</p> <ul style="list-style-type: none"> • Suction temperature (°C) • Discharge temperature (°C) • Suction pressure (bar / kPa) • Discharge pressure (bar / kPa) <p>7) Ability to simulate more than 6 system faults for diagnostic purpose.</p> <p>8) The maintenance connections are freely accessible to allow work to be performed with an air conditioner servicing unit.</p>	
10	Heavy Vehicle Air Conditioning Control Training System	<p>Bus A C tutorial model having consist of : -</p> <ol style="list-style-type: none"> 1. New bus AC compressor wobble plate type. 2. Condenser parallel flow type designed for bus with two axial DC fan 3. Cooling coil, suitable for bus with expansion valve, two set of blower motor Six small grill. 4. Receiver with sight glass and all accessories 5. All ideal control and safety controls 6. Air conditioning compressor is run by an AC Motor Three phase electric motor 2 HP copper winding to run 	

		<p>the compressor motor having not less than 82.8% efficiency. As Per IE2(IE2 License Copy of OEM to be attached in Technical Bid)</p> <p>7. Suitable DC Power Supply to run condenser fan, Evaporator blower and to operate magnetic clutch of compressor.</p> <p>8. Other accessories like on off switch, fan speed selector switch and complete wiring and digital temperature indicator in test chamber.</p> <p>9. Test chamber 4x3x6 ft (LxWxH) size for Evaporator cooling air housing made of approx. 18mm sun mica board with door facility in angle iron frame with inspection glass window size (1.5 x 2) feet . Test should have a inbuilt chair for seating. Complete system fitted on a six wheeled heavy-duty steel trolley. System in running condition with refrigerant charged.</p> <p>10. An Operator Interface Terminal Panel to display the following live parameters The OIT module should feature a display with dimensions of 201 mm by 147.2 mm and an aspect ratio of 16:9. It must be CE certified and comply with at least FCC Class A standards for industrial environments. It must support live graphical plotting of these parameters with respect to time, allowing for visual monitoring and analysis and should also allow capacity control via this OIT Panel.</p> <p>Additionally, the system should provide facilities to download all test data. It should also include a student performance tracking feature where each test can be tagged with a student’s roll number, and their individual performance metrics can be stored and reviewed.</p> <p>Communication interfaces should include RS-485, RS-232, USB, and Ethernet, with support for protocols like Modbus RTU/TCP. Optional features may include user access control, parameter threshold alarms, multi-language support, and remote firmware updates.</p> <p>Electrical parameters</p> <ul style="list-style-type: none"> • Current • Voltage • Power consumption • Power (kW) <p>Refrigeration / Process parameters</p> <ul style="list-style-type: none"> • Suction temperature (°C) • Discharge temperature (°C) • Suction pressure (bar / kPa) • Discharge pressure (bar / kPa) <p>7) Ability to simulate more than 6 system faults for diagnostic purpose.</p> <p>8) The maintenance connections are freely accessible to allow work to be performed with an air conditioner servicing unit.</p>	
--	--	--	--

<p>11</p>	<p>Combined Refrigeration Installation Training System</p>	<p>The Combined Refrigeration Installation Training System is designed as a comprehensive platform for hands-on instruction and demonstration of modern refrigeration circuit components, operation, safety, and diagnostics. All critical system elements are mounted on a robust, two-sided mobile workstation for accessibility and ease of use in laboratory or classroom environments.</p> <p>Mechanical and Refrigeration Components</p> <ul style="list-style-type: none"> • Two-Sided Mobile Workstation: Provides a stable and portable mounting structure for all components, allowing simultaneous demonstration and student access from both sides. • Evaporator Coil: Facilitates heat absorption for demonstration of the refrigeration cycle's evaporative phase. • Condenser Coil: Enables heat rejection to ambient, completing the refrigeration cycle's condensation phase. • Hermetically-Sealed Compressor (R290 Refrigerant): Durable compressor, precharged with environmentally responsible R290 refrigerant, ensures safe and reliable pressure and circulation management within the system. • Expansion Devices (x3): Includes different types of expansion devices for comparative study, allowing observation of refrigerant throttling and pressure reduction effects. • Filter/Drier: Installed to remove moisture and contaminants, protecting system integrity and ensuring optimal performance. • Dehydrator, Receiver: Manages refrigerant storage and moisture removal, aiding recovery and maintenance operations during instruction. • Accumulator: Protects the compressor by gathering excess liquid refrigerant, ensuring smooth vapor flow and system safety. <p>Control and Safety Devices</p> <ul style="list-style-type: none"> • Lockout/Tagout: Standard safety hardware to ensure safe lockout of system circuits during maintenance or demonstration. • Digital Thermostat: Permits precise temperature set-point control and workflow demonstration for programmable cycling and diagnostics. • Defrost Timer: Automates system defrost cycles, simulating real-world operational requirements and scheduled maintenance tasks. • Capacitor Start Motor: Delivers reliable compressor and fan startup, replicating commercial refrigeration motor technology for instructional purposes. • Transformer: Steps down or regulates incoming power, supporting safe control system operation and diagnostics. • Pressure Switches: Monitors system pressures, providing protection against overpressure and facilitating troubleshooting exercises. • Fan/Limit Switch: Controls airflow and provides limit protection in case of abnormal operation or temperature excursion events. 	
-----------	---	---	--

		<p>Educational Features</p> <ul style="list-style-type: none"> • All components are industry-standard and visually accessible, affixed securely to the workstation for easy connection, disassembly, and direct demonstration. • The system supports multiple diagnostic, performance measurement, and safety lockout exercises. • Instructional guides and manuals (optional) include schematic diagrams, experimental procedures, troubleshooting case studies, and safety protocols. <p>Utility and Installation Requirements</p> <ul style="list-style-type: none"> • Requires standard electrical supply suitable for compressor, motor, and control device operation (typically 230V AC single-/three-phase, as per specific component ratings). • Requires adequate floor space for workstation deployment, typically around 2.5 m x 1.2 m. • Supports connection to external sensors or measurement devices for advanced laboratory experiments (thermocouples, pressure gauges, flow meters as needed). <p>This training system provides students and technicians with thorough exposure to real-world refrigeration technology, facilitating safe, repeatable, and effective skill development in refrigeration installation, operation, and troubleshooting.</p> <p>An online course should be supplied along with this trainer which enables the student to have the following learning outcomes</p> <ul style="list-style-type: none"> • Identify and describe the four main components of the refrigeration cycle and the piping connections between them. • Explain the relationship between refrigerant pressure and temperature. • Define and apply key terms such as <i>superheat</i>, <i>subcooling</i>, and <i>saturation temperature</i>. • Analyze how outdoor temperature, indoor heat load, and refrigerant charge affect system performance. • Demonstrate proper use of analog and digital probes to accurately measure pressures and temperatures within the refrigeration cycle. • Develop the ability to interpret system performance primarily in terms of temperatures rather than pressures. 	
12	<p>Variable Refrigerant Volume Climate Control Training Rig</p>	<p>The Variable Refrigerant Volume Climate Control Training Rig should be consisting of 2 Indoor Units and an Outdoor Unit .Complete outdoor and indoor unit are installed on MS Stand made up of steel pipe having size 50*25*1.2mm stand on wheel mounted.</p> <p>One indoor unit is mounted on wall frontside of the frame and the Other is Mounted of the Backside as it is a 2way trainer unit.</p> <p>Outdoor unit is installed on the base of frame in such a way that hot air flows of outdoor go backside of frame and cold air flow of indoor is in front direction.</p> <p>All necessary components like MCB, and other electric equipment mounted on front panel.</p>	

		<p>An Operator Interface Terminal Panel to display the following live parameters The OIT module should feature a display with dimensions of 201 mm by 147.2 mm and an aspect ratio of 16:9. It must be CE certified and comply with at least FCC Class A standards for industrial environments. It must support live graphical plotting of these parameters with respect to time, allowing for visual monitoring and analysis. Additionally, the system should provide facilities to download all test data . It should also include a student performance tracking feature where each test can be tagged with a student’s roll number, and their individual performance metrics can be stored and reviewed. Communication interfaces should include RS-485, RS-232, USB, and Ethernet, with support for protocols like Modbus RTU/TCP. Optional features may include user access control, parameter threshold alarms, multi-language support, and remote firmware updates.</p> <p>Electrical parameters</p> <ul style="list-style-type: none"> • Current • Voltage • Power consumption • Power (kW) <p>Refrigeration / Process parameters</p> <ul style="list-style-type: none"> • Suction temperature (°C) • Discharge temperature (°C) • Suction pressure (bar / kPa) • Discharge pressure (bar / kPa) <p>Outdoor Unit Specifications</p> <ul style="list-style-type: none"> • Power Supply: 3-phase, 380–415 V, 50 Hz • Cooling Capacity: 54,600 Btu/h (16.0 kW) • Capacity Control: 25–100% • Casing Colour: Ivory White (577.5/1) • Compressor: Hermetically Sealed Scroll Type • Number of Compressors: 1 • Airflow Rate: 119 m³/min • Dimensions (HxWxD): 1,657 x 930 x 765 mm • Machine Weight: 165 kg • Sound Level: 56 dB(A) • Operation Range (Cooling): 10 ~ 49 °CDB • Refrigerant Type: R410A • Refrigerant Charge: 5.9 kg • Piping Connections: <ul style="list-style-type: none"> o Liquid: Ø 9.5 mm o Gas: Ø 19.1 mm <p>Indoor Unit 1 (Standing Floor Type)</p> <ul style="list-style-type: none"> • Power supply: 1-phase, 220-240 V / 220 V, 50 Hz. • Cooling capacity: <ul style="list-style-type: none"> o 24,200 Btu/h o 7.1 kW. • Casing: Ivory white • Airflow rate (H/L): <ul style="list-style-type: none"> o 16 / 12 m³/min o 565 / 424 cfm. • Sound level (H/L): 40 / 35 dB(A). 	
--	--	---	--

		<ul style="list-style-type: none"> • Dimensions (HxWxD): 600 x 1,420 x 222 mm. • Machine weight: 36.0 kg. • Piping connections: <ul style="list-style-type: none"> ○ Liquid (Flare): Ø 9.5 mm ○ Gas (Flare): Ø 15.9 mm Indoor Unit 2(Ceiling Suspended Type) • Power supply: 1-phase, 220-240 V / 220-230 V, 50 Hz. • Cooling capacity: <ul style="list-style-type: none"> ○ 27,300 Btu/h ○ 8.0 kW. • Casing: Fresh white. • Airflow rate (H/M/L): <ul style="list-style-type: none"> ○ 22.5 / 19.5 / 16 m³/min ○ 794 / 688 / 565 cfm. • Sound level (H/M/L): 40 / 38 / 36 dB(A). • Dimensions (HxWxD): 198 x 950 x 950 mm. • Machine weight: 26 kg. • Piping connections: <ul style="list-style-type: none"> ○ Liquid (Flare): 9.5 mm ○ Gas (Flare): 15.9 mm • Fault Insertion Panel <ul style="list-style-type: none"> ○ Fault bank with minimum 6 toggle switch–based faults ○ Manual fault insertion to test student troubleshooting skills. • Complete wiring and Piping diagram of the VRF/VRV System should be duly printed on the panel with proper colouring. • Catalogue of Make and Model of VRV System to be attached in Technical Bid <p>Frame & Supporting Structure</p> <ul style="list-style-type: none"> • Material & Size: <ul style="list-style-type: none"> ○ Frame fabricated from Mild Steel (MS) rectangular hollow sections of size 50 mm × 25 mm × 1.2 mm wall thickness. • Finish: <ul style="list-style-type: none"> ○ All MS members to be degreased, treated for rust prevention, and powder coated in standard lab-grade colors (grey/white/blue). • Rigidity & Durability: <ul style="list-style-type: none"> ○ Frame designed to withstand vibrations during compressor running without distortion. ○ Non-skid levelling legs/castor wheels to be provided for mobility and firm positioning. <p>Panel Board Construction</p> <ul style="list-style-type: none"> • Front Panel Sheet: <ul style="list-style-type: none"> ○ Fabricated from Mild Steel sheet of minimum 1.2 mm thickness. ○ Surface finished with vinyl sticker labelling for all switches, meters, gauges, and safety warnings. ○ Covered with 2 mm transparent acrylic sheet to protect the vinyl labels and to ensure long-term durability. 	
--	--	---	--

		<ul style="list-style-type: none"> • Panel Layout: <ul style="list-style-type: none"> o All meters, gauges, switches, and indicators shall be ergonomically arranged for ease of operation and learning. o Labels to be provided under each meter/switch with engraved or laminated tags or vinyl stickers • Piping & Refrigeration Circuit <ul style="list-style-type: none"> □ Copper Tubing <ul style="list-style-type: none"> • All refrigerant piping shall be made of seamless copper tube conforming to ASTM standards: <ul style="list-style-type: none"> o ASTM B280 – Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service (preferred). o Alternatively: ASTM B68 / B75 – for seamless copper tube drawn general purpose, annealed. • Tubes shall be degreased, dehydrated, and capped at ends to prevent contamination prior to installation. • Sizes: As per refrigeration circuit design of freezer (typ. 1/4", 3/8", 1/2", 5/8" OD). • Tolerance: As per ASTM dimensional standards. • Finish: Clean, smooth, free of dents, scales, or surface defects. • Pipe Bending & Routing <ul style="list-style-type: none"> • Bends must be made using tube-bending tools only, ensuring no flattening or kinking. <p>Piping layout must be uniform, neat, and visible for instructional purposes.</p>	
13	<p>Low-Temperature Storage Management Training Module</p>	<p>Low-Temperature Storage Management Training Module has cold room size- 6x4.5x8 feet made of PUF panel of PPGI sheet both inner & outside sides with cam & lock arrangement. PUF panel insulation is 60 mm. Unit has four standard PUF panel sheet made single body corners which have cam lock arrangement for attachment of PUF panel made wall of room. Room has roof of PUF panel & flooring of PUF panel with Aluminium chequered sheet.</p> <p>An Operator Interface Terminal Panel to display the following live parameters</p> <p>The OIT module should feature a display with dimensions of 201 mm by 147.2 mm and an aspect ratio of 16:9. It must be CE certified and comply with at least FCC Class A standards for industrial environments. It must support live graphical plotting of these parameters with respect to time, allowing for visual monitoring and analysis.</p> <p>Additionally, the system should provide facilities to download all test data . It should also include a student performance tracking feature where each test can be tagged with a student’s roll number, and their individual performance metrics can be stored and reviewed.</p> <p>Communication interfaces should include RS-485, RS-232, USB, and Ethernet, with support for protocols like Modbus RTU/TCP. Optional features may include user access control, parameter threshold alarms, multi-</p>	

		<p>language support, and remote firmware updates.</p> <p>Electrical parameters</p> <ul style="list-style-type: none"> • Current • Voltage • Power consumption • Power (kW) <p>Refrigeration / Process parameters</p> <ul style="list-style-type: none"> • Suction temperature (°C) • Discharge temperature (°C) • Suction pressure (bar / kPa) • Discharge pressure (bar / kPa) <p>Fault Insertion Panel</p> <ul style="list-style-type: none"> o Fault bank with minimum 6 toggle switch–based faults o Manual fault insertion to test student troubleshooting skills. • Complete wiring and Piping diagram of the System should be duly printed on the panel with proper colouring. <p>Cold room door has its own door frame on which it is hinged & swinging with air tight locking arrangement. Door frame is assembled on cold room with nut & bolt. Room has light & alarm facilities also. Room has three stainless steel racks with three shelves each covering three walls (left, right & back wall). Walk in cooler also consists of Condensing unit, indoor unit & control panel</p> <p>details are given below:</p> <p>A) Condensing unit; - It consists following items.</p> <ol style="list-style-type: none"> 1) Brand New hermetic Sealed Reciprocating type compressor 1.5 Ton capacity with tested and certified by principal manufacturer along with Serial Number. 2) Air cooled condenser size 18”x22”x4 row with heavy duty Axial fan, condenser made of copper tube and aluminum fins with housing. 3) Expansion device- an arrangement of a thermostatic expansion valve with hand shut off valve. 4) HP and LP cut out switch 5) Liquid line indicator 6) Receiver with inlet and outlet valve 7) Solenoid valve 8) Solid core filter drier 9) Suction accumulator 10) Pressure gauge stainless steel glycerine type 11) Compound gauge stainless steel glycerine type <p>B)Indoor Unit: - The body of unit is made of powder coated GI sheet having cooling coil of suitable capacity of 4500 kcal/hr made of copper tubes & aluminium fins along with 2 axial fan mounted inside the cold room for required temperature of 0 to -5 degree Complete plant is installed & refrigerant properly charged.</p> <p>c)Other electrical items MCB, Contactor with overload relay, light indicator, rotary switch, running , starting capacitor & relay etc. All the accessories will be mounted as rigid base frame made of M.S pipe and G.I</p>	
--	--	---	--

		<p>powder coated sheet.</p> <p>Precision Measurement Calibration Plate</p> <table border="1" data-bbox="580 293 1254 539"> <tr> <td>Material</td> <td>Cast Iron</td> </tr> <tr> <td>Flatness</td> <td>As Per IS2285-2003</td> </tr> <tr> <td>Size</td> <td>630*630mm</td> </tr> <tr> <td>Surface Finish</td> <td>Hand Scrapped Surface Finish</td> </tr> <tr> <td>Certification</td> <td>Manufacturer Should have its own NABL accredited Laboratory</td> </tr> </table>	Material	Cast Iron	Flatness	As Per IS2285-2003	Size	630*630mm	Surface Finish	Hand Scrapped Surface Finish	Certification	Manufacturer Should have its own NABL accredited Laboratory	
Material	Cast Iron												
Flatness	As Per IS2285-2003												
Size	630*630mm												
Surface Finish	Hand Scrapped Surface Finish												
Certification	Manufacturer Should have its own NABL accredited Laboratory												
14	<p>Integrated HVAC Training System with Duct, Heating, and Control Components– Commercial</p>	<p>Description</p> <p>The fully functional training stand is built on a mobile frame made of extruded aluminium profile grooved on all sides. Components can also be attached to the profile at a later date using slot nuts, without the need for drilling. A classic duct system with bends, flaps and reducers is shown. Two speed-controlled fans are installed. A large Plexiglas pane for better visibility and an inspection opening for cleaning are installed in the area of the steam lance.</p> <p>In the model-like room with photo representation of a boardroom, temperature and humidity are displayed digitally. The duct temperatures are measured via analogue duct thermometers. The damper for fresh air, exhaust air and bypass is proportionally adjustable and removable as a unit.</p> <p>Details</p> <ul style="list-style-type: none"> • Heating system with controlled 3-way mixers • Digital measurements of the heating medium are carried out by heat meters to record, among other things: <ul style="list-style-type: none"> ○ Output ○ Flow rate - Circulation temperature ○ Return temperature ○ Temperature difference • Heating unit with thermostat, safety temperature limiter (STB), signal lamp and safety group • Pictorial representation of the boiler system • High-efficiency pump to supply the water-hydraulic circuit <ul style="list-style-type: none"> ○ Possible extensions: After dismantling the add-on duct group, modules of the same design can be connected for expansion, e.g. ○ Module heat recovery cross-flow ○ Module heat glycol circuit with 2 coils ○ Humidity control module <p>Suitable for</p> <ul style="list-style-type: none"> ▪ Training as a plant mechanic for sanitary, heating and air conditioning (SHK) ▪ Training as an electrical technician for energy and building technology ▪ Further training in air-conditioning technology ▪ University 											

		<p>Learning Objectives</p> <ul style="list-style-type: none"> ▪ Static and dynamic pressure ▪ Recirculation, exhaust air, fresh air, exhaust air, supply air ▪ Function of the mixing chamber ▪ Differential pressure (pressure losses): ▪ Supply air fan ▪ Register ▪ Duct system ▪ Fan Exhaust air ▪ Temperature change as a function of the air volume ▪ Humidification/drying of air for optimum climate conditions ▪ Function of heating circuit mixer ▪ Dew point, steam humidification, mixing, heat quantity consumption ▪ Refrigeration system: hot gas/cold gas, pressure and temperature correlation ▪ Comparison of cooling zones ▪ Design of air duct system ▪ Design of heating circuit 	
15	<p>Integrated HVAC Training System with Duct, Heating, and Control Components– Residential</p>	<p>Description</p> <p>The training stand with a frame made of grooved extruded aluminium profile can be used flexibly thanks to the castors and is equipped with a fully functional Helios air-conditioning unit. The unit has a weather protection grille on the inlet and outlet side, which is directly connected to the ventilation unit via insulated pipe sections. There is a silencer in each of the supply air and extract air streams. A distributor on the front side supplies air to the discharge valves on the front and rear sides respectively. All valves are adjustable to suit the air requirements of the room. All parameters are sent from the unit via LAN or WLAN to a tablet (included in the scope of delivery) and can be displayed at any time.</p> <p>Details</p> <p><u>Unit Description:</u></p> <ul style="list-style-type: none"> ▪ Compact unit for wall mounting, with heat recovery. ▪ For central ventilation of residential buildings and flats. ▪ Housing made of galvanised sheet steel, powder-coated, double-walled, 12 mm heat and sound insulation on all sides. ▪ Free access to the elements through removable front door. ▪ Two low-noise high-performance centrifugal fans with energy-saving EC motors for outdoor and supply air ducting. ▪ Easy-to-install connection of fresh air and exhaust air, as well as extract air and supply air, 	

		<p>by means of 160 mm nominal diameter pipes at the sleeves arranged at the top (accessory: connector with seal RVBD).</p> <ul style="list-style-type: none"> ▪ Condensate connection on the underside of the unit, delivery includes ball siphon. ▪ Connection on site to drain pipe. <p><u>Filter Equipment:</u></p> <ul style="list-style-type: none"> ▪ G4 filter for fresh air and exhaust air as standard; an F7 pollen filter is also available as an option. ▪ Filter can be changed without tools. ▪ Large-surface plastic cross-counterflow heat exchanger. ▪ Automatic summer bypass and exchanger cover. ▪ Standard frost protection monitoring controls supply air flow rate and an optionally installed electric pre-heater (accessory: KWL-EVH 500 W) Equipped with Helios easy Controls for LAN integration into a PC network. ▪ Control in the web browser via PC/laptop, tablet/smartphone or Internet. Integrated Modbus interface. ▪ KNX module optional (KWL-KNX) Connection option for optional accessories such as manual controls (KWL-BE, -BEC) and air quality sensors (KWL-CO2, -FTF, -VOC) available. <p>Suitable for</p> <ul style="list-style-type: none"> ▪ Training as a plant mechanic for sanitary, heating and air conditioning (SHK) ▪ Further training in sanitary engineering <p>Learning Objectives</p> <ul style="list-style-type: none"> ▪ Components of a controlled ventilation system (KWL) and their functions ▪ Functional principle of a controlled ventilation system ▪ Ventilation ducts ▪ Sound insulation and soundproofing ▪ Planning, installation and commissioning of a controlled ventilation system, parallel operation with room-air-dependent and room-air-independent fireplaces ▪ Filters and filter classes ▪ Heat exchangers and air heaters/coolers 	
16	Multi meter digital type	<p>This advanced digital clamp meter offers a wide range of measurement capabilities for both AC and DC applications. It measures AC current in two ranges, 40.00 A and 400.0 A, with an accuracy of 2% • } 5 digits from 45 Hz to 65 Hz and 2.5% • -/+ 5 digits from 65 Hz to 400 Hz.</p> <p>DC current measurement is also supported in the same ranges with an accuracy of 2% • -/+ 5digits. The meter handles AC voltage up to 600.0 V with 1.5% • } 5 digits accuracy and DC voltage up to 600.0 V with 1.0% +/- 5</p>	

		<p>digits accuracy. Resistance can be measured across 400.0Ω, 4000 Ω, and 40.00 kΩ ranges with 1.0% • } 5 digits accuracy, while continuity is detectable for values ≤ 30 Ω. Additionally, it supports capacitance measurements from 0 to 100.0 μF and 100 μF to 1000 μF, as well as frequency measurement from 5.0 Hz to 500.0 Hz. The device features True-RMS response for precise readings, a backlight for visibility in low-light conditions, data hold, and a min/max function. It also includes contact temperature measurement ranging from -10.0°C to 400.0°C (14.0°F to 752.0°F). With a size of 207 x 75 x 34 mm and a weight of 283 g, it accommodates a maximum wire diameter of 30 mm (600 MCM). Safety is ensured with CAT III 600 V and CAT IV 300 V ratings, and the instrument is backed by a two-year warranty.</p>	
17	<p>Pressure gauge Digital type</p>	<p>Sensor</p> <ul style="list-style-type: none"> • Sensor Type: Pirani sensor • Measuring Range: 0 to +26.66 mbar / 0 to 20,000 microns • Accuracy: <ul style="list-style-type: none"> o • +/-1 digit (at +22 °C) o • +/- 10 microns + 10 % of measured value (100 to 1,000 microns) • Resolution: <ul style="list-style-type: none"> o 1 micron (0 to 1,000 microns) o 10 microns (1,000 to 2,000 microns) o 100 microns (2,000 to 5,000 microns) o 500 microns (5,000 to 10,000 microns) o 5,000 microns (10,000 to 20,000 microns) • Overload Limit: <ul style="list-style-type: none"> o Absolute: 6 bar / 87 psi o Relative: 5 bar / 72 psi <p>Technical Data</p> <ul style="list-style-type: none"> • Operating Temperature: -10 to +50 °C • Storage Temperature: -20 to +50 °C • Measurement Rate: 0.5 s • Dimensions: 160 × 110 × 50 mm • Weight: ~500 g • Protection Class: IP42 (water/dust resistant) <p>Power</p> <ul style="list-style-type: none"> • Battery Type: 2 × AA batteries • Battery Life: 50 hours (without Bluetooth/backlight) <p>Connections</p> <ul style="list-style-type: none"> • Ports: <ul style="list-style-type: none"> o 2 × 1/4" SAE (7/16" UNF) o 1 × mini-DIN <p>Parameters</p> <ul style="list-style-type: none"> • Units Supported: mmHg, Torr, mbar, hPa, micron, inH₂O, inHg, Pa <p>Bluetooth & App</p> <ul style="list-style-type: none"> • Compatibility: <ul style="list-style-type: none"> o iOS 11.0 or newer / Android 6.0 or newer o Requires Bluetooth 4.0 enabled device • Functions via Smart App: <ul style="list-style-type: none"> o Wireless monitoring of measurement data 	

		<p>o Measurement reports (with photos & comments)</p> <p>o Email dispatch</p> <p>The App turns your smartphone/tablet into the display of the Instrument The operation of the measuring instrument as well as the display of the measurement values take place by Bluetooth via the Smart App on your smartphone or tablet – independently of the measurement location. In addition to this, you can use the App to create measurement reports, add photos and comments, and send them by e-mail. For iOS and Android.</p> <p>It should be in compliance with IEC61326 and Declaration and Operation Manual from OEM to be submitted in Technical Bid.</p> <p>It should be compatible with A2,A2L,A3 Refrigerants Declaration from OEM to be submitted in Technical Bid.</p>	
18	Electronic Halogen Refrigerant Leak Detector	<p>Sensor / Measurement</p> <ul style="list-style-type: none"> • Measurement parameter: Refrigerant leaks • Sensitivity: 4 g/a (0.15 oz/a) <p>General Technical Data</p> <ul style="list-style-type: none"> • Detectable refrigerants: R-22, R-134a, R-404A, R-410A, R-507, R-438A and all CFCs, HFCs, and HCFCs • Conformities: SAE J1627, EN 14624:2012, EG 2004/108/EG • Operating temperature: -18 to +50 °C • Operating humidity: 20 to 80 %RH • Storage temperature: 0 to +50 °C • Battery type: 2 × D cells • Battery life: 16 h (continuous operation) • Sensor lifetime: Approx. 80 to 100 h (~1 year usage) • Weight: Approx. 500 g (incl. batteries) <p>Key Features</p> <ul style="list-style-type: none"> • Reliable leakage detector for refrigerants. • High sensitivity: detects leaks as small as 4 g/a. • Compliant with F-gas regulation. • Meets SAE J1627 and EN 14624:2012 standards. • Essential tool for professional refrigeration service and maintenance. <p>It should be in compliance with EN 14624:2012 Standards and Declaration and Operation Manual from OEM to be submitted in Technical Bid.</p>	
19	Advanced Electronic Leak Detector	<p>Combustible Gas detector (Leak finding instrument), sensitive to most common Hydrocarbon based refrigerants and Ammonia. Unit shall consist of the combustible gas detector, batteries and a hard plastic carrying case. Variable audible signal as well as multiple LEDs to indicate leaks; automatic adjustment (zeroing) to combustible gas in leak test area for greater stability. Operational manual in English language must be submitted with the quotation. Device provided with sturdy carrying case.</p> <p>Technical details:</p> <p>i. Sensitivity to refrigerants Propane (R290) and Isobutane (R600a) at a minimum concentration of 50 Parts Per Million (ppm)</p>	

		<p>ii. Battery powered with battery life of minimum 24 hrs.</p> <p>iii. Sniffer probe chrome plated, flexible, approx. 43 cm long</p> <p>iv. Operational manual in English language to be provided in bid</p>	
20	Smart Digital Weighing System with Mobile Interface	<p>Refrigerant Weighing Scale – Technical Specifications</p> <ul style="list-style-type: none"> • Measuring range: 0.00 to 100.00 kg • Accuracy (at +22 °C operating temperature): <ul style="list-style-type: none"> o (10 g + 0.03 %rdg) for 0 to 30 kg o (10 g + 0.05 %rdg) for 30 to 100 kg • Resolution: 0.01 kg • Ambient humidity: 0 to 80 %RH <p>General Technical Data</p> <ul style="list-style-type: none"> • Connection: Bluetooth 4.2 • Bluetooth® range: >30 m (free field) • Operating temperature: -10 °C to +50 °C / +14 °F to +122 °F • Storage temperature: -10 °C to +50 °C / +14 °F to +122 °F • Dimensions: 310 × 287 × 58 mm • Weight: 4.36 kg (including batteries and bag) • Protection class: IP44 • Battery type: 4 × AA alkaline batteries • Battery life: >70 hours at +25 °C 	
21	Two-Stage Rotary Vacuum Pump with Wireless Control and Monitoring	<p>Vacuum Pump – Specifications</p> <ul style="list-style-type: none"> • Flow Rate: 10 CFM / 283 l/min • Weight: 13 kg • Ultimate Vacuum: 15 micron • Refrigerant Connection Sizes: 1/4 SAE, 3/8 SAE, 1/2 SAE • Bluetooth: BLE 5.0, up to 30 m distance • Operating Temperature: +5 °C to +40 °C • Pump Type: Rotary vane pump • Number of Stages: Two-stage pump • Oil Compatibility: ISO VG 46 • Certification: A2L / A2 / A3 refrigerant certified • Provision of Phone Connectivity 	

7. Deliverable and Payment Schedule:

The selected company will have the following deliverables: -

SL No	Deliverable	Time Line	Amount Payable
1	Milestone 1: i) Pre-Delivery inspection of sample equipment. ii) Delivery of the material, equipment, PPE and Tools & Tackles in good condition at the CoE. iii) Visual inspection of equipment and certify by the Principal of the CoE.	Within 4 months of signing the Contract Agreement (MoA)	40% of the 'Total Order Value (Base Price)' with 18% GST on the Total Base Order Value, within 30 days of receipt of the invoices.
2	Milestone 2: i) Complete setup of CoE including Civil and Electrical works (interior design, electrical cabling and infrastructure work etc.) ii) Installation & Commissioning to be completed of all equipment. iii) Inspection and testing of equipment for the Centre of Excellence and stock entry. iv) Submission of safety certificates (if any) from competent authorities, supply of Machine Consumables, safety equipment etc. Complete setup of the CoE.	Within 5 month of signing the Contract Agreement (MoA)	40% of the 'Total Order Value' within 30 days of complete setup of the CoEs.
3	Milestone 3: i) Completion of the Handholding period (three years) ii) Placement opportunities given to the 50% trainees who successfully trained and certified.	Completion of hand-holding training & placement : 1st Year: Within 18 months of signing the Contract Agreement (MoA). 2nd Year: Within 30 months of signing the Contract Agreement (MoA). 3rd Year: Within 42 months of signing the Contract Agreement (MoA).	20% of the 'Total Order Value' will be released in equal 03 (three) installments. 1/3rd of 20% of the 'Total Order Value' after completion of every Year's hand-holding training, certification and placement opportunities provided.
4	Milestone 4: Comprehensive Annual Maintenance Cost (CAMC) (if any) for 3 (three) years immediately after the date of expiry of comprehensive warranty for 36 months for the equipment/machines supplied at the CoE.	Payment shall be released annually on completion of CAMC subject to satisfactory performance and due recommendation from concerned principal/Head of institute.	100% of the annual awarded value within 30 days of submission of Tax invoice along with certification from the Principal of consignee institute.

Other Conditions:

- a) No Advanced Payment will be given to the selected bidder.
- b) Payment for 'Milestone 1' & 'Milestone 2' will be done after inspection from nominated technical experts or 3rd Party Agency/consultants/advisors appointed by DTE&T and satisfactory reports from them.

8. SECTION IV: Technical Bid Submission Forms (Cover-1)

TECH-1

COVERING LETTER

(ON BIDDERS LETTER HEAD)

[Location, Date]

To

**The Director
Directorate of Technical Educational and Training, Odisha
Killa Maidan, Buxi Bazar, Cuttack– 753001**

**Sub: RFP for establishment of CoE in Refrigeration and Air Conditioning at Govt. ITI Rourkela”.
[TECHNICAL BID]**

Dear Sir,

I/We (Name of the Bidder) hereby submit our Proposal in response to notice inviting RFP date and RFP document no.....and confirm that:

1. With reference to your RFP document dated, I/we, having examined the Bidding Documents and understood their contents, hereby submit my/our Bid. The Bid is unconditional and unqualified.
2. I/We acknowledge that the DTE&T will be relying on the information provided in the Bid and the documents accompanying the Bid for selection of the Bidder for the aforesaid project(s), and we certify that all information provided therein is true and correct; nothing has been omitted which renders such information misleading; and all documents accompanying the Bid are true copies of their respective originals.
3. This statement is made for the express purpose of qualifying as a Bidder for the aforesaid Project.
4. I/ We shall make available to the DTE&T any additional information it may find necessary or require to supplement or authenticate the Bid.
5. I/ We acknowledge the right of the DTE&T to reject our Bid without assigning any reason or otherwise and hereby waive, to the fullest extent permitted by applicable law, our right to challenge the same on any account whatsoever.
6. I/ We certify that in the last three years, we have neither failed to perform on any contract, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award, nor been expelled from any project or contract by any public authority nor have had any contract terminated by any public authority for breach on our part.
7. I/ We declare that:
 - I/ We have examined and have no reservations to the Bidding Documents, including any Addendum issued by the DTE&T;
 - I/We do not have any Conflict of Interest in accordance with **Clause** 12 of the RFP document;
 - I/We have not directly or indirectly or through an agent engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as defined in the RFP document, in respect of any tender or request for proposal issued by or any

agreement entered into with the DTE&T or any other public sector enterprise or any government, Central or State; and

- I/ We hereby certify that we have taken steps to ensure that in conformity with the provisions of **Section 14 of** the RFP, no person acting for us or on our behalf has engaged or will engage in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice.

8. I/We understand that the DTE&T may cancel the Bidding Process at any time and that the DTE&T is neither bound to accept any Bid that you may receive nor to invite the Bidders to Bid for the Project, without incurring any liability to the Bidders.

9. I/ We agree and undertake to abide by all the terms and conditions of the RFP document.

10. I/ We offer a Bid Security/EMD to the DTE&T in accordance with the RFP document.

11. I/ We agree and understand that the Bid is subject to the provisions of the Bidding Documents. In no case, I/we shall have any claim or right of whatsoever nature if the Project is not awarded to me/us or our Bid is not opened or rejected.

12. I/ We certified that the period of validity of Proposal is till the end of the Contract Agreement period and I/We are quoting for all the services mentioned in the Scope of Work of the RFP.

13. DTE&T, Odisha, may contact the following person for further information regarding this Proposal:

Name and full address of office, Contact No., Email ID, Company Name

In witness thereof, I/we submit this Bid under and in accordance with the terms of the RFP document

Yours sincerely,

Authorized Signatory with Date and Seal:

Name and Designation: _____

Address of the Bidder: _____

TECH -2

Bidder's Organisation (General Details)

SL No	Description	Full Details
1	Name of the Bidder	
2	Address for communication: Tel: E-mail ID:	
3	Name of the authorized person signing & submitting the bid on behalf of the Bidder: Mobile No.: Email id:	
4	Registration / Incorporation Details Registration No: Date & Year. :	
5	Local office in Bhubaneswar If Yes, please furnish contact details	Yes / No
6	Bid Processing Fee Details Amount:	
7	EMD Details Amount:	
8	PAN Number	
9	Goods and Services Tax Identification Number (GSTIN)	
10	Willing to carry out the assignment as per the scope of work of RFP	YES
11	Accept all the terms and conditions as specified in the RFP	YES

Authorized Signatory with Date and Seal:

Name and Designation: _____

Address of the Bidder: _____

TECH -3

Bidder Organisation (Financial Details)

Financial Information in INR			
Details	FY 2022-23	FY 2023-24	FY 2024-25
Annual Turnover in INR			
<i>Supporting Documents:</i> Audited certified financial statements for the last three (Submission of copies of Income & Expenditure Statement and Balance Sheet for the respective financial years is mandatory along with this form). Provisional Audit report for any of the FYs is not acceptable. <i>Filled in information in this format must have to be jointly certified and sealed by the CA and the authorized representative of the bidder and to be furnished in original along with the technical Bid failing which the Bid will be out rightly rejected.</i>			

Signature and Seal of the Chartered Accountant with Date in original.

Authorized Signatory with Date and Seal:

Name and Designation: _____

Address of the Bidder: _____

TECH - 4

FORMAT FOR POWER OF ATTORNEY

(Notarized copy on Rs. 100 Non-Judicial Stamp Paper)

(Required only if the Signatory is not directly authorized by the Company Board/Governing Body, or Partners. Otherwise, the Board Resolution/Partners Resolution would suffice)

Known all men by these presents, we..... (name of the firm and address of the registered office) do hereby irrevocably constitute, nominate, appoint and authorize Mr./ Ms. (name), son/daughter/wife of and presently residing at, who is presently employed with us and holding the position of, as our true and lawful attorney (hereinafter referred to as the “Attorney”) to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our tender against the Bid document no. [•] dated [•] published by DTET for the “Procurement of Goods – [•]”, including but not limited to signing and submission of all applications, bids and other documents and writings,

AND we hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE....., THE ABOVE-NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS DAY OF 20[•].

For
Witnesses

.....
(Signature, name, designation and address)

1.

2.

Accepted

(Signature)
(Name, Title and Address of the Attorney)

Encl: Board resolution for Authorized signatory

TECH - 5

(BIDDER'S PAST EXPERIENCE DETAILS)

(List of orders/assignments only of similar nature)

Sl. No.	Name of Buyer/Client, Address with Telephone No, e-mail, Contact Person, Mobile No.	Name of Project	Nature of Project/Goods/ Services and Brief of Project	Project Start Date and End Date	Project Cost/ Contract Value (In Rs.)	Status (Complete/ In Progress/ Delay)	No of students trained and placed, if any
A	B	C	D	E	F	G	
1							
2							
3							
4							
5							

Note: Information not conforming to the above format will be treated as non-responsive. The bidder must enlist their relevant experience for technical marking purpose. Copies of the Work order / Contract Document / Completion Certificate from the previous Clients need to be furnished along with the above information.

Authorized Signatory with Date and Seal:

Name and Designation: _____

Address of the Bidder: _____

TECH - 6

Affidavit for not being blacklisted

<< An affidavit on a non-judicial stamp paper of INR 100/- by Company Secretary/ Authorized Representative and Signatory of the Applicant with his/her dated Sign and duly notarized >>

AFFIDAVIT

(to be executed on INR 100 non-judicial stamp paper and to be duly notarized)

Date: _____

Sub: Tender No. _____

In response to the Tender Document above stated, I/We hereby declare and solemnly swear that our Company/ firm _____ is not banned/blacklisted as on date by any competent court of Law, forum or any State Government or Central Government or their agencies or by any statutory entities or any PSUs.

AND, if at any stage the declaration/statement on oath is found to be false in part or otherwise, then without prejudice to any other action that may be taken, I/We, hereby agree to be treated as a disqualified Bidder for the ongoing Contract.

In addition to the disqualification our concern/entity may be banned/blacklisted.

AND, that I/We, shall have no right whatsoever, to claim for consideration of my/our bid at any stage and the money deposited in the form of EMD shall be liable for forfeiture in full, and the tender, if any to the extent accepted, may be cancelled.

Signature of the Deponent

(Authorized signatory of the Bidder with Seal)

Date:

Place:

TECH-7

To be executed on non-judicial stamp paper of requisite value & to be notarized.

Consortium Agreement

This Consortium Agreement is executed on this _____ day of _____ at between; M/s _____, a company incorporated under (indicate the Company's Act.) and having its registered/principal office at _____ (herein after referred to as "Leader of the Consortium" which expression shall include its legal successors, executors and permitted assigns) on the first part,

and

M/s _____, a company incorporated under _____ (indicate the Company's Act) and having its registered/principal office at _____

(herein after referred to as "First Consortium Partner" which expression shall include its successors, executors and permitted assigns) on the second part,

Each of the above entities shall individually be referred to as "Consortium partner" and collectively as "Consortium".

Whereas, Directorate of Technical Education and Training (DTE&T), Odisha, (under the administrative control of Skill Development & Technical Education Department, Government of Odisha) having its registered office at Killa Maidan, Buxi Bazaar, Cuttack-753001, Odisha, India (herein after referred to as the "Purchaser") has floated a tender no. _____ dtd. _____ for _____.

As per the above mentioned tender conditions, Consortium formed among individual entities are allowed to qualify and participate as a bidder as per the Qualification Requirements stipulated in the tender. Towards this purpose, the consortium partners mentioned above hereby joined together to form a consortium. This consortium agreement is entered into by the above mentioned consortium partners for the purpose of submitting the bid against the above mentioned tender to the Purchaser jointly as a bidder to meet the qualifying requirements of the tender, towards execution of contract in case of award of the contract by the Purchaser and furnish performance towards equipment/system as per the conditions of the contract.

NOW, THEREFORE, the above mentioned entities hereby agrees as follows:

1. We, the consortium partners learned and understood the terms and conditions of the tender no. for issued by the Purchaser meeting the qualifying requirement indicated therein.
2. The financial percentage participation by each consortium partners shall be as indicated below.
 - a) M/s _____: _____%
 - b) M/s _____: _____%
3. We, the consortium partners hereby agree that M/s. _____ shall act as the Leader of the consortium who shall have authority to bind each of the consortium partner(s). The Leader of the consortium shall be responsible towards:
 - (a) preparation and submission of bid on behalf of the consortium
 - (b) to negotiate with the Purchaser (if selected by the Purchaser for negotiation)
 - (c) acceptance of the contract on behalf of consortium,

- (d) correspondence with the parties, co-ordination between the Purchaser, Consortium Partners and other agencies concerned,
 - (e) submission of the Performance Securities and other documents,
 - (f) to submit invoice and other documents and receive the payment,
 - (g) to ensure performance of the equipment/system as the case may be.
 - (h) to respond promptly in settlement of disputes arising during any stage from submission of bid till closure of contract
 - (i) to participate in the process of arbitration.
4. In case award of contract by the Purchaser, we to this the consortium partners Consortium Agreement do hereby agree that we shall furnish the contract performance guarantee in favor of the Purchaser from a Bank as per the said tender/contract conditions for a value stipulated in the Contract awarded and such guarantee shall be in the name of the Leader of the Consortium.
 5. Each of the consortium partners shall be jointly and severally responsible for performance of the contract. Further, the consortium partners shall be jointly and severally responsible for discharging all the obligation of the contract.
 6. Any correspondence exchanged with the leader of the consortium shall be binding on consortium partner(s).
 7. The leader of the consortium shall ensure performance of the equipment/system on behalf of the Consortium.
 8. The consortium partners shall bear the pre-tender expenses incurred by them.
 9. It is agreed that Consortium Partner(s) of this agreement will not assign or transfer any of their rights or obligations under this agreement without the written consent of the Purchaser as well as the other consortium partner(s).
 10. We, the consortium partners hereby undertake and confirm that none of the consortium partner is blacklisted / debarred for business by any of the Government Organisations /Public Sector Units.
 11. In case of breach of the said contract by any of the partners of the Consortium, the other consortium partner(s) hereby agree to be fully responsible for the successful execution/performance of the Contract in accordance with the terms and conditions of the contract.
 12. Further, if the Purchaser suffered any loss or damage on account of any breach of the Contract or any shortfall in the completed equipment/plant, meeting the guaranteed performance parameters as per the technical specifications/contract documents, the Leader of Consortium, Consortium Partners for the present contract shall undertake promptly to make good such loss or damage caused to the Purchaser, on the Purchaser's demand without any demur. The Purchaser shall have the right to proceed against anyone of the consortium partners and it shall neither be necessary or obligatory on the part of the Purchaser to proceed against the Leader of the Consortium to the present contract before proceeding against the first or the second consortium partner.
 13. Each Consortium Partners hereby covenants that it will perform its obligations in full compliance with the conditions of the contract/purchase order (if and when issued by the Purchaser), Consortium Agreement as per the regulations and statutory laws of India. In case of conflict between Contract/Purchaser Order issued by the Purchaser and Consortium Agreement, Contract/Purchase Order shall take precedence over the Consortium Agreement.
 14. The responsibilities for performing execution of the said contract by each consortium partner is as indicated in the Annexure-I. It is further agreed by the consortium partners that the above sharing of responsibilities and obligations shall not in any way be a limitation of joint and several responsibilities of the members under this agreement.

15. We, the consortium partners hereby agree that this consortium agreement remains unaffected due to any change in the Article of Association of any one or any number of consortium partners with immediate or retrospective effect.
16. This Consortium Agreement shall be governed, construed and interpreted in accordance with Laws of India. Courts of Mumbai shall have exclusive jurisdiction in all matters arising there under.
17. The consortium partners shall maintain confidentiality of the information pertaining to this agreement and the information related to execution of the contract.
18. It is further agreed that this Consortium Agreement shall be irrevocable and shall form an integral part of the Contract and shall continue to be enforceable till the Purchaser discharges the same. It shall be effective on the date first above mentioned for all purposes and intents.

<p>1. Common Seal of M/s _____ has been affixed in my/our presence Pursuant to Board Resolution dated _____.</p> <p>Signature..... Designation.....</p>	<p>For M/s _____ (Signature of authorized representative)</p> <p>Name:..... Designation.....</p>
<p>2. Common Seal of M/s _____ has been affixed in my/our presence Pursuant to Board Resolution dated _____.</p> <p>Signature..... Designation.....</p>	<p>For M/s _____ (Signature of authorized representative)</p> <p>Name:..... Designation.....</p>

WITNESSES:

- 1.
- 2.

ANNEXURE-I TO CONSORTIUM AGREEMENT

DIVISION OF WORK AMONG CONSORTIUM PARTNERS BASED ON THEIR RESPONSIBILITIES AND WORKING ARRANGEMENT

SL No	Description of work to be carried out by Consortium (Indicative)	Division of Responsibilities	
		Leader of Consortium	First Consortium Partner
1	Coordination of the Tender/Contract		
2	Design of the CoE		
3	Manufacture & Supply of equipment 1. 2. 3. 4. 5. 6.		
4	Installation & Commissioning 1. 2. 3. 4. 5. 6.		
6	Comprehensive Maintenance during warranty period of 36 months 1. 2. 3. 4. 5. 6.		
5	Hand-Holding Training for 36 months		
6	Placement of certified trainees		

7	Any other additional responsibilities		
---	---------------------------------------	--	--

NOTE:

- i) The above format of consortium agreement is prepared for two consortium partners. In case the number of consortium partner allowed as per the tender is more than two, the format has to be modified accordingly.
- ii) Consortium shall include/modify activities to be carried out by them based on the scope of the tender.

TECH-8

Technical Compliance Sheet

(To be submitted on Bidder's Letterhead)

Sl. No.	Product Name (As mentioned in ToR)	Technical Specifications (As per ToR)	Compliance (Yes/No)	If No, Reasons of deviations	Remarks (Additional features, if any)

Note:

The Technical compliance sheet shall provide a detailed list of identified requirements and specifications as mentioned in the ToR (Section-III). The bidder should indicate against the requirement in the compliance column to indicate the extent to which their proposals comply with the requirements. Bidder should also fill the details of proposed hardware and provide the necessary information.

The offered product within the scope of this RFP may have some features not contained in the ToR. Bidder may provide these details separately. These will not be part of above evaluation criteria.

Authorized Signatory with Date and Seal:

Name and Designation: _____

Address of the Bidder: _____

TECH-9

Manufacturer's Authorization Form

(To be submitted on OEM Letterhead)

To,

The Director,
Technical Education and Training, Odisha, Cuttack
Killa Maidan, Buxi Bazar, Cuttack – 753001.

Dear Sir,

We M/s. _____ who are established and reputable manufacturers of

_____ do hereby authorize M/s. _____ (Name and address of Agent / Dealer) to participate in the above tender.

We hereby extend our technical assistance to the bidder during installation and inspection of the product.

We hereby certify that, the equipment being sold would not be declared End of Support (EoS) or become obsolete in the next 5 years. Also, we certify that the products being sold would be covered under Warranty / Support and OEM support will be available for 03 years (as specified in the RFP/ NIT No.) from the date of installation, even in the case, the bidder becomes "Out of service".

We have studied the requirements of the product and confirm that we will adhere to the specifications of the tender and quality plan and extend all support during the inspection and provide documentary evidence at the time of inspection for the verification by the Client/Client's representative.

Date: _____

Yours faithfully,
(Name)

**Signature and
Seal of the OEM**

For and on behalf of M/s. _____

(Name of the manufacturer)

TECH-10

Declaration regarding “Restrictions on procurement from a Bidder of a country which shares a land border with India”

(To be submitted on Bidder’s Letter Head)

To,

The Director
Directorate of Technical Education and Training, Odisha
Killa Maidan, Buxi Bazaar, Cuttack- 753001
Phone No-0671 (2301061); Email: dtetorissa@gmail.com

Dear Sir,

In reference to bid submitted by M/s _____ against DTE&T Odisha’s Tender NIT Number: _____, I/We have read the Order No: 27945 /F; dated: 16-10-2020 from Finance Department, Government of Odisha regarding **restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries.**

I/We certify that M/s _____ (name of Bidder) is not from such a country and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I also certify that M/s. _____ will not offer any products/services of entity from such countries unless such entity is registered with the Competent Authority.

I/We certify that we/our Collaborator/Tie-Up Partners are/is not from such a country or, if from such a country, have/has been registered with the Competent Authority and we will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority.

We hereby certify that we fulfill all requirements in this regard and are eligible to be considered.

Authorized Signatory with Date and Seal:

Name and Designation: _____

Address of the Bidder: _____

TECH-11

“Bidder’s Affidavit for Micro and Small Manufacturing Enterprises to get an exemption as per the Odisha Procurement Preference Policy”

<< An affidavit on a non-judicial stamp paper of INR 10/- by Company Secretary/ Authorized Representative and Signatory of the Applicant with his/her dated Sign and Seal >>

AFFIDAVIT

(Applicable to Bidders who fall under the definition of Odisha Small Manufacturing Enterprises)

I, Shri/ Smt/ Ms.....(Designation)..... of (name of the Bidder Enterprise) solemnly state the following.

1. That annual turn-over of my enterprise is less than Rs. 50 Cr.
2. That my enterprise has a valid Udyam Registration bearing No..... within the jurisdiction of the State of Odisha.
3. That manufacturing plant/unit of my enterprise is located in Odisha in Village/Town/City_____, Block/ULB_____ Dist._____.
4. That the goods for which I am submitting this bid are manufactured in the above-mentioned manufacturing plant/unit of my enterprise.
5. That the goods to be supplied by my enterprise shall be its own manufactured goods.
6. That my enterprise shall not supply goods which are not manufactured by my enterprise.
7. That my enterprise has not been blacklisted/debarred by any Government Organization from participating in current procurement process.
8. That my enterprise comes under the definition of Odisha Small Manufacturing Enterprise (OSME), as defined in the Policy, and is, therefore, eligible for preferences and relaxations provided in the Policy for OSMEs.
9. That I am submitting this affidavit in response to the tender No_____ dated_____ invited by (Organisation Name) _____ for supply of (item name) _____.

I certify that all information furnished by me as above are true and correct. If any information is found to be incorrect, I and my enterprise shall be liable for any punitive action as deemed appropriate by competent authority.

Date: _____ Signature of Bidder _____

Name of the Bidder_____

Address_____

Mobile No.

Email:

9. SECTION V: Financial Bid (Cover-2)

Price Bid to be submitted in BoQ Ms-Excel format. The following supporting documents to be attached (in PDF format) with the seal & signature of the signing authority along with the Price Bid (BoQ Ms-Excel format) within the Cover-2.

FIN-1

COVERING LETTER (In Bidders Letter Head)

To

[Location, Date]

The Director

Directorate of Technical Educational and Training, Odisha

Killa Maidan, Buxi Bazar, Cuttack- 753001

Phone No-0671(2301061), Fax-0671(2301961)

Email-dtetorissa@gmail.com

Sub: RFP for establishment of Centre of Excellence in Refrigeration & Air Conditioning at Govt. ITI Rourkela under OMBADC districts [FINANCIAL BID]

Sir,

I, the undersigned, offer to provide the Goods/Services for [Insert title of assignment] in accordance with your RFP No. _____, Dated: _____. Our Financial Bid is for the sum of [Insert amount(s) in words and figures*]. This amount is inclusive of all the applicable taxes as per GST Act.

I do hereby undertake that, in the event of acceptance of our bid, the supply/services shall be provided with respect to the terms and conditions as stipulated in the RFP document. Equipment wise cost as per format (FIN - 2) given in the RFP documents are mentioned below:

SL No	Particulars	Total Cost (Rs) (Without Tax)	Total Cost (Rs) (With Taxes)
1	*Total Cost of the Project [supply of equipment, machinery and software (if any) with their perpetual licenses, tools & tackles, consumables, comprehensive warranty for 36 months and cost of freight, insurance, unloading charges, installation & commissioning charges, civil, electrical and other works (if any) and hand-holding for 36 months (if applicable) etc.] **The bidder must provide equipment wise cost breakup (In Annexure) with this section.		
2	CAMC Charges for 4th year		
3	CAMC Charges for 5th year		
4	CAMC Charges for 6th year		
	GRAND TOTAL		
	**Grand Total (Total Cost without tax) in words (_____)		

***If any discrepancy is found in between total figure and words, then the value mentioned in word shall be final.**

**** Both Price of Goods and CAMC charges (without tax) in the BoQ will be considered for Financial Bid Evaluation.**

Equipment wise cost breakup along with rate of GST in Annexure must be submitted along with this price bid format. The total price of this breakup should match the price at serial -01 of above BOQ.

Yours faithfully,

Authorized Signatory [In full and initials]:

Name and Designation of Signatory with Date and Seal:

Annexure
Bill of Quantity (BoQ)
(on Bidders Letterhead)

Name of the Bidder: _____

Sub: RFP for establishment of Centre of Excellence in Refrigeration & Air Conditioning at Govt. ITI Rourkela under OMBADC districts [FINANCIAL BID]

SI No	Item description	HSN Code	Price without GST	Rate of GST (%)	Price with GST
1	Cost of Goods				
1.1					
1.2					
1.3					
1.4					
1.5					
	*Bidder may add rows here for submission of item wise rate				
A	Total of Cost of Goods				
2	Cost of Works				
2.1	Required civil, electrical and other works (if any) for installation and commissioning of equipment/machines				
B	Total of Cost of Works				
3	Cost of Services				
3.1	Hand-Holding Charges for 36 months				
C	Total of Cost of Services				
	GRAND TOTAL (A+B+C) (in figure)				

The bidder can add rows below as required.

Notes:

- i. Price must be quoted in INR only. Quoted Price must be fixed for the entire contract period.
- ii. The quoted price should be inclusive of freight, insurance, comprehensive warranty, unloading charges, installation & commissioning charges, civil, electrical and other works, if any etc.

Our Financial Proposal shall be binding upon us subject to the modifications resulting from contract negotiations, up to expiration of the validity period of the Proposal.

We solemnly affirm that we will strictly adhere to the laws against fraud, corruption and unethical practices, including but not limited to “Prevention of Corruption Act, 1988”, during the Request for Proposal (RFP) process and execution of the Contract, in case we are awarded the work. We understand you are not bound to accept any Proposal you receive.

Yours faithfully,

Authorized Signatory [In full and initials]:

Name and Designation of Signatory with Date and Seal:

10. Section VI: Annexures

Annexure I: Bid Submission Checklist

Sl No	Description	Submitted (Yes/No)	Page No.
Technical Proposal (PART – A)			
1	Filled in Bid Submission Check List (ANNEXURE I)		
2	Covering Letter (TECH -1)		
3	Bid Processing Fee of Rs. 11,800/- /- (date and online number)		
4	EMD amount of equal to 2% of the total quoted price without tax (Scan copy of BG with date and BG number)		
5	Copy of Certificate of Incorporation / Registration of the Bidder		
6	Copy of PAN & Goods and Services Tax Identification Number (GSTIN)		
7	Copies of IT Returns for the last 3 FYs (2021-22, 2022-23 and 2023-24) latest GST Return (in GSTR-3B)		
8	General Details of the Bidder (TECH - 2)		
9	Financial details (Turnover) of the bidder (TECH – 3) along with all the supportive documents such as copies of Income-Expenditure Statement and Balance Sheet for the concerned period		
10	Power of Attorney (TECH - 4) in favour of the person signing the bid on behalf of the bidder		
11	List of completed assignments of similar nature (Past Experience Details) (TECH – 5) along with the copies of work orders for the respective assignments		
12	Undertaking for not have been black listed by any Central / State Govt./any Autonomous bodies as on date of bid submission. (Tech-6)		
13	Consortium/JV Agreement (if applicable) (Tech-7)		
14	Technical Compliance Sheet (Requirements and specifications as per the ToR) (Tech-8)		
15	Manufacturing License or the Manufacturer’s Authorization Form (TECH - 9)		
16	Declaration regarding “Restrictions on procurement from a Bidder of a country which shares a land border with India” (TECH - 10)		
17	Affidavit for Micro and Small Manufacturing Enterprises (TECH - 11)		
18	Net Worth Certificate duly sealed & signed by a Chartered Accountant		
19	Valid ISO/ISI certificates along with Machinery Test Certificate as applicable.		
20	Product wise brochure & catalogues and relevant information on products to be supplied		
21	Certification in its Cover Letter regarding non-failure of performance on any contract		
Financial Proposal (PART -B)			
1	Covering Letter (FIN-1)		
2	Bill of Quantity (BoQ) (Annexure)		

Undertaking:

All the information has been submitted as per the prescribed format and procedure.

Authorized Signatory [In full and initials]: _____

Name and Designation with Date and Seal: _____

Signature: _____

Annexure II: Performance Bank Guarantee Format

To

Directorate of Technical Education and Training, Odisha,
Killa Maidan, Buxi Bazaar, Cuttack – 753001.

WHEREAS <<Name and address of the supplier>> (hereinafter called “the supplier”) has undertaken, in pursuance of contract no.....dated.....to supply.....(description of goods and services) (herein after called “the contract”).

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognized by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of(amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show ground or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the supplier before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until the.....day of.....,20.....

Our* (Name & Address of the* branch) is liable to pay the guaranteed amount depending on the filing of claim and any part thereof under this Bank Guarantee only and only if you serve upon us at our* branch a written claim or demand and received by us at our* branch on or before Dt..... otherwise bank shall be discharged of all liabilities under this guarantee thereafter.

.....
(Signature of the authorized officer of the Bank)

.....
Name and designation of the officer

.....
Seal, name & address of the Bank and address of the Branch

* Preferably at the headquarters of the authority competent to sanction the expenditure for purchase of goods or at the concerned district headquarters or the State headquarters.

Annexure III: Proforma of the “Comprehensive Annual Maintenance Contract (CAMC) to be Signed between DTE&T, Odisha and the Agency”

This Agreement (hereinafter called the “Agreement”) is made on this [•] day of the month of [month], [year].

BETWEEN

Directorate of Technical Education and Training, Odisha having its office at Killa maidan, Buxi Bazar, Cuttack – 753001 (hereinafter referred to as “DTET”, which expression shall, unless repugnant to or inconsistent with the context, mean and include its successors and assigns) of the first part.

AND

M/s. [•], a company incorporated under the provisions of the Companies Act, 1956/2013 or a registered partnership firm under the provisions of the Indian Partnership Act, 1932 or a LLP firm registered under LLP Act, 2008 and having its registered office at [•] (hereinafter referred to as the “Service Provider” which expression shall unless repugnant to or inconsistent with the context, mean and include its successors and assigns) of the other part.

WHEREAS

- i) the Service Provider, in the ordinary course of its business, is engaged in providing [•] services to its clients, and have represented to DTET through their bid(s), against Bid document No. [•] dated [•] (hereinafter called the “Tender”) for the Procurement of Goods and provide Annual Comprehensive Maintenance Services (CAMC) for the equipment/machines supplied at CoE in Mining with Drone Survey at GP Deogarh, after completion of warranty period - [•] (through e-procurement tender process);
- ii) on the basis of the said Tender, DTET has adjudged the Service Provider as a successful Bidder and issued Letter of Award (LoA) No. [•] dated [•] for the same;
- iii) the Service Provider has agreed through their letter of acknowledgement vide letter No. [•] dated [•] to perform and undertake the scope of work as described in the Tender;
- iv) the Service Provider is being engaged to provide the required services on the terms and conditions set forth in this Agreement;

NOW THEREFORE THE PARTIES hereby agree as follows:

1. The mutual rights and obligations of the Service Provider and DTET shall be as set forth in this Agreement, in particular:
 - The Service Provider shall provide the services in accordance with the provisions of this Agreement; and
 - DTET shall make payments to the Service Provider in accordance with the provisions of this Agreement.
2. **Conditions of Contract**
 - (a) **Contract Period:** Annual Comprehensive Maintenance Contract (CAMC) initially valid for fifteen months and may be extended further if necessary.
 - (b) **Payment Terms:** 100% of the annual awarded value (final quoted /negotiated prices) within 30 days of submission of Tax invoice along with certification from the Principal of consignee institute.

Payment shall be released annually on completion of CAMC subject to satisfactory performance and due recommendation from concerned Principal/Head of institute.

(c) Other Terms and Conditions:

- i. Maintenance services shall consist of Preventive and Corrective maintenance of equipment specified above & will include supply and replacement of parts free of cost.
- ii. Preventive maintenance, half-yearly once to be done, should include:
 - a. Check-up to ensure that device connection is proper; cabling is at proper condition etc.
 - b. Cleaning of the above equipment & checking the system performance.
- iii. The Supplier is to furnish the tentative schedule of the preventive maintenance for the equipment mentioned above of Comprehensive Annual Maintenance Contract (CAMC) to be carried out.
- iv. The parts replaced must be new parts or equivalent in performance to new parts.
- v. All software updates should be provided free of cost during CAMC period
- vi. The Supplier will also provide the same maintenance service in case of the movement of equipment from the place of original installation to a different place or lab within the consignee institute's premises.
- vii. Any complaint informed through telephone/e-mail must be acknowledged with a Complaint No. by the Supplier which will be noted by Consignee. All further contact with the Supplier on such complaint will be initiated through that Complaint No. Once rectification is done, that No. will be cancelled by both parties. A register is to be maintained by the Supplier where complaints are to be noted along with Complaint No.
- viii. The maintenance shall normally be done during working hours of the customer i.e. from 10 AM to 5 PM. However, in case of emergency, maintenance may have to be done beyond office hours and even on holidays. Prior arrangement through proper communication should be worked out in all such cases by the Supplier and the Consignee.
- ix. The Service Engineer of the Supplier will be allowed to handle the respective equipment only in presence of the officer in charge at the Consignee site.
- x. The Supplier should ensure that maintenance job is not hampered / delayed due to paucity of spares/ inadequate manpower, etc.
- xi. The Supplier should submit the service call report to the Consignee for each and every service call without fail.
- xii. In case of delay / lack of communication, penalty will be calculated as mentioned below in CAMC Clause.

COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT CLAUSE

Category of Maintenance	Response Time	Penalty/Delay Charges
Minor faults	Immediately with telephonic or email support or maximum within 48hrs from the actual time of reporting of the problem to the Supplier.	0.5% (Half Percent) of the total contract value (without tax) shall be deducted for every week's delay. The delay charges will be deducted from the pending payment or Performance Security submitted by the Supplier. In no context the total delay charges will exceeds 5% of the total Contract Value (excluding taxes).

Minor repair which requires visit to the Consignee Institute	Within 7 days of complaint registered.	
Major breakdown or replacement of parts	Within 15 days from the complaint registered to supplier.	

- xiii. A logbook shall be maintained in which the vendor shall record all the complaints made and parts taken out of branches/office for repair. The vendor shall submit copy of consolidated complaint reports furnishing the details of institute-wise breakdown calls lodged/attended and its status on quarterly basis to Purchaser's office at Cuttack.
- xiv. Repair and servicing of equipment shall be carried out at consignee institute sites, in case the equipment is required to be transported to the Supplier's/manufacture's service workshop for repairs, the same shall be undertaken at the risk and cost of the Supplier. Moreover, the Supplier may furnish Security Amount in form of Demand Draft (equal to the cost of the equipment/machine) to the Principal of the Consignee Institute before the equipment taken out from the consignee institute.
- xv. After completion of the work/repair/maintenance, the Principal of the consignee institute shall issue a certificate of completion to the supplier.

(d) The Agreement shall be governed by the laws of India and the courts of Bhubaneswar/Cuttack shall have exclusive jurisdiction over all disputes arising under, pursuant to and/or in connection with this Agreement

(e) This Agreement has been executed in English, which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Agreement

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective authorized representatives on the day and year first before written.

For and on behalf of Directorate of Technical Education and Training, Odisha

(Authorized Representative)

Name:

Designation: Director

DTE&T Odisha

Killa Maidan, Buxi Bazaar, Cuttack-751001, Odisha

For and on behalf of M/s.

(Authorized Signatory)

Name:

Designation:

Name of the Service Provider:

Address:

In presence of the following witnesses

Name:

Designation:

DTE&T Odisha

Killa Maidan, Buxi Bazaar, Cuttack-751001, Odisha

Name:

Designation:

Name of the Service Provider:

Address:

******* End of the Document*******