INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH (IISER) TIRUPATI

VOLUME I

TECHNICAL BID

CONSTRUCTION OF LIQUID NITROGEN GENERATION FACILITY (DESIGN AND BUILT BASIS) AT IISER TIRUPATI CAMPUS, YERPEDU.

NIT NUMBER: IISERT/ENGG/2025-26/02

Index

CONSTRUCTION OF LIQUID NITROGEN GENERATION FACILITY (DESIGN AND BUILT BASIS) AT IISER TIRUPATI CAMPUS, YERPEDU.

NIT NUMBER: IISERT/ENGG/2025-26/02

भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान (आईआईएसईआर) तिरुपति
INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH (IISER) TIRUPATI
शिक्षा मंत्रालय, भारत सरकार का एक स्वायत्त संस्थान श्रीनिवासपुरम, जंगलापल्लि गांव, पंगुरु (जी.पी.),
ऐर्पेडु (एम), तिरुपति - 517619
An Autonomous Institution, Ministry of Education, Govt. of India At Srinivasapuram, Jangalapalli Village, Panguru (G.P),
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ई-निविदा आमंत्रित करने की सूचना (ई-खरीद मोड)

NOTICE INVITING e-TENDER (e-Procurement mode)

भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान, तिरुपति प्रतिष्ठित एजेंसियों से दो-भाग खुली बोली प्रणाली में ऑनलाइन मद दर बोलियां आमंत्रित करता है, जो नीचे उल्लिखित कार्य के लिए एनआईटी के खंड 2 और 3 में परिभाषित न्यूनतम आवश्यकताओं के अनुसार पात्र पाए गए:

Indian Institute of Science Education and Research, Tirupati invites online item rate bids in two-part open bid system from reputed agencies, found eligible as per the minimum requirements defined in clause 2 & 3 of NIT for the work mentioned below:

निविदा का संक्षिप्त विवरण: /**Brief Details of Tender:**

क्र. सं/ Sr. No	**कार्य का संक्षिप्त विवरण Description of work in Brief**	**बोली लगाने की अनुमानित लागत (रु.) Estimated cost put to bid (Rs.)**	**बयाना राशि (रु.) Earnest Money (Rs.)**	**पूरा होने की अवधि Period of Completion**	**पूर्व-बोली बैठक तिथि और समय Pre bid meeting Date & time**	**तकनीकी बोली प्रस्तुत करने की अंतिम तिथि और समय Last date & time of submission of technical bid**	**तकनीकी बोलियां खोलने का समय और तिथि Time & date of opening of technical bids**
1.	आईआईएसईआर तिरुपति परिसर, ऐर्पेडु में लिक्विड नाइट्रोजन उत्पादन सुविधा (डिजाइन और निर्मित आधार) का निर्माण एनआईटी संख्या - आईआईएसईआरटी/ईएनजीजी/2025-26/02 CONSTRUCTION OF LIQUID NITROGEN GENERATION FACILITY (DESIGN AND BUILT BASIS) AT IISER TIRUPATI CAMPUS, YERPEDU. NIT NUMBER- IISERT/ENGG/2025-26/02	3,18,78,954/-	15,93,948/-	05 महीने Months	10/12/2025 11:00 Hrs	19/12/2025 15:00 Hrs	20/12/2026 15:30 Hrs

निविदा दस्तावेज केंद्रीय सार्वजनिक खरीद (सीपीपी) पोर्टल https://eprocure.gov.in/eprocure/app या संस्थान की वेबसाइट www.iisertirupati.ac.in से डाउनलोड किया जा सकता है और निविदा जमा करने की अंतिम तिथि और समय तक केवल ई-प्रोक्योरमेंट पोर्टल के माध्यम से ऑनलाइन जमा की जानी है।

The Tender Document can be downloaded from Central Public Procurement (CPP) Portal https://eprocure.gov.in/eprocure/app or Institute website www.iisertirupati.ac.inand bid is to be submitted online only through the E-procurement portal up to the last date and time of submission of tender.

निविदा की महत्वपूर्ण तिथियां /**Critical Dates of Tender**

क्र. सं. S.No	**विवरण /Particulars**	**तारीख /Date**	**समय घंटों में Time in Hrs**
1	ऑनलाइन प्रकाशन की तिथि/ Date of Online Publication	06/12/2025	17:00
2	तकनीकी बोली जमा करने की प्रारंभ तिथि/ Technical Bid Submission Start Date	11/12/2025	15:30
3	पूर्व-बोली बैठक /Pre-Bid Meeting	10/12/2025	11:00
4	तकनीकी बोली जमा करने की अंतिम तिथि/ Technical bid Submission Close Date	19/12/2025	15:00
5	तकनीकी बोलियों का खुलना/ Opening of Technical bids	20/12/2025	15:30

No manual bids will be accepted. Bids should be submitted in the E-procurement portal.

Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is 0120-4200462, 0120-4001002, 91-8826246593.

1) Information & Instructions for Online Bid Submission:

1.1 This tender document has been published on the Central Public Procurement Portal (URL:https://eprocure.gov.in/eprocure/app)& Institute website www.iisertirupati.ac.in .

1.2 The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal. More information useful for submitting online bids on the CPP Portal may be obtained at: https://eprocure.gov.in/eprocure/app

1.3 The intending bidder must read the terms and condition of NIT carefully. Bidder should submit his bid only if he considers himself eligible and he is in possession of all the required documents.

1.4 Bid documents should be submitted online complete in all respect along with requisite amount of tender fee (cost of bid documents). Complete set of tender documents comprising Volume I, II, III has been made available at e-tender portal (URL:https://eprocure.gov.in/eprocure/app)

1.5 The bidder would be required to register at e-tender portal URL:http://eprocure.gov.in/eprocure/app . For submission of the bids, the bidder is required to have digital Signature Certificate (DSC) from one of the authorized Certifying Authorities.

1.6 Information and instruction for bidders posted on website shall form part of the bid document.

1.7 The bid document consisting of Vol-I – Technical bid, Vol-II- Technical specifications, Vol-III- Tender drawings and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website (URL:https://eprocure.gov.in/eprocure/app) free of cost.

1.8 But the bid can only be submitted after uploading the mandatory scanned documents such as receipt of online payment towards tender fee, in favour of Director, IISER Tirupati, scan copies of other required documents as specified in the NIT. The tender fee should be deposited online with IISER Tirupati within the period of bid submission as specified in the bid document.

1.9 Those contractors not registered on the website mentioned above, are required to get registered beforehand. If needed they can be imparted training on online tendering process as per details available on the website. The intending bidder must have valid class-III digital signature to submit the bid.

1.10 On opening date, the contractor can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.

1.11 Contractor can upload documents in the form of JPG format and PDF format.

1.12 Certificate of Financial Turn Over: At the time of submission of bid contractor may upload Affidavit/ Certificate from CA mentioning Financial Turnover of last 3 years or for the period as specified in the bid document and further details if required may be asked from the contractor after opening of technical bids. There is no need to upload entire voluminous balance sheet.

1.13 The tender document can be downloaded from http://eprocure.gov.in/eprocure/app and be submitted only through the same website.

2. REGISTRATION of Bidder on e-Procurement Portal

2.1 Bidders are required to enrol on the e-Procurement module of the Central Public Procurement Portal (URL:http://eprocure.gov.in/eprocure/app) by clicking on the link "Click here to Enrol". Enrolment on the CPP Portal is free of charge.

2.2 As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.

2.3 Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.

2.4 Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS / nCode / eMudhra etc.), with their profile.

2.5 Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse.

2.6 Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / eToken.

2.7 The CPP Portal also has user manual with detailed guidelines on enrolment and participation in the online bidding process. Any queries related to process of online bids or queries related to CPP Portal may be directed to the 24x7 CPP Portal Helpdesk.

2.8 The Institute will not be responsible for any type of technical issue regarding uploading of tender on website. URL:http://eprocure.gov.in/eprocure/app) and any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is **0120-4200462, 0120-4001002, 91-8826246593.**

3. SEARCHING FOR TENDER DOCUMENTS

3.1 There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a tender published on the CPP Portal.

3.2 Once the bidders have selected the tenders they are interested in; they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.

3.3 The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

4. PREPARATION OF BIDS

4.1 Bidder should take into account any corrigendum published on the tender document before submitting their bids.

4.2 Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which

the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.

4.3 Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS formats. Bid documents may be scanned with 100 dpi with black and white option.

4.4 To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

5. SUBMISSION OF BIDS

5.1 Bidder should log into the site well in advance for bid submission so that he/she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.

5.2 The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.

5.3 The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.

5.4 The uploaded tender documents become readable only after the tender opening by the authorized bid openers.

5.5 Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.

5.6 Kindly add scanned PDF or JPG format files of all relevant documents in a single PDF file of compliance sheet.

6 ASSISTANCE TO BIDDERS

6.1 Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.

6.2 Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is **0120-4200462, 0120-4001002, 91-8826246593**.

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH(IISER)
TIRUPATI

SECTION I - i) NOTICE INVITING e-TENDERING

1. Indian Institute of Science Education and Research, Tirupati invites online item rate bids in open bid system from reputed construction agencies, found eligible as per the minimum requirements defined in clause 2 & 3 of NIT for the work mentioned below:

Name of work &Location	:	CONSTRUCTION OF LIQUID NITROGEN GENERATION FACILITY (DESIGN AND BUILT BASIS) AT IISER TIRUPATI CAMPUS, YERPEDU.
NIT NUMBER	:	IISERT/ENGG/2025-26/02
Estimated cost	:	Rs. 3.19 Crores
Period of completion	:	5 Months
Tender Fees Last Dates & time to fill/upload the tender through e-tendering.	:	Rs. 590/- Inclusive of GST (Five Hundred and Ninety only) – (Non – refundable) up to 15:00 hrs on 19/12/2025.
Pre bid meeting date & Time	:	At 11:00 hrs through hybrid mode on 10/12/2025
Time & date of opening of Technical Bids	:	At 15:30 hrs on 20/12/2025

2. The applicant should be a well-established and reputed Contractor/Authorised Dealer / Manufacturer (OEM) fulfilling following requirement will be eligible to apply.

a) Should have experience of having successfully completed works during the last seven years ending previous day of the last date of submission of tenders
   (i) Three similar works each costing not less than Rs. **1.28 Crores** or
   (ii) Two similar works each costing not less than **Rs 1.91 Crores** or
   (iii) One similar work costing not less than **Rs 2.55 Crores.**

b) Components of work executed other than those included in definition of similar work shall be deducted while calculating cost of similar work. Bidder shall submit abstract of cost of work in support of this.

The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to the last date of receipt of applications for tender.

Similar work means: Construction of Liquid Nitrogen generation facility / Scientific Lab facility or Commissioning of High-end Scientific Equipment / Facilities

This should be certified by an officer not below the rank of Executive Engineer in Govt. Departments and Superintending Engineer/ Chief Project manager or Equivalent in other organizations.

The main contractor/agency qualifies on other similar work criteria but does not fulfil the criteria of SITC of Liquid Nitrogen Generator, in such case the contractor shall enter into an MoU with the Original Equipment Manufacturer of the Liquid Nitrogen Generator as per the criteria mentioned in the technical specifications. The OEM should comply with the criteria mentioned in the technical specifications. **Further, the OEM shall provide authorization to only one bidder. Providing authorization to more than one bidder will lead to rejection of the bids.**

c) Should have had average financial turnover (Gross) of at least Rs **1.58 Crores** on similar works defined above during the immediate last three consecutive years' balance sheets duly audited by Charted Accountant. Year in which no turnover is shown would also be considered for working out the average. No enhancement in the value of turnover for the past years shall be made for bringing them to current turnover level.

d) Should not have incurred any loss (profit after tax should be positive) during the immediate last two consecutive financial years ending 31st March, 2025, duly certified and audited by the Charted Accountant.

e) Should have solvency of **Rs. 1.28 Crores** certified by a Scheduled Bank and obtained not earlier than six months before the date of submission of Bid.

3. CONTRACT ELIGIBILITY CRITERIA

Further, the contract eligibility includes the following:

3.1 **Experience on similar type of completed works executed during the last seven years;** and details like monetary value, clients, proof of satisfactory completion.

Similar work means: Construction of Liquid Nitrogen generation facility / Scientific Lab facility or Commissioning of High-end Scientific Equipment / Facilities
The works executed only in India will be considered for similar work experience.

The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7 % per annum, calculated from the date of completion to previous day of last date of submission of tender.

3.2 In case the similar work done specified as eligibility work is for other than Govt (State, Central, PSU) agency/organisation, the Income tax return statement indicating the necessary details for the same shall be submitted for consideration.

3.3 Documentary evidence of adequate financial standing, Certified by Bankers, Audited Profit & Loss A/c and Balance Sheet, Annual turnover in last three years, access to adequate working capital.

3.4 Information regarding projects in hand, current orders, regarding litigation, exclusion/expulsion or black listing, if any.

3.5 Bidders not meeting the minimum eligibility criteria shall be summarily rejected.

3.6 Copy of the enlistment order and certificates of work experience and other required as specified in the bid documents shall be scanned and uploaded to the e-tendering website within period of bid submission.

3.7 **The proposed model of the Liquid Nitrogen Generator should be fulfilling all the technical requirements as mentioned in the document and the details of proposed model should be enclosed.**

3.8 Bidder should not have been blacklisted by any state/Central Departments/PSUs/Sports Authority of India, Autonomous bodies during the last 7 years of its operations. Affidavit shall be made in current date after the date of invitation of the tender as per **Form F** and shall be furnished on a 'Non-Judicial' stamp paper worth Rs.100/- otherwise the tender shall be rejected.

3.10 Affidavit for not executing the works as back-to-back basis.

3.11 Declaration about site inspection

4 The time allowed for carrying out the work will be **5 Months** from the date of start as defined in schedule 'C' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the tender.

5 The bid document is Two stage two Envelope e-tendering system can be seen from the Central Public Procurement Portal (URL:https://eprocure.gov.in/eprocure/app)& Institute website www.iiserTirupati.ac.in The contents of Envelope I & Envelope II are specified in the NIT.

6 Submission of Technical Bid Documents

Information and instruction for bidder for e-tendering forming part of bid document uploaded on website. Last date and time of submission of technical bid, Tender fee and other documents as specified in the NIT.

List of Document to be scanned and uploaded within the period of bid submission:

i Transaction Receipt of online deposit of tender fee and EMD declaration form.
ii Enlistment Order of the Contractor (Attested copy) if required.
iii Certificates of work Experience certificates submitted shall clearly indicate the:
   a. Type and nature of work
   b. Completion cost

c. Time period, actual completion date.

d. In case, if any of above details are not included in the work done certificates, then such bids will not be considered for opening.

iv Certificate of Registration for GST and acknowledgement of up to date filed return if required.

v **Scanned Copies of all eligibility documents required as per NIT required for Technical Evaluation clause 19 -Annexure –I**

Tender documents should be submitted online complete in all respect along with requisite amount of tender fee (cost of bid document). Complete set of tender documents comprising Volume I, II, III and financial bids has been made available at e-tender portal http://www.eprocurement & www.iiserTirupati.ac.in

7 Director, Indian Institute of Science Education & Research, Tirupati shall be the "Accepting Authority" hereinafter referred to as such for the purpose of this Contract.

8 Bids must be accompanied by tender fee and bid-security/EMD (Earnest Money Deposit) for the work in clause 9 & 10 payable at Tirupati.

9 Tender fee shall be Rs. 590/-, inclusive of GST (Five Hundred Ninety only) non-refundable fee required to be deposited in **IISER Tirupati Bank account** through net banking as detailed below failing which the bid will be declared non-responsive.

a) Bank A/c Details for crediting Tender Fee:

Name: IISER Tirupati
Bank: State Bank of India, Korlagunta
Branch Account No: **39721824884**
IFSC Code: SBIN0001901

Scanned copy of the net banking transaction receipt towards payment of tender fee shall be uploaded on the e-tendering website within the period of bid submission failing which the bid will be declared non-responsive.

10 **Bid Security/ Earnest Money Deposit (EMD)**: All other bidders should submit an EMD of Rs. 15,93,948/- in the form of DD/ NEFT /RTGS.

a) Bank A/c Details for crediting EMD:

Name IISER Tirupati
Bank: State Bank of India, Korlagunta
ranch Account No: **35029946671**
IFSC Code: SBIN0001901

11 **Pre-bid meeting**

11.1 The Bidder or his officially authorized representative is invited to attend a pre-bid meeting, which will be through hybrid mode. Bidder/ bidder representative who wish to attend Pre-bid meeting should email to engineering@iisertirupati.ac.in requesting for participation, for the link to be shared if participating online. The Pre-Bid meeting will be held through Hybrid mode on **10/12/2025** at 11:00 AM.

11.2 The purpose of the meeting is to clarify issues and to answer questions on matters that may be raised at that stage.

11.3 The Bidder is requested to submit their questions/ queries/ clarifications in writing or by email/ fax to reach the IISER Tirupati before the meeting. Bidders can send Pre-bid queries on their letter head referring tender number by Speed post on above said address so as to

reach IISER Tirupati or on e-mail address engineering@iisertirupati.ac.in **before 10/12/2025** up to 10:00 Hours.

11.4 Minutes of the meeting (MOM), including the text of the questions raised (without identifying the source of enquiry) and the responses given will be uploaded as corrigendum on website (URL:https://eprocure.gov.in/eprocure/app) and www.iisertirupati.ac.in

12 Any modification of the bidding documents which may become necessary as a result of the pre-bid meeting shall be made by the IISER, Tirupati through pre bid MOM and this shall form part of bidding document.

13 IISER Tirupati reserves the right to reject any prospective applicant without assigning any Reason and to restrict the list of technically qualified bidders to any number deemed suitable by it, if too many bids are received satisfying the laid down criterion.

14 Site visit, availability of site and cost of bidding

14.1 The Bidder shall bear all costs associated with the preparation and submission of his Bid, and the IISER, Tirupati will in no case be responsible and liable for these costs.

14.2 The Bidder should inform the IISER in advance about the proposed site visit.

14.3 The Bidder, at his own responsibility and risk is encouraged to visit, inspect and survey the Site and its surroundings and satisfy himself before submitting his bid as to the form and nature of the Site, the means of access to the Site, the accommodation he may require, etc.

14.4 In general, Bidders shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A Bidder shall be deemed to have full knowledge of the Site, whether he inspects it or not and no extra claims due to any misunderstanding or otherwise shall be allowed.

14.5 The costs of visiting the Site shall be at the Bidders' own expense. Any report shared at the site, by the IISER is subject to verification by the contractor. Any deviations of information in the report and the actual site will not be the responsibility of the IISER.

14.6 The site for the work is available.

15 Content of Bidding Documents

15.1 Submission of a bid by a Bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be executed and local conditions and other factors having a bearing on the execution of the works.

15.2 The Bidder shall submit the Bid, which satisfies each and every condition laid down in the bid documents, failing which, the bid is liable to be rejected.

15.3 Notice Inviting e-Tender shall form part of the Contract document.

15.3.1 The documents listed below comprises one set of bid document that are issued to Bidders:

PART – I

Technical Bid Envelope –I

Volume I

a) Notice Inviting Tender (Including eligibility criteria)

b) Tender Form and General Rules and Directions for the Guidance of the Contractor

c) General Conditions of Contract

d) Safety Code for Contract Work

e) Proforma of Schedule A to F

Volume- II: Special Conditions & PARTICULAR SPECIFICATIONS of Contract & Tender Drawings

PART-II

Envelop II – (Financial bid)

Volume –III: Financial bid Schedule of quantity (BOQ).

16 Amendment of Bid Documents

16.1 Before the deadline for submission of bids, the IISER Tirupati may modify the bidding documents by issuing corrigendum.

16.2 Any corrigendum so issued shall be part of the bid documents as well as Contract document and shall be on uploaded website URL:https://eprocure.gov.in/eprocure/app and www.iisertirupati.ac.in. Bidders should take note of the uploaded corrigendum and submit the tenders accordingly.

17 Bid Validity

17.1 The bid submitted shall become invalid if:

i The bidders are found ineligible.

ii The bidder does not deposit Online tender fee with IISER Tirupati before the date and time fixed for opening of the bids.

iii The bidders do not upload all the documents (including GST registration) as stipulated in the bid document.

iv If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest tenderer in the office of tender opening authority.

17.2 The bids submitted shall remain valid for acceptance for a period of 90 days from the date of opening of the technical bids.

18 Technical bid Opening

Online bid documents submitted by intending bidders shall be opened only of those bidders, whose tender fee and EMD declaration form submitted with IISER Tirupati and scanned their scanned copies i/c tender documents scanned and uploaded are found in order.

19 Technical Evaluation of the bids

19.1 The bidder qualifying initial criteria as set out in Para 2 & 3 and the details furnished by bidders in the Proforma 1 and **FORM A to Form I** enclosed as **Annexure-1** of Section II will be evaluated by the IISER Tirupati technical evaluation committee appointed by the competent authority. Performa's listed are elaborated below,

i. Initial bidding capacity Proforma I,
ii. Financial Information **FORM "A"**
iii. Solvency certificates from a scheduled bank - **Form B**
iv. Details of similar works -- **Form C**
v. Performance report of works referred to in **Form D**
vi. Organisation structure in **Form E**
vii. PROFORMA OF AFFIDAVIT FOR NON - BLACK LISTING- **Form F**
viii. Affidavit for not executing the works as back-to-back basis- **Form G**
ix. Declaration about site inspection - **Form H**
x. Authorization letter from OEM **– Form I**

The bidders qualifying the initial eligibility criteria as set out in clause no 2 & 3 above will be evaluated based on the information submitted by bidders as per clause no 19.1 after due verification and selection will be made by IISER, TIRUPATI on the basis of the strength of individual applicants. Main consideration will be the ability of the Principal Contractor to fulfil technical, financial, contractual and legal obligations. Special emphasis will be laid on competence to do good quality works within specified time schedule and in close coordination with other agencies over and above the rate structure of the items.

IISER Tirupati reserves the right to waive off minor deviations in the eligibility, if the technical evaluation committee consider that they do not materially affect the capability of the bidder to perform the contract. IISER Tirupati decision in this regard shall be final and binding & conclusive.

20. TECHNICAL EVALUATION CRITERIA:

The bidders qualifying the initial eligibility criteria, as set out in Para 2 & 3 above, will be evaluated for following criteria by the technical committee.

20.1 Evaluation of performance: Evaluation of the performance of the bidders for eligibility shall be done by the committee constituted by the Director, IISER Tirupati. All the eligible similar works executed and submitted by the bidders may be got inspected by a committee which may consists client or any other authority as decided by the competent authority. Performance of Works (Quality) shall be accessed based on this inspection, if inspection is carried out otherwise on the basis of the performance report given by the client department officer not below the rank of Executive Engineer.

20.2 Even though a bidder may satisfy the above requirements, he would be liable for dis- qualification if he has:

(a) Made misleading or false representation or deliberately suppressed the information in the forms, statements and enclosures required in the pre-qualification document.

(b) Records of poor performance such as abandoning work, not properly completing the contract, or financial failures / weaknesses etc.

PART II

21 Financial /Price bid

21.1 After technical evaluation of (part I) bids as per clause 2, 3 & 20 above only short listed agencies financial bids shall be opened at the notified date and time.

22. Clarification of Bids

22.1 To assist in the examination and comparison of Bids, the IISER, Tirupati may, at its discretion, ask any Bidder for clarification of his Bid, including breakdown of unit rates. The request for clarification and the response shall be in writing or by email / fax, but no change in the price or substance of the Bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the IISER, Tirupati in the evaluation of the bids.

22.2 No Bidder shall contact the IISER, Tirupati on any matter relating to his bid from the time of the bid opening to the time the contract is awarded.

22.3 Any effort by the Bidder to influence the IISER's bid evaluation, bid comparison or contract award decisions, may result in the rejection of his bid.

23. Indian Institute of Science Education and Research Tirupati, does not bind itself to accept the lowest or any other bid, and reserves the right to reject any or all of the tenders received without assigning any reasons. Bids in which any of the prescribed conditions are not fulfilled or any conditions including that of the conditional rebate put forth by the bidder shall be summarily rejected.

24 If the Bid of the successful Bidder is seriously unbalanced in relation to the Engineer-in-charge or his representative's estimate of the cost of work to be executed under the contract, the IISER, Tirupati may require the Bidder to produce detailed rate analyses for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those rates with the implementation/construction methods and schedule proposed.

25 Award Criteria

25.1. IISER Tirupati reserves the right without being liable for any damages or obligation to inform the bidder to:

a) amend the scope and value of the contract to the bidder

b) Reject any or all applications without assigning any reasons

25.2 IISER, Tirupati shall award the contract to the Bidder whose evaluated offer / bid has been determined to be the technically suitable and financially lowest and is substantially responsive to the Bidding Document, provided further that the Bidder is determined to be qualified to execute the contract satisfactorily. The Board of Governors of IISER reserves the right to accept or reject any application and to annul the pre-qualification process and reject all applications at any time, without thereby incurring any liability to the affected applicants or specifying the grounds for the Employer's action

26 Contractor whose tender is accepted will be required to furnish Performance guarantee of 5% (Five Percent) of the tendered amount within the period specified in Schedule C. This guarantee shall be in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'C'. including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically

without any notice to the contractor and without prejudice to any other right or remedy. The Earnest Money deposited along with tender shall be returned after receiving the aforesaid performance guarantee. The earnest money deposited along with bid shall be returned after receiving the aforesaid performance guarantee.

The contractor whose bid is accepted will also be required to furnish either copy of the applicable licenses/registrations or proof of applying for obtaining labour licenses, registration with EPFO, ESIC, and BOCW Welfare Board i/c provident Fund Code No. if applicable and also ensure the compliance of aforesaid provisions by the sub-contractors, if any engaged by the contractor for the said work and programme chart (Time and Progress) within the period specified in Schedule F.

27 Bidder shall quote rates for all items in the BOQ of work in the financial bid document. It will be obligatory on the part of the tenderer to sign the tender document for all the components (The schedule of quantities, conditions and special conditions etc.)

28 **Disclosures**

Any change in the constitution of the contractor's firm, where it is a partnership firm, as declared in the prequalification documents submitted by the bidders at the time of submission of prequalification documents, should be disclosed to the IISER, Tirupati, at any time between the submission of bids and the signing of the contract.

SECTION I

ii) ADDITIONAL INFORMATION AND INSTRUCTION TO APPLICANTS

1.0. **GENERAL**

1.1 **STATEMENT OF OBJECTIVES, BRIEF SCOPE & PARTICULARS OF THE WORK**

The entire Project will be executed under a Single Point Responsibility system.

Construction of Liquid Nitrogen generation facility (Design and Built Basis) as per the relevant standards and CPWD specifications for the applicable items.

Particulars given above are provisional and liable to change and must be considered only as advance information to assist the bidder.

1.2. Letter of transmittal and other forms for pre-qualification are attached (Annexure I)

1.3. All information called for in the enclosed forms should be furnished against the respective columns in the forms. If information is furnished in a separate document, reference to the same should be given against respective columns. Such separate documents shall be chronologically placed at the end of the prescribed application. If information is 'nil' it should also be mentioned as 'nil' or 'no such case'. If, any particulars/query are not applicable in case of the applicant, it should be stated as 'not applicable'. However, the applicants are cautioned that not giving complete information called for in the application forms required, not giving it in clear terms or making change in the prescribed forms or deliberately suppressing the information may result in the applicant being summarily disqualified. Applications made by Fax and those received late will not be entertained.

1.4. References, information and certificates from the respective clients certifying suitability, technical know-how or capability of the applicant should be signed by an officer not below the rank of Superintending Engineer/Chief Project Manager or equivalent.

1.5 The Tenderer is advised to attach any additional information which he thinks is necessary in regard to his capabilities to establish that the applicant is capable in all respects to successfully complete the envisaged work. He is however, advised not to attach superfluous information. No further information will be entertained after pre-qualification document is submitted, unless it is called for by Employer.

1.6 **LETTER OF TRANSMITTAL**

The applicant should submit the letter of transmittal attached with tender document duly signed by the agency.

1.7 INTEGRITY AGREEMENT duly signed by the agency along with letter is required to be submitted by the agency.

LETTER OF TRANSMITTAL

From

To
THE DIRECTOR
INDIAN INSTITUTE OF SCIENCE EDUCATION & RESEARCH (IISER)
Transit Campus at Sree Rama Engineering
College Building, Karakambadi Road,
Mangalam (B.O), Tirupati - 517 507

Sub: SUBMISSION OF TENDER DOCUMENTS FOR THE WORK OF
Name of work & Location: CONSTRUCTION OF LIQUID NITROGEN GENERATION FACILITY (DESIGN AND BUILT BASIS) AT IISER TIRUPATI CAMPUS, YERPEDU.

NIT NUMBER : IISERT/ENGG/2025-26/02

Having examined the details given in press notification and the tender document for the above work, I/we hereby submit the tender documents and other relevant information. I/we agree with all the terms and conditions given in the bid document.

1. I/We hereby certify that all the statements made and information supplied in the enclosed forms and accompanying statements are true and correct.

2. I/We have furnished all information and details necessary for eligibility criteria and have no further pertinent information to supply. We understand and agree that financial bids of the only short listed agencies selected by IISER Tirupati out of the top ranked technically qualified agencies evaluated and found eligible under clause 20 of the NIT, shall only be opened.

3. I/We submit the requisite certified solvency certificate and authorize the Director, IISER, Tirupati to approach the Bank issuing the solvency certificate to confirm the correctness thereof. I/We also authorize Superintending Engineer, Tirupati to approach individuals, employers, firms and corporation to verify our competence and general reputation.

4. I/We submit the following certificates in support of our suitability, technical know-how & capability for having successfully completed the following works.

Name of Work:	Certificate from
1.	1.
2.	2.
3.	3.

Enclosures:

Seal of applicant
Date of submission

Signature(s) of applicant(s)

Undertaking to sign the integrity Agreement

To,

……..,
……..,
……..

Sub: SUBMISSION OF TENDER DOCUMENTS FOR THE WORK OF

Name of work &Location	:	**CONSTRUCTION OF LIQUID NITROGEN GENERATION FACILITY (DESIGN AND BUILT BASIS) AT IISER TIRUPATI CAMPUS, YERPEDU.**
NIT NUMBER	:	IISERT/ENGG/2025-26/02

Dear Sir,

It is here by declared that IISER is committed to follow the principle of transparency, equity and competitiveness in public procurement.

The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender/bid documents, failing which the tenderer/bidder will stand disqualified from the tendering process and the bid would be summarily rejected.

This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall

be deemed as acceptance and signing of the Integrity Agreement on behalf of the IISER. Yours

faithfully

Registrar

Forwarding letter for Integrity Agreement

To
INDIAN INSTITUTE OF SCIENCE EDUCATION & RESEARCH (IISER) TIRUPATI
Srinivasapuram, Jangalapalli Village,
Panguru (G.P), Yerpedu (M),
Tirupati – 517619

Sub: SUBMISSION OF TENDER DOCUMENTS FOR THE WORK OF

Name of work &Location	:	**CONSTRUCTION OF LIQUID NITROGEN GENERATION FACILITY (DESIGN AND BUILT BASIS) AT IISER TIRUPATI CAMPUS, YERPEDU.**
NIT NUMBER	:	IISERT/ENGG/2025-26/02

I/We acknowledge that IISER is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document.

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by IISER. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the enclosed Integrity Agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, IISER shall have unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid is accordance with terms and conditions of the tender/bid.

Yours faithfully

(Duly authorized signatory of the Bidder)

To be signed by the bidder and the signatory competent / authorised to sign the relevant contract on behalf of IISER

INTEGRITY AGREEMENT

This Integrity Agreement is made at ..... on this ..... day of ..... 20.....

BETWEEN

IISER represented through its Registrar, (Hereinafter referred as the '**Principal/Owner**', which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

.....

(Name and Address of the Individual/firm/Company)

through ..... (Hereinafter referred to as the (Details of duly authorized signatory)

"**Bidder/Contractor**" and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

Preamble

WHEREAS the Principal / Owner has floated the Tender (NIT No. .....) (hereinafter referred to as "**Tender/Bid**") and intends to award, under laid down organizational procedure, contract for .....
(Name of work) hereinafter referred to as the "**Contract**".

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as "**Integrity Pact**" or "**Pact**"), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:

Article 1: Commitment of the Principal/Owner

1) The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:
   (a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

(b) The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.

(c) The Principal/Owner shall endeavour to exclude from the Tender process any person, whose conduct in the past has been of biased nature.

2) If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

Article 2: Commitment of the Bidder(s)/Contractor(s)

1) It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Government / Department all suspected acts of **fraud or corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.

2) The Bidder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:

a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.

b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.

c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/Contract(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/representatives in India, if any. Similarly, Bidder(s)/Contractor(s) of Indian

Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participates in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.

e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.

3) The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

4) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice **means a wilful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests.**

5) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/ her reputation or property to influence their participation in the tendering process).

Article 3: Consequences of Breach

Without prejudice to any rights that may be available to the Principal/Owner under law or the Contract or its established policies and laid down procedures, the Principal/Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the Principal/Owner's absolute right:

1) If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days' notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. **Such exclusion may be forever or for a limited period as decided by the Principal/Owner.**

2) **Forfeiture of EMD/Performance Guarantee/Security Deposit**: If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder/Contractor.

3) **Criminal Liability:** If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

4) **Article 4: Previous Transgression**

a. The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.

b. If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Bidder/Contractor as deemed fit by the Principal/ Owner.

c. If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

Article 5: Equal Treatment of all Bidders/Contractors/Subcontractors

1) The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Subcontractors/ sub- vendors.

2) The Principal/Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.

3) The Principal/Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

Article 6- Duration of the Pact

This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 12 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded.

If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority.

Article 7- Other Provisions

1) This Pact is subject to Indian Law, place of performance and jurisdiction is the **Headquarters of the** Principal/Owner, who has floated the Tender.

2) Changes and supplements need to be made in writing. Side agreements have not been made.

3) If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.

4) Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intensions.

5) It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken by the Owner/Principal in accordance with this **Integrity Agreement/ Pact or interpretation thereof shall not be subject to arbitration.**

Article 8- LEGAL AND PRIOR RIGHTS

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contact documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

.....
(For and on behalf of Principal/Owner)
.....
(For and on behalf of Bidder/Contractor)
WITNESSES:
1. .....
(signature, name and address)
2. .....
(signature, name and address)

Place:

Dated:

ANNEXURE 1

PROFORMA '1'

INFORMATION REGARDING INITIAL BIDDING CAPACITY

The information to be filled in by the Bidder in the following pages will be used for purposes of Pre-qualification as provided above.

1. For Individual Bidders

1.1 Constitution or legal status of Bidder (Attach Copy)

Place of registration:

Principal place of business:

(Power of attorney of signatory of Bid)

1.2 (A) Value of work Completed during the last five years (in Rs. Lakh)

Particular	***Year***	***Value***
Total value of Work Executed in the last five years**	2020-2021	
	2021-2022	
	2022-2023	
	2023-2024	
	2024-2025	

** Immediately preceding the financial year in which bids are received. Attach certificate from Chartered accountant.

(B) Existing commitments and on-going works: (format for **clause 3.7)**

Description Of work	***Place & state***	***Contract No.& Date***	***Name & Address of Client***	***Value of Contact (Rs. Lacs)***	***Stipulated period of completion***	***Value of work remaining to be completed***	***Anticipated date of completion (Rs.)***	***Remarks* Information regarding the litigation if any**

FORM 'A'

FINANCIAL INFORMATION

I. Financial Analysis-Details to be furnished duly supported by figures in balance sheet/profit & loss account for the last five years duly certified by the Chartered Accountant, as submitted by the applicant to the Income Tax Department (Copies to be attached.)

Year	2020-21	2021-22	2022-23	2023-24	2024-25
Gross annual turn over					
Profit/ Loss					

Signature of Chartered Accountant with Seal Signature of Bidder(s)

Form 'B'

FORM OF BANKERS' CERTIFICATE FROM A SCHEDULED BANK

This is to certify that to the best of our knowledge and information that;

_____

(Name of the individual or the firm)

_____

(Name of the proprietor in case of a sole proprietorship concern or names of partners in case of partnership concern as per bank's record, be indicated)

_____

(Address of the customer as per bank record) is a / are customer(s) of our bank,

is/are respectable and can be treated as good for any engagement up to a limit of

Rs. _____

(Rupees_____only)

This certificate is issued without any guarantee or responsibility on the bank or any of the officers.

Signature of the Manager

Seal of Bank

Note: This certificate should be issued on the letter head and addressed to the DIRECTOR, IISER TIRUPATI Campus, Srinivasapuram, Jangalapalli Village, Panguru (G.P), Yerpedu(M), Tirupati – 517619 in a Sealed Cover

FORM 'C'

DETAILS OF ELIGIBLE SIMILAR NATURE OF WORKS COMPLETED DURING THE LAST 7 (Seven) YEARS ENDING PREVIOUS DAY OF THE DATE OF SUBMISSION OF TENDER

S. No.	Name of work / project and location	Owner or Sponsoring organization	Cost of work in crores of Rupees	Date of commencement As per contract	Stipulated date of completion	Actual date of completion	Litigation /arbitration cases pending/ in progress with details	Name and address/telephone number of officer to whom reference may be made	Remarks
1	2	3	4	5	6	7	8	9	10

• Indicate gross amount claimed and amount awarded by the Arbitrator.

SIGNATURE OF BIDDER(S)

FORM D

PERFORMANCE REPORT OF WORKS REFERRED TO IN PROFORMA 'C''

1. Name of the work/ Project & Location.

2. Agreement No.

3. Estimated Cost

4. Tendered Cost

5. Date of Start

6. Date of completion

   (a) Stipulated date of completion.

   (b) Actual date of completion.

7. a) Whether case of levy of compensation for
   Delay has been decided or not? Yes / No

   d) If decided, amount of compensation levied for
   Delayed completion if any?

8. Amount of reduced rate items, if any

9. Performance report

   i Quality of Work: Outstanding /Very Good / Good / Poor

   ii Financial soundness : Outstanding /Very Good / Good/ Poor

   iii Technical Proficiency : Outstanding /Very Good / Good / Poor

   iv Resourcefulness : Outstanding /Very Good / Good / Poor

   v General Behaviour : Outstanding /Very Good / Good / Poor

DATED: **Executive Engineer or Equivalent**

FORM 'E'

STRUCTURE AND ORGANISATION

1. Name and address of the applicant

2. Telephone No./Telex No./Fax No.

3. Legal Status (attach copies of original Document defining the legal status)
   (a) An Individual
   (b) A proprietary Firm
   (c) A Firm in partnership
   (d) A limited Company or Corporation.

4. Particulars of registration with various Government bodies (Attach attested photo-copy)

   a) Registration Number.

   b) Organization / Place of registration

5. Names and Titles of Directors and officers with designation to be concerned with this work.

6. Designation of individuals authorized to act for the organization.

7. Has the bidder, or any constituent partner in case of partnership firm Limited Company/Joint Venture, ever been convicted by the court of law?? If so, give the details.

8. In which field of Civil Engineering Construction, the bidder has specialization and interest?

9. Any other information considered necessary but not included above.

SIGNATURE OF BIDDER(S)

FORM F

PROFORMA OF AFFIDAVIT FOR NON - BLACK LISTING

I/we undertake and confirm that our firm/partnership firm has not been blacklisted by any state/Central Departments/PSUs/Autonomous bodies during the last 7 years of its operations. Further that, if such information comes to the notice of the IISER Tirupati then I/we shall be debarred for bidding in IISER TIRUPATI in future forever. Also, if such an information comes to the notice of department on any day before date of start of work, the Engineer-in-charge shall be free to cancel the agreement and to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee (Scanned copy of this notarized affidavit to be uploaded at the time of submission of bid)

Signature of Bidder(s) or an authorized
Officer of the firm with stamp

Signature of Notary with seal

Note:1. The affidavit shall be made in current date after the date of invitation of the tender.

Affidavit shall be furnished on a 'Non-Judicial' stamp paper worth Rs.100/-otherwise the tender shall be rejected

COUNTERSIGNED

Engineer in Charge

IISER Tirupati

Form 'G'

AFFIDAVIT

NAME OF WORK: CONSTRUCTION OF LIQUID NITROGEN GENERATION FACILITY (DESIGN AND BUILT BASIS) **AT IISER TIRUPATI CAMPUS, YERPEDU.**

I / we undertake and confirm that eligible similar work(s) has/ have not been got executed through **another contractor on back to back basis**. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred for tendering in IISER TIRUPATI in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-charge shall be free to forfeit the entire amount of Earnest Money Deposit/ Performance Guarantee. (Scanned copy to be uploaded at the time of submission of Bid.)

NOTE: Affidavit to be furnished on a 'Non-Judicial' stamp paper worth Rs.100/-.

Name & Signature of Contractor

Form 'H'

Declaration about site inspection

To
The Registrar,
INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH Tirupati
Sreenivasapuram, Jangalapalli Village,
Panguru (G.P), Yerpedu(M), Tirupati – 517619

NAME OF WORK: CONSTRUCTION OF LIQUID NITROGEN GENERATION FACILITY (DESIGN AND BUILT BASIS) **AT IISER TIRUPATI CAMPUS, YERPEDU.**,

Dear Sir,

It is hereby declared that, I/ We_____ inspected and examined the subject site and its surrounding and satisfy myself / ourselves as to the nature of the ground and sub-soil (so far as is practicable), the forms and nature of the site. / ourselves before submitting the bid, the accommodation which may require and all necessary information as to risks, contingencies and other circumstances which may influence or affect our bid have been obtained. I/We the bidder shall have full knowledge of the site and no extra charge consequent upon any misunderstanding or otherwise shall be claimed in later date.

I /We bidder shall be responsible for arranging and maintaining at own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by me/us implies that I / We have read this notice and all other contract documents and has made myself /ourselves aware of the scope and specifications of the work to be done and local conditions and other factors having a bearing on the execution of the work.

Yours faithfully

(Duly authorized signatory of the bidder)

FORM 'I'

AUTHORIZATION LETTER FROM OEM

Name of work: **CONSTRUCTION OF LIQUID NITROGEN GENERATION FACILITY AT IISER TIRUPATI CAMPUS, YERPEDU.**

I/we certify that I/we fulfil the eligibility criteria given in the document for setting up of **LIQUID NITROGEN GENERATION FACILITY**.

I / We hereby authorize M/s ……, for executing the work of **LIQUID NITROGEN GENERATION FACILITY**.

I / We will execute the work as per specifications and conditions of the agreement and as per directions of the Engineer–in-Charge till the completion of the work.

I / We will be responsible for necessary action to handover the installations and for rectification of defects and repair during the maintenance / warranty period.

Also I / We will employ full time technically qualified Engineer / supervisor for the work as required. I / We will attend inspection of officers of the department as and when required.

Date:

Signature of Contractor with date
Address

Witness with address

CHECK LIST: Details of Enclosures/documents required to be uploaded on website https://eprocure.gov.in/eprocure/appthrough the E-procurement portal up to the last date and time of submission of tender.

Sl. No.	Description of item	Scanned copies Uploaded on website	Not uploaded
1.	Pre-Qualification Documents as per Annexure 1 **Pro forma I , Form A to Form I**		
2.	Power of attorney as required		
3.	Certificate of Registration as required		
4.	Memorandum of Articles of association as required		
5.	C A certificate for Audited Balance Sheet and Profit & Loss statement for the past three financial years		
6.	Supporting certificates for technical and financial capability from relevant authorities.		
7	INTEGRITY AGREEMENT duly signed by the agency along with **letter of Transmittal**		
8	Any other important information.		
9	Scan copies of net banking receipt towards payment of Tender fee and Bid Security Declaration Form		
10	Letter of transmittal duly signed by the bidder.		
11	Uploading of the tender document Vol-I, Vol-II, Vol-III and financial bids		
12	Any other relevant document required to be uploaded on website as per tender conditions.		

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH – IISER TIRUPATI.

Name of work &Location	:	**CONSTRUCTION OF LIQUID NITROGEN GENERATION FACILITY** (DESIGN AND BUILT BASIS) **AT IISER TIRUPATI CAMPUS, YERPEDU.**
NIT NUMBER	:	IISERT/ENGG/2025-26/02

SECTION – II

ITEM RATE TENDER & CONTRACT FOR WORKS

SECTION- II

Tender Form Item Rate Tender & Contract for Works

Name of work & Location: CONSTRUCTION OF LIQUID NITROGEN GENERATION FACILITY (DESIGN AND BUILT BASIS) **AT IISER TIRUPATI CAMPUS, YERPEDU.**

NIT No.: IISERT/ENGG/2025-26/02

Tender(s) to be submitted online by (time) **15:00 hours on 19/12/2025**
URL:https://eprocure.gov.in/eprocure/app

Tender(s) to be opened 15:30 hours on 20/12/2025 through online by Indian Institute of Science Education and Research, Tirupati

TENDER

I/We have read and examined the notice Inviting Tender, Schedule, Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, special conditions &other document and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the Director of Indian Institute of Science Education and Research Tirupati (IISER-Tirupati) within the time specified in Schedule **8 Months viz**, schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to the Conditions of contract and with such materials as are provided for and in respects in accordance with such conditions so far as applicable.

We agree to keep the tender valid for (90) ninety days from the due date of its opening and not to make any modifications in its terms and conditions.

A sum of Rs (figure)----------(in words) ----------

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has been deposited in Deposit at call Receipt of a Schedule bank/demand draft of a scheduled bank/bank guarantee issued by a Schedule Bank as earnest money. If I/we, fail to furnished the prescribed performance guarantee within prescribed period, I/we agree that the said Director Of Indian Institute of Science Education and Research Tirupati (IISER-Tirupati) or his successors in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely, if I/we fail to commence work as specified, I/we agree that Director Of Indian Institute of Science Education and Research Tirupati(IISER-TIRUPATI) or his successors in office shell without prejudice to any other right or

remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely.
The said Performance Guarantee shall be a guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form. Further, I/We agree that in case of forfeiture of Earnest Money or Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.

I/We hereby declare that I/we shall treat the tender documents drawings and other records connected with the work as secret/ confidential documents and shall not communicate information / derived there from to any person other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the state or IISER Tirupati.

Dated ……. Signature of Contractor

Seal

Postal Address

Witness:

Address:

Occupation:

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on the Director IISER, Tirupati for sum of

Rs……. (Rupees……
…….).

The letters referred to below shall form part of this contract Agreement: -

(a)

(b)

(c)

For & on behalf of the Director, IISER Tirupati

Signature……..

Dated……. Designation……

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH – IISER TIRUPATI.

Name of work & Location: CONSTRUCTION OF LIQUID NITROGEN GENERATION FACILITY (DESIGN AND BUILT BASIS) AT IISER TIRUPATI CAMPUS, YERPEDU.

NIT NUMBER: IISERT/ENGG/2025-26/02

SECTION - III

GENERAL CONDITIONS OF CONTRACT

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH TIRUPATI

(i) General Rules & Directions

1. All work proposed for execution by contract will be notified in a form of invitation to tender prominently displayed in public places and signed by the officer inviting tender or by publication in Newspapers as the case may be.

   This form will state the work to be carried out, as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited with the application, and the amount of the security deposit and performance guarantee to be deposited by successful tenderer and the percentage, if any, to be deducted from bills. Copies of specification, designs and drawings and any other documents required in connection with the work signed for the purpose of identification by the officer inviting tender shall also be open for inspection by the contractor at the office of officer inviting tender during office hours.

2. In the event of the tender being submitted by a firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power of attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act' 1952.

3. Receipts for payment made on account of work, when executed by a firm, must also be signed by all the partners, except where contractors are described in their tender as a firm in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm.

4. Applicable for Item Rate Tender only
   Any person who submits a tender shall fill up the usual printed form, stating at what rate he is willing to undertake each item of the work. Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort, including conditional rebates will be summarily rejected. No single tender shall include more than one work, but contractors who wish to tender for two or more works shall submit separate tender for each. Tender shall have the name and number of the works to which they refer, written on the envelopes. (Applicable for Item Rate Tender only)

   The rate(s) must be quoted in decimal coinage. Amounts must be quoted in full rupees by ignoring fifty paisa and considering more than fifty paisa as rupee one.

   In case the lowest tendered amount (worked out on the basis of quoted rate of Individual items) of two or more contractors is same, the such lowest contractors may be asked to submit sealed revised offer quoting rate of each item of the schedule of quantity for all sub sections/sub heads as the case may be, but the revised quoted rate of each item of schedule of quantity for all sub sections/sub heads should not be higher than their respective origin original rate quoted already at the time of submission of tender. The lowest tender shall be decided on the basis of revised offer.

If the revised retendered amount (worked out on the basis of quote rate of individual items) of two or more contractors received in revised offer is again found to be equal, then the lowest tenderer, among such contractors, shall be decided by draw of lots in the presence of Registrar IISER Tirupati, Engineer in charge lowest contractors those have quoted equal amount of their tenders.

In case of any such lowest contractor in his revised offer quotes rate of any item more than their respective original rate quoted already at the time of submission of tender, then such revised offer shall be treated invalid. Such case of revised offer of the lowest contractor or case of refusal to submit revised offer by the lowest contractor shall be treated as withdrawal of his tender before acceptance and 50% of his earnest money shall be forfeited.

In case all the lowest contractors those have same tendered amount (as a result of their quoted rate of individual items), refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each lowest contractors.

Contractor, whose earnest money is forfeited because of non-submission of revised offer, or quoting higher revised rate(s) of any item(s) than their respective original rate quoted already at the time of submission of his bid shall not be allowed to participate in the re-tendering process of the work.

If the revised tendered amount of two more contractors received in revised offer is again found to be equal, the lowest tender, among such contractors, shall be decided by draw of lots in the presence of Registrar, IISER, Tirupati, Superintending Engineer, Dy. Registrar(F&A) & the lowest contractors those have quoted equal amount of their tenders.

In case all the lowest contractors those have quoted same tendered amount, refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each contractor.

Contractor(s), whose earnest money is forfeited because of non-submission of revised offer, shall not be allowed to participate in the re-tendering process of the work.

5. The officer inviting tender or his duly authorized representative will open tenders in the presence of any intending contractors who may be present at the time, and will enter the amounts of the several tenders in a comparative statement in a suitable form. In the event of a tender being accepted, a receipt for the earnest money shall thereupon be given to the contractor who shall thereupon for the purpose of identification sign copies of the specifications and other documents mentioned in Rule I. The earnest money of all unsuccessful bidders shall thereupon be returned to the contractor remitting the same, without any interest.

6. The officer inviting tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest or any other tender.

7. The receipt of an accountant or clerk for any money paid by the contractor will not be considered as any acknowledgement of payment to the officer inviting tender and the contractors shall be responsible for ensuring that he procures a receipt signed by the officer inviting tender or a duly authorized cashier/accounts officer.

8. The memorandum of work tendered for and the schedule of materials to be supplied by the department and their issue-rates, shall be filled and completed in the office of the officer inviting tender before the tender form is issued. If a form is issued to an intending tenderer without having been so filled in and incomplete, he shall request the officer to have this done before he completes and delivers his tender.

9. The tenderers shall sign a declaration under the officials Secret Act 1923, for maintaining secrecy of the tender documents drawings or other records connected with the work given to them. The unsuccessful tenderers shall return all the drawings given to them.

10. In the case of Item Rate Tenders, only rates quoted shall be considered. Any tender containing percentage below / above the rates quoted is liable to be rejected. Rates quoted by the contractor in item rate tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates written in figures and words. However, if a discrepancy is found, the rates which correspond with the amount worked out by the contractor shall unless otherwise proved be taken as correct. If the amount of an item is not worked out by the contractor or it does not correspond with the rates written either in figures or in words, then the rates quoted by the contractor in words shall be taken as correct. Where the rates quoted by the contractor in figures and in words tally, but the amount is not worked out correctly, the rates quoted by the contractor will unless otherwise proved be taken as correct and not the amount.
In event no rate has been quoted for any item(s), leaving space both in figure(s), word(s), and amount blank, it will be presumed that the contractor has included the cost of this/these item(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly.

10 A In case of Percentage Rate Tenders only percentage quoted shall be considered. Any tender for Item containing item rates is liable to be rejected. Percentage quoted by the contractor in Rate percentage rate tender shall be accurately filled in figures and words, so that there is no Tender only discrepancy.

11. In the case of any tender where unit rate of any item/items appear unrealistic, such tender will be considered as unbalanced and in case the tenderer in unable to provide satisfactory explanation, such a tender is liable to disqualified and rejected.

12. All rates shall be quoted on the tender form. The amount for each item should be worked out and requisite totals given. Special care should be taken to write the rates in figures as well as in words and the amount in figures only, in such a way that interpolation is not possible. The total amount should be written both in figures and in words. In case of figures, the word `Rs' should be written before the figure of rupees and word `P' after the decimal figures, e.g. Rs. 2.15 P and in case of words, the word `Rupees' should precede and the word `Paisa' should be written at the end. Unless the rate is in whole rupees and followed by the word `only' it should invariably be up to two decimal places. While quoting the rate in schedule of quantities, the word `only' should be written closely following the amount and it should not be written in the next line.

12 A In Percentage Rate Tender, the tenderer shall quote percentage below /above (in figure as well as in words) at which he will be willing to execute the work. He shall also work out the total amount of his offer and same should be written in the figures as well as in Words in such a way that no interpolation is possible. In case of figures, the word 'Rs' should be written before the figure of rupees and word 'P' after the decimal figures e.g. 'Rs 2.15P' and in case of words, the word 'Rupees' should be preceding and the word 'Paisa' should be written at the end.

13. (i) The Contractor, whose tender is accepted, will be required to furnish performance guarantee of 5% (Five Percent) of the tendered amount within the period specified in scheduled C. This guarantee shall be in the form of Deposit at call receipt of any scheduled bank/ banker's cheque of any scheduled bank/Demand draft of any scheduled bank /Pay order of any scheduled bank or Government Securities or Fixed Deposit Receipt or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form.
(ii) The Contractor, whose tender is accepted, will also be required to furnish by way of Security Deposit for the fulfilment of his contract, an amount equal to 2.50 % of the tendered/accepted value of the work. The Security Deposit will be collected by deductions from the running bills of the contractor at the rates mentioned above and the earnest money deposited at the time of tenders, will be treated as a part of the Security Deposit. The security amount will also be accepted in the shape of
Government Securities. Fixed Deposit Receipt and Guarantee Bonds of a Scheduled Bank or State Bank of India will also be accepted for this purpose provided confirmatory advice is enclosed.

14. On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Engineer-in Charge shall be communicated in writing to the Engineer-in-Charge.

15. GST or any other tax on material in respect of this contract shall be payable by the contractor and IISER Tirupati will not entertain any claim whatsoever in respect of the same.

16. The contractor shall give a list of IISER employees, if any, related to him.

17. The tender for the work shall not be witnessed by a contractor or Contractors who himself/ themselves has/ have tendered or who may and has/ have tendered for the same work. Failure to observe this condition would render, tenders of the contractors tendering, as well as witnessing the tender, liable to summary rejection.

18. The tender for composite works includes, in addition to building work, all other works such as providing architectural & structural designing services, sanitary and water supply installations, drainage installation, External Façade, Electrical works, Heating ventilation and air conditioning system, Integrated Building Management system, Lifts, roads and path etc. The tenderer apart from being a registered contractor (B&R) of appropriate class, must associate himself with agencies of appropriate class which are eligible to tender for sanitary and water supply drainage, electrical Heating ventilation and Air conditioning system, Integrated Building Management system, Solar Water Heating system works in the composite tender.

19. The contractor shall submit list of works which are in hand (progress) in the following form:

Name of work	Name of client & particulars of works being executed	Value of work in Rs.	Position of works in progress	Remarks

20. The contractor shall comply with the provisions of the Apprentices Act 1961, and the rules and orders issued there under from time to time. If he fails to do so, his failure
will be a breach of the contract and the Engineer in charge may at his discretion without prejudice to any other right or remedy available in law cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.

21. Bidder shall have valid Provident Fund Code Number, GST registration No and bidder shall also ensure compliance of the EPF & MP Act, 1952 by the sub-contractors, if any engaged by the contractor for the said work.

22. The standard publications like General Conditions of Contract, Delhi schedule of rates (for civil), Specifications for Civil and Electrical works and Delhi analysis of rates (for civil) with amendments / correction slips up to the last date of submission of tender can be seen free of cost from the website www.cpwd.gov.in. or www.eprocure.gov.in

23.

a) Contractor must ensure to quote percentage rate of in the financial bid.
b) Tenderer shall quote the percentage rate above or below two places of decimals only.
c) The tenderer shall quote only one over all percentage rate above or below on the designated place, which shall be applicable on both Civil and E&M components.

24. If a tenderer quotes nil rates against each item in item rate tender or does not Quote any percentage above/below on the total amount of the tender or any section/subhead in percentage rate tender, the tender shall be treated as invalid and will not be entertained as lowest tenderer.

25. Contractor shall not divert any advance payments or part thereof for any other purpose other than needed for completion of the contracted work. All advance payments received as per terms of the contract (i.e. mobilization, secured against materials brought at site, secured against plant & machinery and / or for work done during interim stages, etc.) are required to be re-invested in the contracted work to ensure advance availability resources in terms of materials, labour, plant & machinery needed for required pace of progress for timely completion of work.

(ii) CONDITIONS OF CONTRACT

Definitions:

The **contract** means the documents forming the tender and acceptance thereof and the formal agreement executed between the competent authority on behalf of the Director, Indian Institute of Science Education and Research Tirupati and the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in-Charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.

1 In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them: -

i). The expression **works** or **work** shall, unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional.

ii). The **Site** shall mean the land/ or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.

iii). The **Contractor** shall mean the individual, firm or company, whether incorporated or not, undertaking the works shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company.

iv) The Director, Indian Institute of Science Education and Research Tirupati means his successors also.

v) The **Engineer-in-Charge** means Engineer/Officer either from IISER, Tirupati or consultant notified by The Director (IISER, Tirupati) who shall supervise and be in-charge of work and who shall act on behalf of the Director, IISER for execution of contract.

vi) **IISER** means Indian Institute of Science Education and Research Tirupati, or his authorized representative.

vii) **Accepting Authority** shall mean the authority mentioned in Schedule 'C'.

viii) **Excepted Risk** are risks due to riots (other than those on account of contractor's employees), war (whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, military or usurped power, any acts of Government, damages from aircraft, acts of God, such as earthquake, lightening and unprecedented floods, and other causes over which the contractor has no control and accepted as such by the Accepting Authority or causes solely due to use or occupation by IISER Tirupati of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to IISER-Tirupati faulty design of works.

ix). **Market Rate** shall be the rate as decided by the Engineer-in-Charge on the basis of the cost of materials and labour at the site where the work is to be executed plus the percentage mentioned in Schedule `C' to cover, all overheads and profits. Provided that no extra overheads and profits shall be payable on the part(s) of the work assigned to other agency(s) by the contractor as per terms of contract.

x). **Schedule(s)** referred to in these conditions shall mean the relevant schedule(s) annexed to the tender papers or the standard Schedule of Rates of the CPWD Delhi schedule of rates mentioned in Schedule `C' hereunder, with the amendments thereto issued up to the date of receipt of the tender.

xi). **Department** means Indian Institute of Science Education and Research Tirupati. (IISER Tirupati)

xii). **Specifications** means the specifications contained in tender documents, CPWD specifications 2019 Vol I & II with up to date correction slips

xiii). **Tendered Value** means the value of the entire work as stipulated in the letter of award.

xiv) *Date of commencement of work: The date of commencement of work shall be* the date of start as specified in schedule "C" or the first date of handling over the site, whichever is later, in accordance with the phasing if any, as indicated in the tender documents.

2 Where the context so requires, words imparting the singular only also include the plural and vice versa. Any reference to masculine gender shall whenever required include feminine gender and vice versa.

3 Headings and Marginal notes to these General Conditions of Contract shall not be deemed to form part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.

4 The contractor shall be furnished, free of cost one certified copy of the contract documents except standard specifications. Schedule of Rates and such other printed and published documents, together with all drawings as may be forming part of the tender papers. None of these documents shall be used for any purpose other than that of this contract

5 The work to be carried out under the Contract shall, except as otherwise provided in these conditions, include all labour, materials, tools, plants, equipment and transport which may be required in preparation of and for and in the full and entire execution and completion of the works. The descriptions given in the Schedule of quantities shall, unless otherwise stated, be held to include wastage on materials, carriage and cartage, carrying and return of empties, hoisting, setting, fitting and fixing in position and all other labours necessary in and for the full and entire execution and completion of the work as aforesaid in accordance with good practice and recognized principles.

6. The contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and the rates and prices quoted in the Schedule of Quantities, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the works

.

7. The several documents forming the contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to General conditions.

7.1. In the case of discrepancy between the schedules of quantities, the specifications and or the drawings, the following order of preference shall be observed.

(i) Description of items as given in Schedule of Quantities.

(ii) Particular Specifications, Special Conditions and Additional conditions, if any.

(iii) Drawings.

(iv) CPWD Specifications.

(v) General conditions of contract for CPWD works.

(vi) Indian Standard Specifications of B.I.S.

(vii) Manufacturers' specifications & as decided by Engineer-in-charge.

(viii) Sound Engineering practices.

7.2. If there are varying or conflicting provision made in any one document forming part of the contract, the Accepting Authority shall be deciding authority with regard to the intention of the documents and his decision shall be final and binding on the contractor.

7.3. Any error in the description, quantity or rate in Schedule of Quantities or any omission there from shall not vitiate the contract or release the contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the contract.

8. The successful tenderer/contractor, on acceptance of his tender by the Accepting Authority, shall within one month from the stipulated date of start of the work, sign the contract consisting of: -

(i) The notice inviting tender, all the documents including drawings if any, forms the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.

(ii) Standard Form Consisting of followings

(a) NIT, Work order
(b) Item rate tender form & Contract for worker.
(c) General Rules and Directions
(d) Condition of contracts
(e) Clauses of contracts, Safety Code, Contractor' Labour Regulations, Model rules for the protection of health, sanitary arrangements for workers employed by IISER or its Contractors.
(f) Proforma of agreement
(g) Proforma of Schedule A to H
(h) Special Condition of contracts
(i) Technical specifications
(j) Tender drawings
(k) Priced Schedule of quantities.
(l) All correspondence between the parties till award of contract

(iii) Till such time contract agreement is signed between the parties, all the documents mentioned Sr. 8 (i), 8 (ii)- (a to l) above shall be binding on the contractor.

(iv) No payment for the work done will be made unless contract is signed by the contractor.

9. <u>Clauses of contract, safety code and contractor's labour regulations.</u>

All the Clauses, safety code, and contractor's labour regulations should be strictly followed as per the General conditions of contract 2023for construction works published by CPWD along with the up to date correction slips and modifications issued.

10. <u>Form of Performance Security (Guarantee)</u>

Bank Guarantee Bond

1. In consideration of the Director IISER Tirupati (hereinafter called "IISER-Tirupati") having offered to accept the terms and conditions of the proposed agreement between----------and---------- (hereinafter called "the said Contractor(s)") for the work ---------- ----------(hereinafter called "the said agreement") having agreed to production of an irrevocable Bank Guarantee for Rs.---------(Rupees ---------- --------only) as a security/guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said agreement.

   We ---------- (hereinafter referred to as "the Bank") hereby (indicate the name of the Bank) Undertake to pay to the IISER Tirupati an amount not exceeding Rs----------. (Rupees ----------only) on demand by IISER Tirupati

2. We ----------do hereby undertake to pay the amounts due and payable (indicate the name of the Bank) under this Guarantee without any demure, merely on demand from the IISER Tirupati stating that the amount claimed as required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs----------(Rupees----------only)

3. We, the said bank further undertake to pay the IISER Tirupati any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.

   The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Contractor(s) shall have no claim against us for making such payment.

4. We, ---------- further agree that the guarantee herein contained shall (indicate the name of the Bank) remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the IISER Tirupati under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Engineer-in-Charge on behalf of the IISER Tirupati certified that the terms and conditions of the said agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee.

5. We, ---------- further agree with the IISER Tirupati that the IISER Tirupati (indicate the name of the Bank) shall have the fullest liberty without our consent and without affecting in any manner our obligation hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of
   the powers exercisable by the IISER Tirupati against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said Contractor(s) or for any forbearance, act of omission on the part of the IISER Tirupati or any indulgence by the IISER Tirupati to the said

Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

7. We, ---------- lastly undertake not to revoke this guarantee except (indicate the name of the Bank) with the previous consent of the IISER Tirupati in writing.

8. This guarantee shall be valid up to----------unless extended on demand by the IISER Tirupati. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs---------- (Rupees----------only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

Dated the ----------day of----------for----------(indicate the name of the Bank)

11. **Proforma of Agreement**

ARTICLE OF AGREEMENT is made at Tirupati on the .... day of................... 2017 between Indian Institutes Of Science Education and Research Tirupati, (IISER Tirupati) (Herein after referred to as the employer which expression shall include its successors and assigns where the context so admits) of the one part and ----- -- --- ----------------------------------

----

(Hereinafter referred to as the "contractor(s) which expression shall include his/their respective heirs, executors, administrators and assigns where the context so admits) of the other part.

WHEREAS the employer is desirous of getting the work ………………………………… ……………………………………………………………………………………………….. done and caused drawings, schedule of quantities, terms and conditions and specification describing the work to be executed and completed maintained. (hereinafter called "the works") and has accepted a tender of the CONTRACTOR for the execution, completion and guarantee of such works.

AND WHERE AS the contractor has deposited a Sum of Rs. ---

-- With employer as security for the due

performance of this agreement as provided in the said Conditions.

NOW IT IS HEREBY agreed and declared by and between the parties as follows.

(a) In consideration of the payments to be made to him as herein after provided the contractor shall upon and subject to the condition herein contained and the said conditions executed and complete the work shown upon the said drawings and such further detailed drawings which may be furnished to him and described in the said specifications and the said priced schedule of quantities within ----------------- from the date of order to commence the work.

(b) The employer shall pay to the contractor such sum that shall become payable hereunder at the times and in the manner specified in the said conditions.

(c) Time is essence of this agreement and the contractor agrees to pay compensation for delay as per Clause 2 of general Condition of Contract.

(e) The documents mentioned below under (g) shall form the basis of this agreement and the decision Engineer or the Engineers in Charge, in reference to all matters of dispute as to material and workmanship shall be final and binding on both the parties.

(f) The employer through the Engineer-in-Charge reserves to himself the right of altering the drawings and the adding to or omitting any items of works or of having portions of the same carried out departmentally or otherwise and such alterations or variations shall not violate agreement.

(g) This agreement comprises the work said above and the entire subsidiary work connected there with, even though work may not be shown on the drawings or described in the said specifications or the priced schedule of quantities.

This agreement contains the following documents in addition to pages of articles of agreement.

(a) NIT/WORK ORDER
(b) Item rate tender form & contract for works.
(c) General Rules and Directions
(d) Condition of contracts
(e) Clauses of contract, safety code and contractor's labour regulations
(f) Proforma of agreement
(g) Proforma of Schedule A to C
(h) Special Condition of contracts
(i) Technical specifications
(j) Tenders drawings
(k) Price Schedule/ Schedule of Quantities
(l) All corresponds between the parties until award of contract.
(m) Prequalification document

In witness whereof the parties hereto have their respective hands the day and the year herein above written.

Signed by for and on behalf of the employer.

Engineer In-Charge Engineer.

Witness (1) ----------

Witness (2) ----------

Signed by the said contractor

Address ---------- Witness (1) ----------

Countersigned Witness (2) ----------

On Company Letter Head
BID SECURITY DECLARATION

To
The Registrar,
INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH Tirupati
Sreenivasapuram, Jangalapalli Village,
Panguru (G.P), Yerpedu(M), Tirupati - 517619

Tender No. IISERT/ENGG/2025-26/02

Notice Inviting Tender for CONSTRUCTION OF LIQUID NITROGEN GENERATION FACILITY (DESIGN AND BUILT BASIS) AT IISER TIRUPATI CAMPUS, YERPEDU.

Sir,

We, the undersigned, declare that

1. We understand that, according to tender conditions, bids must be supported by a Bid Securing Declaration.

2. We accept that we will automatically be suspended from being eligible for bidding in any contract with the Institute for the period of **3 years** starting from the bid closing date, if we are in breach of our obligation(s) under the bid conditions, because we:

   (a) Have withdrawn our bid during the period of bid validity specified in the letter of bid; or

   (b) Having been notified of the acceptance of our bid by the institute during the period of bid validity, (i) fail or refuse to execute the contract, if required, or (ii) fail or refuse to furnish the performance security, in accordance with the tender conditions.

Date:

Authorized Signatory
Name:
Place:
Designation:
Contact No:

APPENDIX (xv) -CLAUSE 25

APPENDIX XV Notice for appointment of Arbitrator [Refer Clause 25]

To
The Chairman
Building and Works Committee IISER Tirupati.
Dear Sir,
In terms of clause 25 of the agreement, particulars of which are given below, I/we hereby give notice to you to appoint an arbitrator for settlement of disputes mentioned below:

1. Name of applicant
2. Whether applicant is Individual/Prop. Firm/Partnership Firm/Ltd. Co.
3. Full address of the applicant
4. Name of the work and contract number in which arbitration sought
5. Name of the Division which entered into contract
6. Contract amount in the work
7. Date of contract
8. Date of contract Date of initiation of work
9. Stipulated date of completion of work
10. Actual date of completion of work (if completed)
11. Total number of claims made
12. Total amount claimed
13. Date of intimation of final bill (if work is completed)
14. Date of payment of final bill (if work is completed)
15. Amount of final bill (if work is completed)
16. Date of request made to EE for decision
17. Date of receipt of EE's decision
18. Date of appeal to you
19. Date of receipt of your decision.

Specimen signatures of the applicant

(only the person/authority who signed the contract should sign)
I/We certify that the information given above is true to the best of my/our knowledge. I/We enclose following documents.

1. Statement of claims with amount of claims.
2. Copy in duplicate to: Engineer in Charge.

Yours faithfully

(v) PROFORMA OF SCHEDULES

(Operative Schedules to be supplied to each intending tenderer)

SCHEDULE 'A'

Schedule of quantities Enclosed as Financial bid document

SCHEDULE 'D'

Extra schedule for specific requirements/document for the work, if any. -- NIL—

SCHEDULE 'E'

Reference to General Conditions of contract. –

Name of work &Location	:	Construction of liquid nitrogen generation facility (DESIGN AND BUILT BASIS) at IISER Tirupati campus, Yerpedu.
NIT NUMBER	:	IISERT/ENGG/2025-26/02
Estimated cost put to tender	:	**Rs 3.19 Crores**
(i) Earnest money	:	**Rs 15,93,948/-**
(ii) Performance Guarantee	:	5% of tendered value.
(iii) Security Deposit	:	5 % of tendered/accepted value

SCHEDULE 'F'

GENERAL RULES & DIRECTIONS:

Officer inviting tender: Registrar, IISER Tirupati.

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 (c): See below.

Definitions:

2 (vi) Engineer-in-Charge : Executive Engineer IISER Tirupati.

2(viii) Accepting Authority : Director, IISER Tirupati

2(x) Percentage on cost of materials and labour to cover all overheads and profits: 15%

2(x) (a)Standard Schedule of rates : Delhi Schedule of Rates 2023 Vol I & II

2(viii) Department: Indian Institute of Science Education and Research (IISER) Tirupati

2(ix) Standard contract Form: Item rate contract

Clause 1

(i) Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance 15days

(ii) Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period provided in (i) above 7 days

Clause 2

Authority for fixing compensation under clause 2.	The Director Indian institute of Science Education & Research, IISER Tirupati

Clause 5

Number of days from the date of issue of letter of award works for reckoning date of start	7 days

Mile stone(s) as per table given below: -

Time allowed for Execution

S.No.	Description of Milestone	Time allowed in Months (From date of start)	Amount to be withheld in case of Non- achievement of mile stone (% of Tendered Amount)
(i)	Submission of drawings and technical details of the complete facility	10 Days	0.5%
(i)	Completion of earth work, plinth work, and Drainage work, etc.	45 days	1.25%
(ii)	Completion of all civil items and approvals regarding the Liquid Nitrogen Generating system	105 days	1.25%
(iii)	Supply of all the components of facility including accessories	135 days	1.0%
(iv)	Completion of all work as per agreement provisions with all necessary connections, provisions as applicable and handing over to the client.	5 Months	1.0 %

Authority to decide:

(i) Extension of time : Engineer in charge
(ii) Rescheduling of mile stones: Engineer in charge

(iii) Shifting of date of start in case of delay in handing over of site: Director IISER Tirupati

Clause 7

Gross work to be done together with net payment /adjustment of advances for material	

collected, if any, since the last such payment
for being eligible to interim payment Rs. 10 Lakhs

Clause 7A

Whether clause 7A shall be applicable: Yes.

No Running Account Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable are submitted by the contractor to the Engineer-in Charge.

Clause 10

List of testing equipment to be List of Equipment for Field Testing provided by the contractor at site lab.: NIL

Clause 10 B

Whether Clause 10 B shall be applicable : Not Applicable

Clause 10B(i)

Whether Clause 10B (i) shall be applicable. : Not Applicable.

Clause 10B(ii)

Whether Clause 10B (ii) shall be applicable. : Not Applicable.

Clause 10 C

Component of labour expressed as percent of value of work = 25%

CLAUSE 10 CA

NOT APPLICABLE

CLAUSE 10 CC

NOT APPLICABLE

Clause 11

Specifications to be followed

1) Technical specification given in for execution work Tender documents.
2) CPWD standard specification 2019 Volume I & II with up to date correction slips for civil works.
3) Indian Standard Specification
4) Manufactures specification
5) Engineer in charge decision.

12.2 (c) Deviation Limit beyond which clauses 12.2 (c) shall apply for building work — 100 %

(i) Deviation Limit beyond which clauses 12.2 (c) shall apply for foundation work — 100%

(Except items mentioned in earth work sub head in DSR and related items)

(ii) Deviation Limit for items mentioned in earth work Sub head of DSR or related items — 100%

Clause 16

Competent Authority for deciding reduced rates — Registrar, IISER Tirupati

Clause 25

Constitution of Dispute Redressal Committee (DRC) Chairman – To be nominated by Director, IISER Tirupati

Clause 32

Requirement of Technical Reprehensive(s) and Recovery Rates:

Sl. No	**Requirement of Technical Staff**		**Minimum Experience (Years)**	**Designation of Technical staff**	**Rate at which recovery shall be made from the contractor in the event of not fulfilling**
	Qualification	**Number (of Major + Minor Component)**			
1	Graduate Engineer	1	5 years (and having experience of one similar nature of work)	Project Manager	Rs. 25,000/- Per month per person

Assistant Engineers retired from Government services that are holding Diploma will be treated at par with Graduate Engine

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH (IISER) TIRUPATI

Volume II

Special conditions of contract and scope of work, technical specifications

Special Conditions of Contract:

1. The works contract to be entered into with the successful tenderer will be governed by the CPWD works Manual 2019 or the latest in force.
2. No night work will be permitted without the written permission of the Institute.
3. The successful tenderer / Contractor shall observe all safety regulations and take necessary safety precaution as called for and Safety Precautions enclosed herewith.
4. In all matters of dispute, the decision of the Director, INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH Tirupati Shall be final and binding on the tenderer / contractor.
5. Some changes are likely in the quantities furnished as well as in the layout, design and specifications of the work. The rate quoted shall be deemed to be inclusive of all such contingencies.
6. No material shall be incorporated in the work until the inspecting Engineer certified in writing that such materials have been inspected and approved by him or else the rejected material should be removed from site immediately.
7. The Contractor shall closely scrutinize all the drawings issued in connection with the work by this organization and bring to the notice of the Institute if any discrepancies, omissions in the drawings before undertaking the actual work pertaining thereto.
8. The contractor should extend full co-operation to the other contractors who may be doing other works in the same areas to enable them to execute their portions of work without any delay or difficulty.
9. The power required for work will be at free of cost. However, the contractor should ensure safety precautions while handling electrical equipment. Power source will be shown near to the working place. Necessary cables etc. shall be in the scope of contractor. Water has to be arranged by the contractor as per requirement.
10. The contractor who has been terminated during the last three years is not eligible to participate in the tender. If tenders are submitted from them, those documents will not be considered for evaluation.
11. **The quantities given in the Bill of quantities of the tender are approximate only.**
12. During execution of the work, if there is any delay, stoppage of work on any reason, the same shall be recorded by the contractor in the hindrance register, with the signatures of the concerned authorities.
13. Ensuring proper lashing of the components while being transported in vehicles.
14. The materials should not be allowed to extend or overflow the sides of the vehicles.
15. The speed restrictions within the Institute must be strictly adhered to.
16. The required water for the execution of the work shall be provided by the Institute.
17. The work to be executed keeping the campus clean and any dirty area during the execution, it is the responsibility of the contractor to clean the space.
18. All personal protective equipment conforms with standard specification and Contractor including and labour engaged on the work are required to scrupulously adhere to the safety regulations, safety precautions and measurers. Any violation thereof will invite punitive action being taken against them. Also, contractors with frequent violations of safety regulations will not be entrusted with further work in this organization.

19. In the event of any injured/fatal accident for the work men during the course of contract period, the compensation and other medical expenses towards the incident is lies with the contractor. No way is IISER Tirupati responsible.

20. **Labour sheds will not be allowed to erect within the campus.**

21. **Bulk materials will be allowed to store within the campus at the location identified by the Engineer-In-Charge.**

22. **For materials other than bulk materials, a separate container or shed need to be installed at the campus and no space within the existing building will be given.** The whole responsibility of loading unloading and security to the material is within the scope of the bidder.

23. SAFETY PRACTICES

    (i) WARNING/ CAUTION BOARDS: All temporary warning / caution boards / glow signage display such as "Construction Work in Progress", "Keep Away", "No Parking", Diversions & protective Barricades etc. shall be provided and displayed during day time by the Contractor, wherever required and as directed by the Engineer-in- Charge. These glow signage and red lights shall be suitably illuminated during night also. The Contractor shall be solely responsible for damage and accident caused, if any, due to negligence on his part. Also he shall ensure that no hindrance, as far as possible, is caused to general traffic during execution of the work. This signage shall be dismantled & taken away by the Contractor after the completion of work, only after approval of the Engineer – in – Charge. Nothing extra shall be payable on this account.

    (ii) SIGN BOARDS: The Contractor shall provide and erect a display board of size and shape as required and paint over it, in a legible and workman like manner, the details about the salient features of the project, as required by the Engineer-in-Charge. The Contractor shall fabricate and put up a sign board in an approved location and to an approved design indicating name of the project, Client/Owner, Engineer-in-charges, Structural Consultants, Department etc. besides providing space for names of other Contractors, Sub-Contractors and specialized agencies within 15 days from issue of award letter. Nothing extra shall be payable on this account. In case of noncompliance/delay in compliance in this, a penalty @ Rs. 1000/- per day will be imposed which will be recovered from the immediate next R/A Bill of the Contractor

    (iii) Necessary protective and safety equipment such as helmet, safety shoes, gloves etc. shall be provided to the Site Engineer, Supervisory staff, labour and technical staff of the contractor and also to the departmental officials supervising / inspecting the works by the Contractor at his own cost and to be used at site. Nothing extra will be paid on this Account.

    (iv) Pre coated GI sheet barricading of required thickness with MS supporting poles at required spacing to a height of minimum 6 m with necessary horizontal purlin with logos of IISERT, Client & Agency around the periphery of proposed building as directed by Engineer-in-charge shall be provided for safety of the working staff and to minimise noise / air pollution for which nothing extra will be paid on this account.

    (v) No inflammable materials including P.O.L shall be allowed to be stored in huge quantity at site. Only limited quantity of P.O.L may be allowed to be stored at site subject to the compliance of all rules / instructions issued by the relevant authorities and as per the direction of Engineer –in- Charge in this regard. Also all precautions and safety measures

shall be taken by the Contractor for safe handling of the P.O.L products stored at site. All consequences on account of unsafe handling of P.O.L shall be borne by the Contractor.

24. QUALITYASSURANCE

(i) The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material / work beyond set out tolerance limit shall be summarily rejected by the Engineer-in-charge & contractor shall be bound to replace / remove such sub-standard / defective work immediately. If any material, even though approved by Engineer-In-Charge is found defective or not conforming to specifications shall be replaced / removed by the contractor at his own risk & cost.

(ii) All materials and fittings brought by the contractor to the site for use shall conform to the samples approved by the Engineer-in-charge which shall be preserved till the completion of the work. If a particular brand of material is specified in the item of work in Schedule of Quantity, the same shall be used after getting the same approved from Engineer-In-Charge. Wherever brand / quality of material is not specified in the item of work, the contractor shall submit the samples as per suggested list of brand names given in the tender document/particular specifications for approval of Engineer-In- Charge. For all other items, materials and fittings of ISI Marked shall be used with the approval of Engineer-In-Charge. Wherever ISI Marked material / fittings are not available, the contractor shall submit samples of materials / fittings manufactured by firms of repute conforming to relevant specifications or IS codes and use the same only after getting the approval of Engineer-In-Charge.

(iii) The Contractor shall procure and provide all the materials from the manufacturers / suppliers as per the list attached with the tender documents, as per the item description and particular specifications for the work. The equivalent brand for any item shall be permitted to be used in the work, only when the specified make is not available. This is, however, subject to documentary evidence produced by the contactor for non- availability of the brand specified and also subject to independent verification by the Engineer-in-Charge. In exceptional cases, where such approval is required, the decision of Engineer-in-Charge as regards equivalent make of the material shall be final and binding on the Contractor. No claim, whatsoever, of any kind shall be entertained from the Contractor on this account. Nothing extra shall be payable on this account. Also, the material shall be procured only after written approval of the Engineer-in-Charge.

(iv) The contractor has to establish field laboratory at site including all necessary equipment for field tests as given in Schedule 'F'. All the relevant and applicable standards and specifications shall be made available by the contractor at his cost in the field laboratory. The contractor shall designate one of his technical representatives as Quality Assurance Engineer, who shall be responsible for carrying out all mandatory field/laboratory tests. The contractor shall also provide adequate supporting staff at his cost for carrying out field tests, packaging and forwarding of samples for outside laboratory tests and for maintaining test records.

(v) The tests, as necessary and where no field laboratory facilities are available, shall be conducted in the laboratory approved by the Engineer–in- Charge. For materials for which field testing equipment is established at site, for those materials 90% of total tests shall be done at the laboratory established at site by contractor and remaining 10%in the reputed

laboratories approved by Engineer- in-charge. The samples shall be taken for carrying out all or any of the tests stipulated in the particular specifications and as directed by the Engineer-in-Charge or his authorized representative.

(vi) The Contractor shall at his own risk and cost make all arrangements and shall provide all such facilities including material and labour, the Engineer-in-Charge may require for collecting, preparing, forwarding the required number of samples for testing as per the frequency of test stipulated in the contract specifications or as considered necessary by the Engineer-in-Charge, at such time and to such places as directed by the Engineer-in- Charge. Nothing extra shall be payable for the above.

(vii) The Contractor or his authorized representative shall associate in collection, preparation, forwarding and testing of such samples. In case he or his authorized representative is not present or does not associate him, the result of such tests and consequences thereon shall be binding on the Contractor. The Contractor or his authorized representative shall remain in contact with the Engineer-in–Charge or his authorized representative associated for all such operations. No claim of payment or claim of any other kind, whatsoever, shall be entertained from the Contractor.

All the testing charges shall be borne by the contractor.

(viii) All the hidden items such as water supply lines, drainage pipes, conduits, sewers etc. are to be properly tested as per the design conditions before covering and their measurements in computerized measurement book duly test checked shall be deposited with Engineer in charge or his authorized representative, prior to hiding these items.

(ix) Water tanks, taps, sanitary, water supply and drainage pipes, fittings and accessories should confirm to bylaws and municipal body / corporation where CPWD Specifications are not available. The contractor should engage licensed plumbers for the work and get the materials (fixtures/fittings) tested by the Municipal Body/Corporation authorities wherever required at his own cost.

(x) The contractor shall give performance test of the entire installation(s) as per the standing specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.

(xi) The contractor shall have to execute guarantee bonds in respect of water proofing works as per Performa enclosed.

(xii) The Contractor shall arrange electricity at his own cost for testing of the various electrical installations as directed by Engineer-in-Charge and for the consumption by the contractor for executing the work. Also all the water required for testing various electrical installations, fire pumps, wet riser / firefighting equipments, fire sprinklers etc. and also testing water supply, sanitary and drainage lines, water proofing of underground sump, overhead tanks, water proofing treatment etc. shall be arranged by the contractor at his own cost. Nothing extra shall be payable on this account.

25. INSPECTION OF WORK

(i) In addition to the provisions of relevant clauses of the contract, the work shall also be open to inspection by Engineers of IISERT and their representatives. The contractor shall at times during the usual working hours and at all times at which reasonable notices of the intention of the Engineer-in-charge or other officers as stated above to visit the works shall have been given to the contractor, either himself be present to receive the orders and instructions or have a responsible representative duly accredited in writing, to be present for that purpose.

(ii) Senior Officers of IISERT, Dignitaries from Central Ministry / Client Department Authorities shall be inspecting the on-going work at site at any time with or without prior intimation. The contractor shall, therefore, keep updated the following requirements and detailing.

a) Display Board showing detail of work, weekly progress achieved with respect to targets, reason of shortfall, status of manpower, wages being paid for different categories of workers.
b) Entrance and area surrounding to be kept cleaned.
c) Display layout plan key plan, building drawings including plans, elevations and sections.
d) Upto date displays of Bar chart, CPM and PERT etc.
e) Keep details of quantities executed, balance quantities, deviations, possible Extra item, substituted Item etc.
f) Keep plastic / cloth mounted one sets of building drawings.
g) Set of Helmets and safety shoes for exclusive use for officers/dignitaries visiting at site.
h) The work may be inspected by Chief Technical Examiners, Organization of Central Vigilance Commission, Sports Authority of India representatives. In such case the contractor shall make all arrangements for providing required details/documents.

TECHNICAL SPECIFICATIONS FOR THE CONSTRUCTION OF LIQUID NITROGEN GENERATION FACILITY

Scope of Work:

This specification covers the **Design, Engineering, Supply, Installation, Testing, Commissioning (SITC)** and **5-year comprehensive support** (1-year warranty + 4-year CAMC) of a **minimum 200 LPD Liquid Nitrogen Generator System**, including:

- Liquid nitrogen generation plant
- PSA-based nitrogen generator
- Cryo-generator & storage tank
- Compressed air system with redundancy
- Water chiller
- Electrical control system
- Safety systems
- Interconnecting piping
- Design and Construction of the facility as per the requirement
- Training and documentation
- PESO licensing (if applicable)

The entire system shall be supplied as **fully integrated, factory-assembled and tested** skid modules.

Technical Specification of Liquid Nitrogen Generator

Liquid Nitrogen Generator

1. **Production Capacity**
    - Minimum **200 LPD** at **1–1.5 bar** output pressure.
    - The guaranteed production rate at 40°C to 45 °C and under ambient conditions at IISER Tirupati.
2. **Cryo-Generator Technology**
    - **Gifford McMahon (GM)** OR **Reverse Stirling cycle** only.
    - Industrial grade, proven technology with minimum 10-year operational history in India.
    - The OEM must submit the thermodynamic Coefficient of Performance (COP) calculation along with the cycle performance curve.
    - The cryogenic cold head shall have a minimum design life of 40,000 running hours.
3. **Cold Head / Cryo-Generator Mounting**
    - Cryo-generator shall be directly mounted or connected on a **500 L LN_2 storage tank** *(to be supplied)* ensuring minimal transfer losses.
    - Apart from the LN generator's inbuilt vendor-supplied storage tank, the compatibility for integrating with the existing vertical 3,000-liter (3 KL) INOXV low-pressure storage tank to ensure a reliable, uninterrupted and automatic liquid nitrogen filling into the existing tank must be ensured. Additionally, the installation should include provisions for future expansion to a 5,000-liter (5 KL) tank or higher, in line with increasing institutional research demands.
    - The storage vessel shall be equipped with pressure sensors, level sensors, local display units, and multiple ports for connecting vacuum-jacketed transfer or delivery lines. It shall also include all standard safety devices and essential accessories as per industry norms. Once the storage tank reaches full capacity, the Cryo-generator shall automatically switch to standby mode and shall restart within 10-15 minutes when the Liq.N_2 level drops below the pre-set threshold on the level sensor.
    - Provision shall be made for connecting an additional 2 KL - 3 KL liquid nitrogen storage tank in the future to meet the minimum ~5,000 L storage requirement, ensuring adequate buffer capacity for extended operation and maintaining continuous liquid nitrogen availability during periodic maintenance or temporary shutdowns of the Cryo-generator.
    - The vendor shall plan and execute the complete system layout with all necessary connection points, safety-compliant features, and vacuum-jacketed pipeline routing to meet this specification.
    - Storage tank specifications (pressure rating, insulation, materials) must be submitted.
    - A vacuum performance certificate for the storage tank insulation must be provided.
    - Thermal leak rate shall be ≤ 1 W/m on vacuum-jacketed sections.
4. **Integrated Factory-Built Skid System**
   OEM shall supply a **single skid**, including:
    - Cryo-generator with directly mounted or connected on a **500 L LN_2 storage tank**

- PSA-based nitrogen generator with buffer tank
- Pre-charged helium system
- PLC-based control system with HMI
- Internal electrical & communication wiring
- Interconnecting pipes (factory tested)
- The skid must include drip trays and vibration isolation pads

Factory Acceptance Test (FAT):

- Mandatory video demonstration with performance logs before dispatch.

5. **Purity**
   - Minimum **99%** at delivery pressure of 1–1.5 bar.
   - An inline LN_2 purity analyser (with oxygen impurity ≤ 10 ppm) must be provided, along with a valid calibration certificate
   - A purity sampling port must be installed near the delivery point
6. **Electrical & Ambient Requirements**
   - Power consumption ≤ 3.5 kWh per litre of LN_2.
   - Start-up Time: The cold start-up time shall be less than 45 minutes.
   - Restart After Power Failure: The plant shall have an auto-restart feature after a power failure. The supplier must specify the restart time (in minutes) for both short-duration and long-duration power failures.
   - Optimal generation production required at Temperature 25°C –45 °C, Relative Humidity 20–95%.
7. **Helium System**
   - Entire system must be **hermetically sealed and pre-charged**.
   - No helium top-up at site during commissioning or routine maintenance.
   - Helium loss < 2% per year guaranteed.
   - The helium compressor cooling ventilation load must be validated (≥ 8 kW heat rejection).
8. **HMI / PLC Control System**

   It must display and record (Recording facility is desirable):
   - Air pressure
   - Nitrogen pressure
   - LN_2 level & production graph

- Run hours
- Cold head & helium compressor status
- Fault logs, alarm history, trend charts
- A minimum of six-month on board data storage with USB and Ethernet export is desirable

9. **Pressure Boosting**
    - One-button boost to **3.5–4 bar** for transfer to future vacuum-jacketed (VJ) lines.
    - The booster must include high-pressure relief valve and over-pressurization protection.
10. **Automation / Remote Monitoring**
    - Fully automatic start–stop sequence
    - Provision for remote operation and monitoring
    - The plant shall be designed for unattended, fully automatic, fool-proof, and fail-safe operation, with adequate annunciators, alarms, and safety interlocks to ensure safe functioning.
    - Following initial start-up, the entire operation and control shall be fully automatic. The system shall be PLC-based and include remote monitoring, data logging, and plant parameter recording capabilities is desirable.
    - The PLC HMI shall display at least six (6) critical plant parameters in real time.
    - Sensors shall be provided for level and pressure to ensure safety-critical control is desirable.
    - The system shall provide communication alerts for remote service diagnostics.
11. **OEM Presence & Service Support**

    The manufacturer must have a direct presence in India, including a local warehouse and a technical support team to provide long-term assistance.
    - Direct OEM office in India, **preferably South India**
    - Factory-trained engineers posted in South India
    - Certificate confirming service availability
12. **15-Year Parts & Service Availability**
    - Mandatory declaration; non-compliance will result in blacklisting.
13. **Proven Track Record**
    - Minimum **10 installations** of similar GM/Stirling technology in India.
    - Satisfactory performance letters required.

14. **Product Experience in India**
    - Model must have been operating in India for **minimum 10 years**.
    - Customer list & operational confirmation required.
15. **Documentation & Maintenance**
    - O&M manuals, service manuals, tool kit, consumables
    - 24-hour service response obligation
    - 1-year comprehensive warranty + 4-year CAMC
    - Maintenance interval at least 4500 hours of operation.
16. **Training Requirements**
    - **At least 5 on-site training sessions**, free of cost
    - 1 refresher training every year during CAMC
17. **Safety Requirements**
    - **Oxygen Safety Monitoring**: An oxygen depletion alarm with an adjustable threshold shall be provided. The alarm system must include a red flashing beacon indicator and be ISO 9001:2008 certified and CE-marked.
    - Proper earthing
    - Exhaust ventilation
    - Pressure relief devices
    - Emergency shutdown switch (ESD) at entry + control area.
18. **Statutory Compliance**

- If PESO license required, **to be obtained by supplier at no additional cost**

Associated Components & Accessories of Liquid Nitrogen Generator

A. Air Compressor System (2 Nos.)

- Rotary Screw Type
- Air receiver with safety valve, drain valve, pressure gauges
- Minimum 10 bar delivery
- Bidder shall declare:
    - Make & Model
    - Country of origin
    - Flow delivery (CFM / m^3/hr)

- Power consumption
- Dimensions & weight
- Compressors models to be mentioned either 100% oil-free or Oil Lubricated Compressor.
- Noise level shall be ≤ 75 dBA at 1 meter.
- Duty/standby auto-alternation logic must be incorporated in the PLC.
- Minimum lifetime shall be 40,000 operating hours, with maintenance cycles clearly specified.

B. Filtration System (2 Sets)

- Activated Carbon Pre-filter (0.01 micron)
- Pre-filter (5 microns, low oil carryover)
- Post filter (1 micron, 0.5 mg/m^3)
- Final filter (0.01 micron, 0.01 mg/m^3)

Bidder shall declare:

- Make & Model
- Pressure range
- Flow range
- Country of origin
- Dimensions

C. Desiccant Air Dryer (2 Nos.)

- Heatless desiccant type
- Pressure dew point **–40°C or better**
- Bidder shall declare flow range, pressure rating, make, model.

D. Water Chiller (1 No.)

- Closed-loop chiller
- Scroll compressor
- Capacity as recommended by LN_2 OEM
- Bidder shall declare:
  - Cooling capacity in kW / TR
  - Power consumption
  - Make & model

- Water tank capacity
- IP category
- Origin

E. Electrical Control Panel

- CPWD/IS-compliant board
- MCCBs, MCBs, contactors & relays (IEC/IS certified)
- Fan cooling/ventilation
- Alternate compressor operation logic

F. Servo Stabilizer

- **50 kVA**, IS-certified
- Make, model, origin to be declared
- Suitable UPS should be provided for electrical control panel

G. Oxygen Depletion Alarm

- Alarm at **<19% O_2**
- Visual + audible alert
- Make, model, calibration certificate required

H. LN_2 Storage Tanks

- 200 L self-pressurising Dewar (SS 304) – 1 nos
- 20 L aluminium Dewars – 2 Nos.
- 45 L aluminium Dewars – 2 Nos.
- Compliance with ISO / IS / PESO applicable norms

I. Interconnecting SS304 Piping

- High-grade SS304 pipes, cryogenic rated
- NRVs, isolation valves
- All joints TIG welded with argon purge
- Fully pressure-tested before handover
- Piping stress analysis required to prevent cold-contraction damage
- Vacuum-jacketed line for Liq.N_2 transfer from main tank mandator.

Testing & Acceptance

A. Pre-Dispatch Inspection (PDI)

- OEM must demonstrate LN_2 output, purity, electrical load
- Factory acceptance test video must include:
    - Production rate ≥ 200 LPD
    - Purity ≥ 99%
    - Power consumption ≤ 3.5 kWh/L
    - Pressure boost operation
    - Alarm checks

B. Site Acceptance Test (SAT)

- Re-verification of all FAT parameters
- Auto operation checks
- Remote monitoring demonstration
- Endurance test
- Must include Liq.N_2 purity testing using inline analyzer
- Noise level measurement (<80 dBA @ 1m) during full load
- Safety ESD checks, O_2 alarm simulation & emergency operational tests must be demonstrated.
- A 72-hour continuous operation trial must be successfully completed prior to handover.

Warranty & CAMC

Warranty – 1 Year

- All parts, labour, consumables included
- Unlimited breakdown visits

CAMC – 4 Years

- Quarterly preventive maintenance
- Calibration of sensors
- Free replacement of consumables & wear items.
- **Service Facility and Down-time Call Attendance:** The supplier must clearly specify their service setup in India, preferably near Tirupati, to ensure prompt support, with direct service support from the company in India being mandatory. The manufacturer and/or their Indian representative must have qualified, factory-trained service engineers in India capable of attending to service requests at IISER Tirupati within 48 hours of lodging a complaint. During the warranty period, only factory-trained and certified engineers shall be permitted to provide service. If the equipment or system remains non-operational for more than a week due to reasons attributable to the supplier or lack of service support, the warranty period

shall be extended by an equivalent duration, without prejudice to any other terms and conditions of the contract.

The security deposit of 5 % will be deducted for this component and will be released after the completion of the 5-year period (i.e. warranty + CAMC)

Construction of the Facility to house the Liquid Nitrogen Generator

- Building layout shall be as per OEM recommendation and design and constructed as per CPWD specification
- The scope shall include providing architectural, structural, Electrical and Mechanical designing services by developing the preliminary tender drawings into working drawings, Elevations, Sections and issue of Good for construction drawings, structural designing of the structure complete as architectural and structural designing scope of work specified in special conditions of contract complete as per directions of Engineer in charge.
- The structural drawings shall be got vetted from any IITs/NITs/Central or State Universities/ Govt. certified structural Engineers
- The work shall be ensured mostly to be design and constructed within the items and quantities detailed in the BOQ.
- The Safe Bearing capacity of the soil ranges between 20 t/sqm to 25 t/sqm
- Electrical wiring from main panel
- Earthing pits & bonding
- Ventilation system for heat load removal
- Water supply and drainage for compressor/chiller
- Equipment room lighting and earthing

. Technical Documentation Required

1. OEM Authorization letter
2. Detailed technical datasheets
3. Compliance statement pointwise
4. CPWD-compliant drawings:
    - Architectural layout
    - Electrical SLD
    - Structural drawings
    - Mechanical & piping drawings

5. List of Indian installations
6. ISO certificates
7. SIL-2 certified Safety Interlock documentation or equivalent.
8. Calibration Certificates for all sensors (CE + NABL/NIST traceable)
9. PESO compliance (if required)

Responsibility of OEM / Contractor

- Complete turnkey SITC
- CPWD-compliant execution
- Skilled manpower for installation
- Safety compliance throughout work
- Five training sessions to users
- Submission of all statutory certifications

Make List:

- Air Compressor System: Atlas Copco/Equivalent
- Pre & Post Filters: Omega/Trident/Equivalent
- Desiccant Air Dryer: Trident/Friulair/Equivalent
- Water Chiller: Werner Finley/Equivalent
- Servo Stabilizer: Krykard/Servotec/Equivalent
- Oxygen Analyzer sensor: Citi – UK/ Ambetronics/Equivalent
- UPS: Numeric/Amaron/ Equivalent
- Batteries for UPS: Exide/Quanta/Equivalent
- Liq. N_2 Storage Tanks: Inox CVA/ Cryogem/Equivalent

LIST OF PREFERRED OF BRANDS / MANUFACTURERS / MAKES MATERIALS

NOTE: 1) A List of Preferred Brand Names of Various Materials / Products are shown below for usage in execution of Work. However, Approved equivalent material of any other Specialized Companies / Firms may also be used, in case it is established that the Brands Specified below are not available in the market and subject to Approval of the alternate Brand by the Engineer In charge

2) It must be ensured, in general, that all materials to be used in the works shall bear BIS Certification mark. In cases where for a particular material / product, BIS Certification Mark is not available, then the material proposed to be procured can be used subject to the condition that it should conform to CPWD Specifications and relevant BIS codes. In such cases written approval of the Engineer-in -Charge shall be obtained before use of such material in their works

3)The list given below does not absolve the Executing Agency from their responsibility for using these products. It is only after, they are satisfied about the quality and performance, the products shall be used. To achieve this, proper check on the quality of the product, actually to be used, should be exercised.

S.No	Item	Approved Make
1	Chloropyriphos	PIRAMID (AMVAC Agri Rasayan Pvt., Ltd.), NOBAN (Chemtts wets & Flows Pvt., Ltd), DURSBANTCT (DE-NOCIL Ltd.), Premise Agenda (Bayer Ltd.), HILBAN (Hindustan insecticides Ltd.), Sarup's Pest Control (Dr. Sarup's Pest Control Ltd.)
2	Ordinary Portland Cement	ACC (ACC Cements Ltd.), Ultra tech (Ultra tech Cement Ltd.), Coromandel (India Cements Ltd), Ambuja Cement (Ambuja Cements Ltd.), Jaypee Cement (Jaypee Cements Ltd.), Century Cement (Birla Gold Cement), JK Cement (JK Cement Pvt., Ltd.), Penna Cement (Penna Cement Industries Ltd.) Bharathi Cement (Bharathi Cement Corporation Ltd.), Birla (Birla Corporation Ltd), Chettinad (Chettinad Cement Corporation Ltd.), Dalmia (Dalmia Cement Bharat Ltd.), Zuari (Zuari Cement Ltd), Maha Cement (My home Industries Pvt, Ltd.), Konark Cement (Konark Cement), Shree Cement (Shree Cement
3	White Cement	Birla, J.K
4	TMT bars Fe-500D	SAIL (Steel authority of India Ltd.), TISCO (TATA Steel Ltd.), VIZAG TMT (Rashtriya Ispat Nigam Ltd.), JSW (JSW Steel Ltd.).

S.No	Item	Approved Make
5	Damp proof material	Duraseal (Apurva India Pvt. Ltd.), Acco-proof (ACC Cements Ltd.), Impermo (Snowcem Paints), MAPEI (MAPEI Construction Products India Pvt., Ltd.), Ferrous Crete (Ferrous Crete (India) Pvt Ltd), Dr. Fixit (Pidilite Industries), Fosroc (Fosroc Chemicals India Pvt., Ltd.), CICO (CICO Industries), SIKA (Sika India Pvt., Ltd.), BASF (BASF India Ltd.), MYK (MYK LATICRETE India Pvt., Ltd.)
6	Grout Compound / Epoxy Grouts	Ardex (Ardex Endura Adhesive India Pvt Ltd.), Ferrous crete (Ferrous crete (India) Pvt Ltd), LATAPOXY (MYK LATICRETE India Pvt Ltd), BASF (BASF India Ltd.), Fosroc GP2 (Fosroc India Ltd.), MYK Schomburg (MYK Arments range of products.), Fugabella, Porcelana (Kerakoll India Pvt Ltd), Dr. Fixit (Pidilite Industries Ltd),, Weber (Saint-Gobin India Pvt., Ltd).
7	Ready Mix Concrete	Ultra Tech (Ultra Tech Concrete), ACC (ACC Ltd.), RMC (India) (RMC(India) Pvt Ltd.), Lafarge (Lafarge India Pvt Ltd.)
8	Glass door hardware	Dorma (Dorma India Pvt., Ltd.), Kich (Kich Architectural Products Ltd.), Classic (Classic hardware), Squash (Squash glass doors), Hafele (Hafele India Pvt Ltd.), Ozone (Ozone Hardware), Geze (Geze GMBH), Dorset (Dorset Industries Pvt., Ltd.),
9	Hydraulic Door Closers / Floor Springs.	Godrej (Godrej Locking Solutions & Systems), Hardwyn (Hardwyn Hardware), Dorma (Dorma India Pvt., Ltd.), Dorset (Dorset Industries Pvt., Ltd.), Magnum Kit (Mukund Overseas).
10	Locks & Latches	Dorset (Dorset Industries Pvt., Ltd.), Godrej (Godrej Locking Solutions & Systems), Hitech (Globe Locks India), Hafele (Hafele India Pvt Ltd.), Harrison (Harrison locks), Plaza (Bharat lock House) Yale (ASSA ABLOY India (P) Ltd), Link (Link Locks)
11	Metallic / Steel Fire Door	Shakthi Hormann (Shakthi Hormann Pvt., Ltd.), Promat (Promat fire & insulation (P) Ltd.), MPP Schodders (MPP Technology Pvt., Ltd.), NAVAIR (NAVAIR International Pvt., Ltd.), Signum Fire Protection (Signum Fire Protection Pvt., Ltd.), Sukri (Sukri fire doors Pvt., Ltd.), Kenwood (Kenwood Ply & Board), Godrej (Godrej Locking Solutions & Systems), Iclean Hollow metal systems (IHMS),

S.No	Item	Approved Make
12	Stainless Steel Screws	Kundan (Kundan Industries Ltd.), Alloy (Alloy Ltd), Nettlefold (Nettlefold screws) GKW (GKW Limited),, Pooja (Pooja Steel Corporation), Atul (Atul fasteners Ltd.)
13	Butt Hinges for Openable window shutters	Hafele (Hafele India Pvt., Ltd.), Earl Bihari (Earlt Bihari India Pvt., Ltd.), Dorma (Dorma India Pvt., Ltd.), Dorset (Dorset Industries Pvt., Ltd.), Alu Alpha (Alu Alpha India)
14	Mid steel Butt Hinges / Piano hinges	Jolly (Jolly Engineering Works), Supreme (Supreme), Saswat (Saswat), Deepak (Deepak), Swift (Swift Screws), Garg (D.P Garg & Company), Amit (Lovely Metal Industries Pvt., Ltd.), Jyoti (Jyoti Architectural Pvt., Ltd.).
15	Tempered Reflective / Clear glass	Saint Gobain (Saint Gobain India Pvt., Ltd.), FUSO (FUSO Glass India Pvt., Ltd), Gurind (Gurind India), Asahi (Asahi India glass Ltd.), Modiguard (Gujarat Guardian Ltd.), Impact Safety (Impact Safety glass works Pvt., Ltd.)
16	Structural steel	SAIL (SAIL), TISCO (TATA STEEL), VIZAG STEEL (RINL), JSW (JSW).
17	M.S. Pipe, Tubes	SAIL (SAIL), TISCO (TATA STEEL), JINDAL (JSW)
18	Stainless steel	Salem (SAIL), Connect (Connect Ltd.), Ark Product Pvt., Ltd (Ark Product Pvt., Ltd), Jindal (JSW), SAIL (SAIL), KINGSTON (KINGSTON Brass)
19	Vitrified Tiles	AGL (Asian Granite India Ltd), Marbito (Marbito tiles), NITCO (NITCO Ltd), RAK (RAK Ceramic India Pvt., Ltd.), Restile (Restile Ceramic Ltd.), Somany (Somany Ceramic Ltd.), Jhonson (Prism Jhonson Ltd), Varmora Granito (Varmora Granito Granite Pvt., Ltd.), Naveen (Murudeshwar Ceramics Ltd.), Viero (Aparna tiles).
20	Glazed Ceramic tiles (Also wall tiles)	AGL (Asian Granite India Ltd), NITCO (NITCO Ltd), RAK (RAK Ceramic India Pvt., Ltd.), Kajaria (Kajaria Ceramic Ltd), Somany (Somany Ceramic Ltd), Jhonson (Prism Jhonson Ltd), Varmora Granito (Varmora Granito Granite Pvt., Ltd.), Naveen (Murudeshwar Ceramics Ltd.).

S.No	Item	Approved Make
21	UPVC Pipes & Fittings (Rain water pipes)	Supreme (Supreme Industries Pvt., Ltd.), Prince (Prince pipes and fittings Ltd.), Ashirvad (Ashirvad PVC pipes), Astral (Astral Polytechnic Ltd.), Finolex (Finolex Industries Ltd), Flow Guard (Flow Guard), Prepoly (Premier PVC Industry)
22	Synthetic enamel Paint	Premium gloss enamel (Asian paints Ltd.), Akzo Nobel (Dulux) (Akzonobel India), Nerolac (Nerolac Paints Ltd.), Berger (Berger Paints), Nippon (Nippon Paints India Ltd.)
23	Red Oxide Zinc Chromate Primer	High Performance yellow metal primer (Asian paints), Aczo Nobel (Dulux) (Akzonobel India), Nerolac (Nerolac Paints Ltd.) Berger (Berger paints), Nippon (Nippon Paints India Ltd.)
24	Acrylic Emulsion	Premium emulsion (Asian paints), AkzoNobel (Dulux) (Super Cover) (Akzonobel India), Nerolac (Beauty Gold) (Nerolac Paints Ltd.,), Berger (Bison) (Berger paints).
25	Acrylic Smooth Exterior paint	Akzonobel (Dulux) (Akzonobel India), Apex (Asian paints), Nerolac (Nerolac Paints Ltd.) Berger (Berger Paints), Nippon (Nippon Paints)
26	Premium Acrylic Smooth Exterior paint with silicon additives	ULTIMA (Asian paints), Aczo Nobel (Dulux) (Maxilite) (ICI Dulux Ltd.,) Nerolac (Nerolac Paints Ltd.) Berger (Berger Paints)
27	Cement Based Wall putty	Birla Wall Care (Birla Cements Ltd.), J.K. Wall putty (J.K. Cement Ltd), Berger (Berger Paints), Asian Paints (Asian Paints Ltd.), Ferrous Crete (Ferrous Crete (India) Pvt., Ltd.), Ardex Endura (Ardex Endura India Pvt., Ltd.), Altek (NCL Altek & seccolar Ltd).
28	Acrylic textured plaster	Apex Duracast (Asian Paints), Spectrum paints (Spectrum paints Ltd.), Heritage (Heritage Rajkamal Group), Asian Paints (Asian Paints Ltd.), Nerolac (Nerolac Paints Ltd.).
29	Cement Primer	Asian Paints (Asian Paints), JK Primaxx (JK Cement Ltd.), Berger (Berger Paints India Ltd).
30	Interlocking Concrete Paver Blocks	Dazzle (Dazzle designer tiles (P) Ltd.), Ultra (Ultra tiles Pvt., Ltd.) Shree (Shree Bharat Paver blocks), Hindustan tiles (Hindustan tiles, Ranchi Pune), Vyara tiles (Vyara Tiles Pvt., Ltd. / Surat), NITCO (ROCKARD) (NITCO), BHARAT (NILSAN) (Bharat), REGENCY (Regency), Basant Betons (Basant Betons)

S.No	Item	Approved Make
31	Stainless Steel Kitchen Sink	Jhonson (Prision Jhonson Ltd.), Diamond (Phenoix Appliaces Pvt., Ltd.), Jindal (Century Polytech), Nilkanth (Nilkanth), Nirali (Jyothi (India) metal Industries Pvt., Ltd.), Hindware (HSIL Ltd.), Silver Shine (Blue Stone Sanitory Industries Pvt., Ltd.), Joyna (Joyna), Navkar (Shri Navkar metals Ltd.), Franke (Franke IndiaLtd.), Futura (Futura Kitchen Sinks India Pvt., Ltd)
32	Water Supply Valves	Zoloto (Zoloto Industries), Leader (leader Valves Ltd.), ARCO (Arco Valves Pvt., Ltd.), Nanda (Nanda Miller Company)
33	CPVC Pipes Fittings	Supreme (Supreme Industries Ltd.), Finolex (Finolex Industries Ltd.), Astral (Astral Polytechnic Ltd.), Prince (Prince Pipes and Fittings Ltd.), Truflo (HIS Ltd.), Birla Aerocon (HIL Ltd.), Ashirwad (Ashirwad PVC Pipes), Flowgard (Flowgard)
34	PVC / HDPE Water Storage tanks	Sintex (Sintex plastic technology Ltd.), Vectus (Vectus Industries Ltd.), Supreme (Supreme Industries Ltd).
35	RCC Pipes	Indian Hume Pipe (Indian Hume Pipe Ltd.), Maduraj Spun pipe (Maduraj Spun pipes Company), Lakshmi Sood &Sood (Lakshmi Sood &Sood Pipes Co), Jain & Co (Jain Spun Pipes Co)
36	PTMT / PVC Water supply sanitary fittings, bibcocks, pillar cock, Angle valve,	PEARL (Precision Products), Prayag (Prayag Polymers (P) Ltd.), Supreme (Supreme Industries).
37	C.I. Manhole cover	NECO (Jayaswal NECO Ltd.), HEPCO, BIC (Bengal Iron Corporation
38	SFRC Cover and grating	KK (KK Manhole and gratings Co Pvt., Ltd.), Advent (Advent Concrete Vision), Kutty (Kutty Industries), Nu-TEC (Nu-Tech Concrete products (P) Ltd)
39	Aluminium doors / windows sections	Hindalco (Hindalco Industries Pvt., Ltd), Jindal (jindal Aluminium Ltd), Padmavathi Extrusion (Padmavathi Extrusion Private Ltd.), Hyd (Hydro Extrusion), Omalco Extrusion (Omalco Extrusion Pvt., Ltd.), Bhoruka (Bhoruka Aluminium Ltd.), Indal (Indian Aluminium Ltd.).
40	Aluminium systems/ Anodised aluminium fittings for doors/windows	Schuedo (Schuedo India Pvt., Ltd), Bhoruka (Bhoruka Aluminium Ltd.), Kawneer (Kawneer India) Hardima (Hardima Sales Corporation), Everite (Everite Agencies), Jyothi (Jyothi Industries), Sigma (Sigma Corporation).
41	Friction stay hinges	KINLONG (Kinlong Industries), Earl Bihari (Earl Bihari Pvt., Ltd

S.No	Item	Approved Make
42	Water Proofing Compound	Fosroc (Fosroc India), Ferrous Crete (Ferrous Crete (India) Pvt., Ltd.), Sika (Sika India), Penetron (Penetron India Pvt., Ltd.), Dr.Fixit (Pidilite Industries), Accoproof (ACC Cements Ltd), Ardex Endura (Ardex Endura (India) Pvt., Ltd.), Myk Schomburg (MYK Arments range of products), Alchemica (Alchemica Ltd).
43	Weather silicon make and grade	Dow corning (Dow corning India), Momentive(GE) (GE Silicones).
44	Aluminium Framework	MFE (MIVAN), S-Form (S-Form), MFS (MFS
45	Galvolume Sheet for roofing , cladding, sandwitch panel	Tata Blue Scope (Tata Blue Scope), Bhushan (Bhushan Steel), JSW (JSW), Essar (Essar Group)
LIST OF PREFERRED MAKES FOR ELECTRICAL WORKS		
46	Wires (FRLS)	Polycab/Finolex / RR-kabel/ L&T/ Havells /Lapp India/Asmon/V-Guard
47	Cat-6A LAN Cable-4 Pair	Commscope (Systimax) / Panduit (Pannet) / Siemon / Schneider (Actassi) / Corning
48	Fiber Optic Cables and Accessories	Systimax/Panduit/Legrand/Corning
49	PVC Conduits (ISI Marked)	Sudhakar/ Nelco/ Precision/Avonplast
50	Modular Switches & Sockets	Legrand (Myrius)/ Crabtree (Murano)/ MK (Blenze)/Schneider (Zencelo)
51	LED Fixtures Internal/Surface/Recessed/ Suspended/Street Light/External Lighting	Philips/Osram/Wipro/Endo/Trilux/ Zumtobel/Luker/Havels/Bajaj/K-Lite(Outdoor applications)
52	Exhaust Fans	Havells/Crompton/Bajaj/Orient
53	MCBs/ELCBs/RCBOs	ABB-S200M & F200 / L&T-Exora/ LEGRAND DX3 / SCHNIEDER-Acti9 / Siemens-Beta Guard 10KA
54	DBs	ABB –ELEGANCE/ L&T-Exora/ LEGRAND Ekinox3/ SCHNIEDER-Acti9 / Siemens-Beta Guard
55	Raising Mains & Accessories	Legrand/Schneider/ L&T
56	Cable Trays	Profab/Elcon/MK/OBO betterman
57	Race Ways	Legrand/MK/OBO betterman/Profab
58	Junction Boxes	Legrand/MK/OBO betterman
59	Cables (LT)	Havells/ Polycab/ Gloster/Universal/RR/CCI
60	Armoured / Unarmoured control cables & special purpose cables	LAPP/CCI/Torent/Polycab/Finolex/Gloster
61	Lugs /Glands	Dowells/HMI/Comet/Jainsons

S.No	Item	Approved Make
62	LT termination and joining kits (Heat Shrinkable)	Raychem/M-Seal/Birla- 3M
63	L-T Panels	MNR electrical, Hyd. / Harita Industries, Hyd. / Vee Vee controls Pvt. Ltd., B. lore / Power control Equipments, B. lore / Lotus Powergear Pvt. Ltd., B. lore / K Dhandapani& Co. Chennai.
64	LT ACB's / MCCBs/MCBs	ABB (EMAX E6F with PR122) / L&T (U POWER OMEGA-MTX 3.5EC / SCHNEIDER (NW-MICROLOGIC 7.0P)/ SIEMENS (3WL – ETU76B) / LEGRAND(DMX3-MP4) ABB (TMAX with PR 332) / L&T(D-SINE) / SCHNEIDER (NSX) / SIEMENS(3VA) / LEGRAND(DPX3). ABB-S200M & F200 / L&T-Exora / SCHNIEDER-Acti9 / SIEMENS-Beta Guard 10KA / LEGRAND-DX3
65	Lightning Protection	Indelak/Erico/Ine
66	Occupancy / Lighting sensor	Philips / Wipro /Bajaj/Legrand/Schneider/Hegar
67	BLDC Ceiling Fans	Usha/Havell's/Atomberg/Anchor Panasonic
68	Lugs / Gland	Dowel, Comet
69	DLP Trunking	MK Honeywell, OBO Betterman, Legrand
70	Floor Trunking /Raceway	MK Honeywell, OBO Betterman, Legrand
71	UPS	Numeric/ Relio Power or equivalent

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH (IISER) TIRUPATI

Volume III

Financial Bid (for Item Rate Tender)

	Tender Inviting Authority: The Registrar, IISER Tirupati				
	Name of Work: Construction of Liquid Nitrogen generation facility at IISER Tirupati Campus, Yerpedu.				
	Contract No: IISERT/ENGG/2025-26/02 **Date: 06/12/2025**				
Bidder Name:					
S. No	**Description of facility**	**Unit**	**Qty**	**Rate**	**Amount in Rs**
1	Providing architectural and structural designing services by developing the preliminary tender drawings into working drawings ,Elevations, Sections and issue of Good for construction drawings, structural designing of the structure complete as architectural and structural designing scope of work specified in special conditions of contract complete as per directions of Engineer in charge.	L.S.	1.0		
2	Surface dressing of the ground including removing vegetation and in equalities not exceeding 15 cm deep and disposal of rubbish, lead up to 50 m and lift up to 1.5 m.	sqm	162.0		
3	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m	cum	41.0		
4	Supplying chemical emulsion in sealed containers including delivery as specified : Chlorpyriphos/ Lindane emulsifiable concentrate of 20%	litre	10.0		
5	Diluting and injecting chemical emulsion for POST-CONSTRUCTIONAL anti-termite treatment (excluding the cost of chemical emulsion) Along external wall where the apron is not provided using chemical emulsion @ 7.5 litres / sqm of the vertical surface of the substructure to a depth of 300 mm including excavation channel along the wall & rodding etc. complete: With Chlorpyriphos/ Lindane E.C. 20% with 1% concentration	meter	50.0		
6	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 and for all lift.	cum	26.0		

7	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level 1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	cum	7.0		
8	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 1.10 times of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.				
8.1	All works upto plinth level - Concrete of M25 grade with minimum cement content of 330 kg /cum	cum	20.0		
8.2	All works above plinth and upto floor V level - Concrete of M25 grade with minimum cement content of 330 kg /	cum	22.0		
9	Centering and shuttering including strutting, propping etc. and removal of form work For Foundations, footings, bases for columns				
9.1	For Foundations, footings, bases for columns	sqm	50.0		
9.2	Lintels, beams, plinth beams, girders, bressumers and cantilevers	sqm	36.0		
9.3	Columns, Pillars, Piers, Abutments, Posts and Struts	sqm	65.0		
9.4	Suspended floors, roofs, landings, balconies and access platform	sqm	114.0		
10	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.	kg	5000.0		
11	Providing and laying factory made Precast concrete solid blocks of 200 mm thickness of grade M10 made of C&D waste from approved manufacturer in superstructure above plinth level up to floor V level				
11.1	Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	20.0		

12	12 mm cement plaster of mix 1:4 (1 cement: 4 fine sand)	sqm	170.0		
13	18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement : 5 coarse sand) finished with a top layer 6 mm thick cement plaster 1:6 (1 cement : 6 fine sand)	sqm	115.0		
14	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	sqm	171.0		
15	Applying priming coats with primer of approved brand and manufacture, having low VOC (Volatile Organic Compound) content With water thinnable cement primer on wall surface having VOC content less than 50 grams/litre	sqm	285.00		
16	Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound) content less than 50 grams/ litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.	sqm	285.0		
17	Providing and laying damp-proof course 50 mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	sqm	43.0		
18	Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification	per bag of 50kg cement used	20.0		
19	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing , curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge.				
19.1	Polished Granite stone slab of colour Black, Cherry/Ruby Red or equivalent	sqm	55.0		

20	Providing and fixing of Hallow metal rail door made of Pressed galvanized steel confirming to IS 277 with the following specification. Door Shall be with Vision glass as a part of complete assembly. Approved manufactures Door Frame shall be Double rebate of Size 143X58mm made out of 1.20mm (18 gauge) thick galvanized steel sheet with grooved profile to receive the seal. Frames shall be mitered and filed assembled with self-screws tabs. All provisions should be mortised drilled and tapped for receiving appropriate hardware. Frame should be provided with back plate bracket and anchor fasteners for installation on a finished plastered masonry wall opening. Frames shall be filled with Non fire rated Puff.				
20.1	46mm thick doors made with powder coated 0.8mm thick GPSP sheets on both sides with Rockwool as infill of density NLT 98+2kg/m3, 1.2mm thick GPSP powder coated door frames totally flush with the wall panels, hardware like SS ball bearing butt hinges SS Push plates,SS D handles, double glazed view glass of standard size ,concealed flush bolt for double leaf door,IHMS make standard arm door closer for active leaf, provision for lock & key, kick plate and door drop seal.-Size 1000X2400 mm Single Leaf	nos	1.0		
21	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / panelling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately)				
21.1	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)	kg	50.0		
22	Providing and fixing double glazed hermetically sealed glazing in aluminium windows, ventilators and partition etc. with 6 mm thick clear float glass both side, having 12 mm air gap, including providing EPDM gasket, perforated aluminium spacers, desiccants, sealant (Both primary and secondary sealant) etc. as per specifications, drawings and direction of Engineer-in-charge complete	sqm	8.0		
23	Providing and fixing aluminium round shape handle of outer dia 100 mm with SS screws etc. complete as per direction of Engineer-in-charge				

23.1	Powder coated minimum thickness 50 micron aluminium	each	4.0		
24	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling				
24.1	80x1.25 mm M.S. laths with 1.25 mm thick top cover	sqm	11.0		
25	Making plinth protection 50 mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over 75 mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including necessary excavation, levelling & dressing & finishing the top smooth	sqm	45.0		
26	Cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 40 mm nominal size) in pavements, laid to required slope and camber in panels as required including consolidation finishing and tamping complete.	cum	4.0		
27	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
27.1	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	kg	120.0		
28	Providing and laying C.C. pavement of mix M-25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator, vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer-in-charge. (The panel shuttering work shall be paid for separately).	cum	7.0		

29	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc. consisting of following operations: (a) Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment. (b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs. (c) After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS: 2645 and approved by Engineer-in-charge. (d) Finishing the surface with 20 mm thick joint less cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep (e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. “All above operations to be done in order and as directed and specified by the Engineer-in-Charge”:				
29.1	With average thickness of 120 mm and minimum thickness at khurra as 65 mm.	sqm	47.0		
30	Grading roof for Water proofing treatment with : Cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	cum	5.0		
31	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete				
31.1	300 mm dia. R.C.C. pipe	meter	48.0		

32	Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) with R.C.C. top slab with 1:1.5:3 mix (1 cement : 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand (zone-III) : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design				
32.1	Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (medium duty) 500 mm internal diameter, total weight of cover and frame to be not less than 116 kg (weight of cover 58 kg and weight of frame 58 kg) :With common burnt clay F.P.S. (non-modular) bricks of class designation 7.5	each	3.0		
33	Making soak pit 2.5 m diameter 3.0 metre deep with 45 x 45 cm dry brick honey comb shaft with bricks and S.W. drain pipe 100 mm diameter, 1.8 m long complete as per standard design				
33.1	With common burnt clay F.P.S. (non-modular) bricks of class designation 7.5	each	1.0		
34	Constructing brick masonry road gully chamber 45x45x77.5 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) with precast R.C.C. vertical grating complete as per standard design				
34.1	With common burnt clay F.P.S. (non-modular) bricks of class designation 7.5	each	4.0		
35	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply and all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge				
35.1	Internal work - Exposed on wall : 20 mm nominal dia Pipes	meter	10.0		
36	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge				
36.1	External work: 40 mm nominal dia Pipes	meter	60.0		
37	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete : CPVC 40 mm dia	nos	1.0		

38	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS:13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :				
38.1	Kitchen sink with drain board :510x1040 mm bowl depth 250 mm	each	1.0		
39	Providing and fixing CP Brass 32mm size Bottle Trap of approved quality & make and as per the direction of Engineer-in-charge.	each	1.0		
40	Providing and fixing kitchen Sink 360 Degree Rotating with Foam Flow, of approved quality& make and as per the direction of Engineer-in-charge.	each	1.0		
41	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete				
41.1	Semi rigid pipe: 32 mm dia	each	1.0		
42	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete	each	1.0		
43	Providing and fixing on wall face unplasticised SWR pipes confirming to IS :13592 Type B Single socketed pipes including jointing with adhesive etc., complete as per the direction of engineer in charge (Rate inclusive of scaffolding up to Five floor level including parapet and Terrace)				
43.1	75 mm diameter	meter	25.0		
43.2	110 mm diameter	meter	25.0		
44	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.				
44.1	5000 liter tank Capacity	litre	5000.0		

45	Providing and fixing Heat Resistant Terrace Tiles (300 mm x 300 mm x 20 mm) with SRI (solar refractive index) > 78, solar reflection > 0.70 and initial emittance > 0.75 on waterproof and sloped surface of terrace, laid on 20 mm thick cement sand mortar in the ratio of 1:4 (1 cement : 4 coarse sand) and grouting the joints with mix of white cement & marble powder in ratio of 1:1, including rubbing and polishing of the surface upto 3 cuts complete, including providing skirting upto 150 mm height along the parapet walls in the same manner	sqm	50.0		
46	Wiring for light point/ fan point/exhaust fan point/call bell point with 1.5sq.mm FRLS PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc.as required.				
46.1	Group 'B	each	10.0		
46.2	Group 'C	each	10.0		
47	Wiring for group controlled light point/ fan point/ exhaust fan point/ call bell point (without independent switch etc.),with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, and earthling the point with 1.5 sq.mm. FR PVC insulated copper conductor single core cable etc. as required.				
47.1	Group'B	each	10.0		
47.2	Group'C	each	10.0		
48	Wiring for circuit/ sub main wiring along with earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required				
48.1	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	meter	80.0		
48.2	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	meter	100.0		
48.3	4 X 6 sq. mm + 2 X 6 sq. mm earth wire	meter	30.0		
48.4	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	meter	30.0		
49	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.				
49.1	20 mm	meter	50.0		
49.2	25 mm	meter	50.0		

50	Supply & fixing following size/modules GI box along with modular base and cover plate for modular switches in recess etc. as required.				
50.1	1 or 2 Modular box (75mmx75 mm)	each	5.0		
50.2	4 Modular box(125mmx75 mm)	each	5.0		
50.3	6 Modular box(200mmx75 mm)	each	5.0		
50.4	8 Modular box(125mmx125 mm)	each	5.0		
51	Supply & fixing following modular switch/ Socket on the existing modular plate & switch box including connection but excluding modular plate etc. as required				
51.1	5/6 amps switch	each	10.0		
51.2	15/16 amp switch	each	20.0		
51.3	3 pin 5/6 amp socket outlet	each	10.0		
51.4	6 pin 15/16 amp socket outlet	each	20.0		
51.5	Telephone socket outlet	each	2.0		
52	Supplying and fixing following way prewired TP&N MCB distribution board of steel sheet for 415 volts on surface/ recess complete with loose wire box, terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FRLS PVC insulated copper conductor up to terminal blocks, tinned copper bus bar, neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthling etc. as required.(But without MCB/ RCCB/ Isolator)				
52.1	6 way (4 + 18), Double door	each	2.0		
53	SURFACE MOUNTED LED Light Fixture with Construction Material: CRCA, System Lumen O/P: ≥ 1800LM, CCT: 5700K, Minimum System Efficacy: ≥110lm/w, Mounting Type: Surface mounted, CRI ≥ 80, THD ≤ 10%, IP Rating: IP20, Wattage : not more than 18W **(3_L_SURFACE_3)**	each	20.0		

54	LED Street light fixture, powder coated pressure die cast aluminium body (System lumen efficacy ≥105 <120 lm/Watt)Supplying, installation, Testing & Commissioning of Street light LED fixture powder coated pressure die cast aluminium body with driver as per the requirement with Driver efficiency >85%, Input voltage: 140-270 Volt AC, frequency 50/60 hz, Operating temp range -5 °C to 50 °C, internal surge protection of 5 KV L,N,E as per IEC 61000-4-5, Driver efficiency >85%,THD < 10% as per IEC 610003-2, P. F.≥0.95, IP-66,IK-10, CRI ≥70, under voltage and over voltage protection, EMI-EMC As per CISPR -15, lenses for beam angle as per IESNA type I/II/III as per the width of the road and the project requirement., suitable to fit in up to 65mm dia pipe, life time (LED, Driver & electrical circuitry) of minimum 50000 Burning Hours with 70% of initial Lumen maintained till life ends as per LM80 extrapolation IES TM-21-11 report, CCT 3000°K / 4000°K / 5700°K /6500°K (As per ANSI Bin),SDCM (Standard Deviation Colour Matching) <5, Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard complete in all respect i/c external connections with 1.5 sq.mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy ≥105 <120 lm/Watt output. LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C).	each	10.0		
55	Supply of following size PVC insulated and PVC sheathed / XLPE aluminium conductor armoured UG power cable of 1.1 KV grade as required.				
55.1	3.5 x 120 Sqmm x 1 Run	meter	100.0		
56	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing RCC/ HUME/ METAL pipe as required.				
56.1	Above 95 sq. mm and upto 185 sq. mm	meter	50.0		
57	Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc. Direct in ground (75 cm below ground level) including excavation and refilling the trench but excluding sand cushioning and protective covering etc., complete as required.				
57.1	120 mm dia (OD-120 mm & ID-103 mm nominal)	meter	50.0		

58	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				
58.1	3½ X 120 sq. mm (45mm)	each	2.0		
59	Supply, installation, testing and commissioning of **5 kVA** UPS system with a battery backup of 30 minutes duration for full load and with all standards fittings, accessories, protection, instruments, indications and controls including but not restricted to transformer, rectifier, inverter, SMF battery with float cum boost battery charger, static bypass switch, maintenance bypass, output isolation transformer, interconnections etc. complete as per specifications and as required.	each	1.0		
60	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7metre long etc. with charcoal/ coke and salt as required. (For neutral earthing)	each	2.0		
61	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7-metre-long etc. with charcoal/ coke and salt as required. (For body earthing)	each	2.00		
62	Providing and fixing 25 mm X 5 mm copper. strip in 40 mm dia G.I. pipe from earth electrode including connections with G.I.nut, bolt, spring, washer, excavation and refilling etc. as required.	meter	21.00		
63	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.	meter	15.00		
64	Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe from earth electrode including connections with G.I.nut, bolt, spring, washer, excavation and refilling etc. as required.	meter	30.00		
65	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	meter	15.00		

66	Supply, Installation, Testing & Commissioning of Liquid Nitrogen Generator of minimum 200 litre per day production capacity with all associated components & accessories complete as detailed in the specification in the tender document including all necessary testing & documentation charges mentioned in the specification. The item includes 4-year Comprehensive Annual Maintenance beyond the initial one-year warranty period. The Warranty period shall start from the handing over of the facility. And during the aforesaid 5-year period all necessary service visits detailed and consumables for the Liquid Nitrogen generator & and its associated components. The item includes all taxes, duties, transport, labour, etc. Nothing extra shall be paid.	set	1.00		
	Total Rs.				
	PRICE SCHEDULE **(This 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 this tender. Bidders are allowed to enter the Bidder Name and Values only) Quoted Rate is inclusive of GST as applicable.**				