राष्ट्रीय प्रौद्योगिकी संस्थान श्रीनगर

NATIONAL INSTITUTE OF TECHNOLOGY SRINAGAR

(An autonomous Institute of National Importance under the aegis of Ministry of Education, Govt. of India)

हजरतबल, श्रीनगर जम्मू और कश्मीर, 190006, भारत

Hazratbal, Srinagar Jammu and Kashmir-190006, INDIA

Tender Document for

Supply, Installation, Testing, and Commissioning of VRF/VRV-based HVAC Systems Including civil and Allied works in the various blocks of NIT Srinagar

Tender Reference Number: NIT/CHS/PMDP/23-24

For Procurement of

GOODS

Table of Contents

Section I: Notice Inviting Tender (NIT)

1. Notice Inviting Tender (NIT)

The President of India, through the Head of Procurement of the Procuring Entity, in the Procuring Organization (hereinafter referred to as 'the Authority', 'the Head of Procurement', 'the Procuring Entity' and 'the Procuring Organisation' respectively), invites bids for entering into a contract for the supply of GOODS (hereinafter referred to as 'the Goods'). This Tender Document reference number, NIT/CHS/PMDP/23-24 (hereinafter referred to as 'the Tender Document'), gives further details.

2. The Tender Document

2.1 Bidders must read the complete 'Tender Document'.

This NIT is an integral part of the Tender Document and serves a limited purpose of invitation, and does not purport to contain all relevant details for submission of bids. 'Tender Information Summary' (TIS) appended to this notice gives a salient summary of the tender information. Any generic reference to NIT shall also imply a reference to TIS as well. Bidders must go through the Tender Document for details before submission of their Bids. However, Bidders must go through the complete Tender Document for details before submission of their Bids.

2.2 Availability of the Tender Document

The Tender Document shall be published on the Portal. It shall be available for download after the date and time of the start of availability till the deadline for availability as mentioned in TIS. Unless otherwise stipulated in TIS, the downloaded Tender Document is free of cost. If the Procuring Entity happens to be closed on the deadline for submitting the bids as specified above, this deadline shall *not* be extended. Any query/ clarification regarding downloading Tender Documents and uploading Bids on the e-Procurement portal may be addressed to the Help Desk (contact details given in TIS).

2.3 Clarifications

A Bidder requiring any clarification regarding the Tender Document may ask questions in writing/ electronically from Office/ Contact Person as mentioned in TIS, provided the questions are raised before the clarification end date mentioned in TIS (or if not mentioned, before 7 days of the deadline for the bid submission). This deadline shall not be extended in case of any intervening holidays.

3. Eligibility Criteria for Participation in this Tender

Subject to provisions in the Tender Document, participation in this Tender Process is open to all bidders who fulfil the 'Eligibility' and 'Qualification criteria. Bidder should meet the following eligibility criteria as of the date of his bid submission and should continue to meet these till the award of the contract. Bidder shall be required to declare fulfilment of Eligibility Criteria in Form 1.2 (Eligibility Declarations). The Bidder, unless otherwise stipulated in TIS/ AITB:

1) must:

   (a) be a natural person, private entity, or public entity (State-owned enterprise or institution).

(b) unless permitted explicitly in TIS/ AITB, not be (or proposes to be, a Joint Venture/ Consortium (an association of several persons, firms, or companies - hereinafter referred to as JV/C).
(c) be a manufacturer of the product offered or be dealer authorised by the Principal/ OEM.

2) must:

(a) not be insolvent, in receivership, bankrupt or being wound up, not have its affairs administered by a court or a judicial officer, not have its business activities suspended and must not be the subject of legal proceedings for any of these reasons.
(b) (including their affiliates or subsidiaries or Contractors/ subcontractors for any part of the contract)

(i) Not stand declared ineligible/ blacklisted/ banned/ debarred by the Procuring Organisation or its Ministry/ Department from participation in its Tender Processes; and/ or
(ii) Not be convicted (within three years preceding the last date of bid submission) or stand declared ineligible/ suspended/ blacklisted/ banned/ debarred by appropriate agencies of Government of India from participation in Tender Processes of all of its entities, for:
- offences involving moral turpitude in business dealings under the Prevention of Corruption Act, 1988 or any other law; and/or
- offences under the Indian Penal Code or any other law for causing any loss of life/ limbs/ property or endangering Public Health during the execution of a public procurement contract and/ or
- suspected to be or of doubtful loyalty to the Country or a National Security risk as determined by appropriate agencies of the Government of India.

(iii) Not have changed its name or created a new business entity as covered by the definition of "Allied Firm", consequent to having been declared ineligible/ suspended/ blacklisted/ banned/ debarred as above;
(iv) Not have an association (as a bidder/ partner/ director/ employee in any capacity)
- of retired Manager (of Gazetted Rank) or a retired Gazetted Officer of the Central or State Government or its Public Sector Undertakings if such a retired person has not completed the cooling-off period of one year after his retirement. However, this shall not apply if such managers/ officers have obtained a waiver of the cooling-off period from their erstwhile organisation.
- of the near relations of executives of Procuring Entity involved in this Tender Process

(c) Not have a conflict of interest, which substantially affects fair competition. The prices quoted should be competitive and without adopting any unfair/ unethical/ anti-competitive means. No attempt should be made to induce any other bidder to submit or not to submit an offer for restricting competition

3) must fulfil any other additional eligibility condition, if any, as may be prescribed, in TIS or elsewhere in Tender Document.

4) must provide such evidence of their continued eligibility to the Procuring Entity if so requested.
5) of Class-II Local Suppliers and Non-Local Suppliers (as defined in Make-in-India policy) shall be eligible subject to certain conditions as detailed in the ITB-clause.
6) from specified countries having land borders with India (but not in development partnership with India) shall be eligible subject to certain conditions as detailed in the ITB-clause.

7) If TIS/ AITB declares this to be a procurement process for the second stage of two-stage/ Pre-Qualification Bidding (PQB) after shortlisting qualified bidders in the EoI/ PQB stage, then only the bidders shortlisted/ qualified in the first stage shall be eligible to participate.

4. Purchase Preference Policies of the Government

As detailed in the Tender Document, the Procuring Entity reserves its right to grant preferences to eligible Bidders under various Government Policies/ directives (policies relating to Make in India etc.).

5. Pre-bid Conference:

If so indicated in TIS, Bidders are requested to attend a Pre-bid conference for clarification on the Tenders' technical specifications and commercial conditions, on the time, date, and place mentioned therein. Participation in such a Pre-bid Conference is not mandatory. If a bidder does not participate or submit any query, then no subsequent representations from them regarding the Technical/ commercial specifications/ conditions shall be entertained.

6. Submission of Bids:

1) Bids must be uploaded till the deadline for submission mentioned in TIS. If the office happens to be closed on the deadline to submit the bids as specified above, this deadline shall *not* be extended.

2) Unless otherwise specified, in TIS, originals (or self-attested copies of originals – as specified therein) of specified scanned uploaded documents must be physically submitted sealed in double cover and acknowledgement be obtained before the bid submission deadline at mentioned venue. Failure to do so is likely to result in the bid being rejected. If the office is closed on the deadline for physical submission of originals, it shall stand extended to the next working day at the same time and venue.

3) No manual Bids shall be made available or accepted for submission (except for originals of scanned copies as per sub-clause above). Bidder must comply with the conditions of the eProcurement portal, including registration, compatible Digital Signature Certificate (DSC) etc. In the case of downloaded documents, Bidder must not make any changes to the contents of the documents while uploading, except for filling in the required information.

4) As per current Government orders, in lieu of bid security, bidders must furnish Bid Securing Declaration (BSD) as ‘Form 7: Documents Relating To Bid Security’ in their bid as per format given therein. The BSD shall be drawn in favour of the authority stipulated in TIS. A self-attested scan of the original Form 7 should be uploaded along with bids. Bids not complying with these provisions shall be rejected.

5) **Integrity Pact:** If so indicated, in the TIS/ AITB, all Bidders shall have to sign the Integrity Pact with the Procuring Entity as per 'Form 8: Integrity Pact'. Bids without a signed Integrity Pact shall be rejected.

7. Bid Opening

Bids received shall be opened online at the specified date and time given in TIS. If the office is closed on the specified date of opening of the bids, the opening shall be done on the next working day at the same time.

8. Disclaimers and Rights of Procuring Entity

The issue of the Tender Document does not imply that the Procuring Entity is bound to select bid(s), and it reserves the right without assigning any reason to

(a) reject any or all of the Bids, or
(b) cancel the tender process; or
(c) abandon the procurement of the Goods; or
(d) issue another tender for identical or similar Goods

Note: Please refer to appended TIS and the complete Tender Document for further details.

Digitally Signed by
Tender Inviting Authority

Appendix: Tender Information Summary (TIS)

Appendix to NIT: Tender Information Summary

Document No. Tend No. NIT/CHS/PMDP/23-24; Tender Title: GOODS

Tender Information Summary (TIS)			
1.0 Basic Tender Details			
Tender Title	GOODS		
Tender Reference Number	NIT/CHS/PMDP/23-24	Tender ID	NIT/CHS/PMDP/23-24
Tender Type	Open Tender	Form of Contract	Item Rate
Tender Category	Goods	No. of Covers	Two Covers
Bidding System	Single Stage	e-Reverse Auction to be held after Financial bid opening (See AITB also in case of Yes)	No
the Procuring Organisation:	National Institute of Technology Srinagar	the Procuring Entity:	Central Purchase Unit
Authority on whose behalf Tender is invited	President of India	Through	Director NIT Srinagar
Tender Inviting Authority (TIA)	Officer Incharge Central Purchase Unit	Address	National Institute of Technology Srinagar, Hazratbal Srinagar Jammu and Kashmir 190006 India
Appointing Authority for Arbitration	Director NIT Srinagar		

2.0 Requirement Details			
Evaluation Basis	Value Wise	Part quotation allowed or not	No
Inspection Type	NA	Inspection Agency	NA
Schedule	1		
Item Details:	Supply, Installation, Testing, and	Qty and Units	As Per Specification document

	Commissioning of VRF/VRV-based HVAC Systems Including civil and Allied works in the various blocks of NIT Srinagar		
Consignee/ State:	Srinagar, Jammu and Kashmir		
Terms of Delivery	F.O.R.	Completion time:	Six months from the date of Contract Order

3.0 Critical Dates (ITB-clause 7.0; 8.0; 9.0, 10.0 and 11.0)

Published Date	28.04.2023	Bid Validity (Days from the date of Bid Opening) – ITB-clause 9.3	120 Days
Document Download Start Date	28.04.2023	Document Download End Date	26.05.2023
Clarification Start Date	28.04.2023	Clarification End Date	08.05.2023
bid Submission Start Date	15.05.2023	bid Submission Closing Date	25.05.2023
Bid Opening (Techno-commercial bid) Date	26.05.2023	Bid Opening (Financial bid) Date	05.06.2023

4.0 Eligibility to Participate (NIT-clause 3 and ITB-clause)		
Is this item reserved for exclusive Procurement from MSEs		No
Nature of Bidders eligible – OEMs/ Dealers authorised by OEMs		OEMs Dealers authorized by OEMs: Manufacturer Authorization: Wherever Authorised Distributors/service providers are submitting the bid, Bid Specific Authorisation Form is required to be furnished along with the bid.
Entities from countries not eligible to participate on reciprocal basis (Make in India Policy)		Indian suppliers of this item are not allowed to participate and/ or compete in procurement by some foreign governments. Bidders / products from such countries are not eligible / not allowed to participate in this bid in terms of clause 1 (d) of Public Procurement (Preference to Make in India) Order, 2017
Minimum local content for eligibility to participate (Make in India Policy)		20%
Classes of Local Suppliers eligible to participate (Make in India Policy)		Only Class-I and Class-II local Suppliers eligible (Domestic Tenders)
5.0 Thresholds for Eligibility to Participate and Preference under Make in India Policy		
Classification of Local Suppliers based on Minimum local content		Class-I Local Suppliers: 50% Class -II Local Supplier: more than 20% but less than 50% Non-Local Supplier less than 20%
The margin of purchase preference		20%
Is the requirement divisible for preference		No
Would the contract be split among more than one bidder		No
6.0 Obtaining the Tender Document and clarifications (ITB-clause)		
eProcurement Portal and helpdesk for Document availability and submission	https://eprocure.gov.in/eprocure/app	[0120-4001 002; 0120-4001 005; 0120-6277 787 or support-eproc@nic.in]
Cost of Tender Document (INR)	Not applicable	

Office/ Contact Person/ email for clarifications	Office of the Central Purchase Unit National Institute of Technology Srinagar Hazratbal, Srinagar, Jammu and Kashmir 190006		
7.0 Pre-bid Conference (ITB-clause 8)			
Pre-bid Conference applicable or not	Yes		
Place, time, and date of the Pre-bid Conference	TEQIP III Conference Room, NIT Srinagar 08.05.2023 at 11:00 AM		
8.0 Preparation and Submission and Opening of Bids (ITB-clause 9.0 and 10.0)			
Bids to be Addressed to	President of India, Through Head of Procurement, Procuring Entity		
Instructions for Online bid Submission	[https://etenders.gov.in/eprocure/app?page=HelpForContractors&service=page]		
Bid Opening Place	[On e-procurement portal(s) mentioned above]		
Alternate Bids allowed or not ITB-clause 9.1.6	[Only one bid meeting the conflict-of-interest criteria (as mentioned in this document) shall be considered as valid from a bidder.]		
9.0 Physical submission of Originals/ Self-attested copies of Originals of Scanned Documents uploaded (ITB-clause 10.3)			
Physical documents required/ permitted to be submitted	Yes		
If Yes, List of Documents to be submitted physically	Documents related to Bid Security		
Deadline for physical submission of Documents related to Bid Security	25.05.2023		
Address of Physical Submission of Originals	Office of the Central Purchase Unit National Institute of Technology Srinagar Hazratbal, Srinagar, Jammu and Kashmir 190006		
10.0 Documents relating to Bid Security (ITB-clause 9.4) and Performance Security (ITB-clause 13.2.4)			
[In lieu of Bid Security Bid Securing Declaration is to be submitted by all bidders as per Form 7]			
Performance Security	Applicable @ 10% of Order value	Form of Security and To whom to be addressed	FDR/DD/PBG favouring Director NIT Srinagar
11.0 Additional Clauses			
Clause	**Description**		
Integrity Pact to be Signed and	No	Independent External Monitor,	NA

Submitted along with bid ITB-clause 9.2.1		Name and Contact Details	
Price Variation Clause ITB-clause 6.2.2	No		
Quantity Splitting/ Parallel Orders ITB-clause 13.1.2	No.	If Yes, Ratio of Distribution among L-1 and others	Not applicable

Section II: Instructions to Bidders (ITB)

1. The Tender Document

1.1 Basic Tender Details

The 'Tender Document' (hereinafter referred to as the 'the Tender Document') details the terms and conditions for entering into a contract for the supply of the Goods as detailed in Section VI: "Schedule of Requirements" (hereinafter referred to as 'the Goods'). Bidders must go through the Tender Document for further details. 'Tender Information Summary' (TIS) is appended to Section I: Notice Inviting Tender (NIT) for ready reference. The 'Good's may include incidental Services/ Works if so indicated. In this Tender Document, any generic reference to 'Goods' shall be deemed to include such incidental Services and Works.

1.2 Interpretations, Definitions, Abbreviations and Document Conventions

Section IV: General Conditions of Contract (GCC), details Tenets of interpretation (GCC-clause 1.1), Definitions (GCC-clause 1.2), Document conventions (GCC-clause 1.3) and Abbreviations (GCC-clause 1.4), which shall also apply to the rest of the Tender Document.

1.3 Overview of Contents

1) Unless otherwise stipulated in TIS/ AITB, the Sections, Forms and Formats comprising this Tender Document are described in ITB-clauses 1.4, 1.5 and 1.6 below. A BOQ file separately available on the e-Procurement Portal is also part of this Tender Document. Any generic reference to Tender Document shall also imply a reference to any/ all the sections, Forms, Formats and the BOQ file or other files that comprise this Tender Document.

2) Bidder must submit the bid in the Forms/ Formats mentioned in ITB-clauses 1.5 and 1.6 below. The sections mentioned in ITB-clause 1.4 below need not be signed or returned by the bidders; however, Bidder must declare in his bid Form (Form 1) that he has read, understood, complied, and stands bound by all requirements of these sections:

1.4 Sections of the Tender Document (need not be signed or uploaded)

1.4.1 Sections of the Tender Document

Unless otherwise stipulated in TIS/ AITB, the Tender Document contains the following sections, which are described in subsequent sub-clauses:

1) Section I: Notice Inviting Tender (NIT) and its Appendix: Tender Information Summary (TIS)
2) Section II: Instructions to Bidders (ITB)
3) Section III: Appendix to Instructions to Bidders (AITB)
4) Section IV: General Conditions of Contract (GCC)
5) Section V: Special Conditions of Contract (SCC)
6) Section VI: Schedule of Requirements
7) Section VII: Technical Specifications and Quality Assurance
8) Section VIII: Qualification Criteria

1.4.2 Section I: Notice Inviting Tender (NIT) and its Appendix: Tender Information Summary (TIS)

Section I – Notice Inviting Tender (NIT) and its Appendix – Tender Information Summary (TIS) provides a synopsis of information relevant for a Bidder to decide on participating in the

Tender. Any generic reference to NIT shall also imply a reference to TIS as well. Bidders must fill up 'Form 5: Terms and Conditions - Compliance' regarding any deviations from this Schedule.

1.4.3 Section II: Instructions to Bidders (ITB) and Section III: Appendix to Instructions to Bidders (AITB)

Section II: "Instructions to Bidders" - ITB along with Section III: "Appendix to Instructions to Bidders – AITB" provides the relevant information as well as instructions to assist the prospective Bidders in preparation and submission of Bids. It also includes the mode and procedure adopted for receipt/ opening, scrutiny/ evaluation of Bids, and contract award. In case of a conflict, provisions of AITB shall prevail over those in the ITB. Any generic reference to ITB shall also imply a reference to AITB as well. Bidders must fill up 'Form 5: Terms and Conditions - Compliance' regarding any deviations from this Schedule.

1.4.4 Section IV: General Conditions of Contract (GCC) and Section V: Special Conditions of Contract (SCC)

Section IV – General Conditions of Contract (GCC) and Section V – Special Conditions of Contract (SCC) describe the conditions that shall govern the resulting contract. In case of a conflict, provisions of SCC shall prevail over those in the GCC. Any generic reference to GCC shall also imply a reference to SCC as well. In case of any conflict, provisions of GCC/ SCC shall prevail over those in ITB/ AITB. Bidders must fill up 'Form 5: Terms and Conditions - Compliance' regarding any deviations from terms and conditions of this and other Schedules.

1.4.5 Section VI: Schedule of Requirements

Section VI – Schedule of Requirements describes the Goods required; HSN codes; Quantities and Units; Delivery Requirements, Destination and State; transportation; terms of delivery (F.O.R. etc.); scope of supply (concomitant accessories; spare parts and incidental Works/ Services). The requirements may consist of more than one schedule. Each schedule may contain more than one item of Goods. Bidders must fill up 'Form 2: 'Schedule of Requirements - Compliance' regarding this Schedule.

1.4.6 Section VII – Technical Specifications and Quality Assurance

Section VII – Technical Specifications and Quality Assurance lays down the technical and quality assurance (including any energy-saving requirements, e.g., BEE star classification and Warranty Obligations) of the Goods required. It would also stipulate, if required, any compliance required by Central and State Pollution Control Boards, including transportation and handling of hazardous materials/ packaging. Bidders must fill up 'Form 3: 'Confirmation/ Deviation from Technical Specifications And Quality Assurance' regarding this Schedule. Bidder should provide the required details, information, confirmations, etc., accordingly, failing which its bid shall be liable to be rejected as nonresponsive.

1.4.7 Section VIII: Qualification Criteria:

Section VIII: Qualification Criteria lay down the Qualifying Criteria for a bid/ Bidder to be considered a responsive bid/ bidder for further evaluation. Bids/ bidders not meeting these Qualification criteria shall be rejected as nonresponsive. It may indicate the extent of dispensation allowed for Start-ups under ITB 3.8.2-2) and MII-JVs under ITB 3.6.8-2. Bidders must fill up 'Form 4: Confirmation/ Deviation from Qualification Criteria' and 'Form 4.1: Performance Statement' regarding this Schedule. Bidders shall attach statements and documents to confirm conformity to Qualification Criteria in this appendix.

1.5 Forms (To be filled, digitally signed, and uploaded by Bidders)

Please refer to clause 1.4 above to relate the following forms to the corresponding Sections.

1) **Form 1: bid Form (To serve as a covering letter to both the Techno-commercial and Financial Bids)**
   (a) **Form 1.1: Bidder Information**
   (b) **Form 1.2: Eligibility Declarations**
   (c) **Form 1.3: OEM's Authorization**
   (d) **Form 1.4: Declaration by Agents/ Associates of Foreign Principals/ OEMs**
2) **Form 2: Schedule of Requirements - Compliance**
3) **Form 3: Technical Specifications and Quality Assurance - Compliance**
4) **Form 4: Qualification Criteria - Compliance**
   (a) **Form 4.1: Performance Statement**
5) **Form 5: Terms and Conditions - Compliance**
6) **Form 6: Checklist for the Bidders**
7) **Form 7: Documents Relating to Bid Security**
8) **Form 8: Integrity Pact**
9) **Financial bid – BOQ Excel Sheet (To be Downloaded from the Portal).**

1.6 Other Formats

1) Format 1: Contract Form (Not to be filled by Bidders)
   (a) Format1.1: Bank Guarantee Format for Performance Security
   (b) Format 1.2: NEFT Mandate Form
   (c) Format 1.3: No Claim Certificate
   (d) Format 1.4: Certification by Prospective Arbitrators
2) Format 2: Authorization for Attending Pre-bid Conference. (To be filled up, if required, by Bidder)

2. Procuring Entity - Rights and Disclaimers

2.1 The Procuring Entity

Bids are to be addressed to the President of India through the Head of Procurement, Procuring Entity in the Procuring Organisation (headed by Head of the Procuring Organisation). The Tender Inviting Authority is the designated officer for uploading and clarifying this Tender Document. The contract may designate, as required, Inspection Agency/ Officer and interim/ ultimate Consignee(s) and Paying authority who shall discharge designated function during contract execution.

2.2 Right to Intellectual Property and confidentiality:

1) The Tender Document and associated correspondence are subject to copyright laws and shall always remain the property of the Procuring Entity and must not be shared with third parties or reproduced, whether in whole or part, without the Procuring Entity's prior written consent.
2) However, Bidders may share these to prepare and submit its bid with its employees, subcontractor(s), or holding Company. Bidders shall obtain from them an undertaking of confidentiality similar to that imposed on Bidder under this clause.

3) This condition shall also apply to bidders who do not submit a bid after downloading it or who are not awarded a contract in the process.

4) The obligation of the Bidders under sub-clauses above, however, shall not apply to information that:

   (a) now or hereafter is or enters the public domain through no fault of Bidder;
   (b) is legally possessed by Bidder at the relevant time and was not previously obtained, directly or indirectly, from the Procuring Entity; or
   (c) otherwise lawfully becomes available to Bidder from a third party that has no obligation of confidentiality.

5) The provisions of this clause shall survive completion or termination for whatever reason of the Tender Process or the contract.

2.3 Right to Reject any or all Bids

The Procuring Entity reserves its right to accept or reject any or all Bids, abandon/ cancel the Tender process, and issue another tender for the same or similar Goods at any time before the award of the contract. It would have no liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for such action(s).

2.4 Disclaimers

2.4.1 Regarding Purpose of the Tender Document

The Tender Document is neither an agreement nor an offer to prospective Bidder(s) or any other party hereunder. The purpose of the Tender Document is to provide the Bidder(s) with information to assist them in participation in this Tender Process.

2.4.2 Regarding Documents/ guidelines

The Tender Document, ensuing communications, and Contracts shall determine the legal and commercial relationship between the bidders/ contractors and the Procuring Entity. No other Government or Procuring Entity's document/ guidelines/ Manuals including its Procurement Manual (for internal and official use of its officers), notwithstanding any mention thereof in the Tender Document, shall have any locus-standii in such a relationship. Therefore, such documents/ guidelines/ Manuals shall not be admissible in any legal or dispute resolution or grievance redressal proceedings.

2.4.3 Regarding Information Provided

Information contained in the Tender Document or subsequently provided to the Bidder(s) is on the terms and conditions set out in the Tender Document or subject to which that was provided. Similar terms apply to information provided verbally or in documentary or any other form, directly or indirectly, by the Procuring Entity or any of its employees or associated agencies.

2.4.4 Regarding Tender Document:

1) The Tender Document does not purport to contain all the information Bidder(s) may require. It may not address the needs of all Bidders. They should conduct due diligence, investigation, and analysis, check the information's accuracy, reliability, and completeness, and obtain independent advice from appropriate sources. Information provided in the Tender Document to the Bidder(s) is on a wide range of matters, some of which may depend upon interpreting the law. The information given is not intended to be an exhaustive account of statutory requirements and should

not be regarded as a complete or authoritative statement of law. The Procuring Entity, its employees and other associated agencies accept no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.

2) The Procuring Entity, its employees and other associated agencies make no representation or warranty for the accuracy, adequacy, correctness, completeness or reliability, assessment, assumption, statement, or information in the Tender Document. They have no legal liability, whether resulting from negligence or otherwise, for any loss, damages, cost, or expense that may arise from/ incurred/ suffered howsoever caused to any person, including any Bidder, on such account.

3. Bidders - Eligibility and Preferential Policies

3.1 Bidders

Subject to provisions in the following clauses in this section and provisions in Tender Document, this invitation for Bids is open to all bidders who fulfil the 'Eligibility Criteria' and 'Qualification Criteria' stipulated in the Tender Document. In the case of the Second Stage (of two Stage Bidding or PQB) or Special Limited Tenders, this invitation is open only to such bidders who have been previously shortlisted or specifically invited.

3.2 Eligibility Criteria for Participation in this Tender

Subject to provisions in this Tender Document, participation in this Tender Process is open to all bidders who fulfil the 'Eligibility' and 'Qualification criteria. Bidder should meet (as on the date of his bid submission and should continue to meet till the award of the contract) the 'Eligibility Criteria' detailed in NIT-clause 3, which shall be considered to be part of this clause of ITB (even though it is not being reproduced here for the sake of brevity). Bidder shall submit a declaration about the 'Eligibility Criteria' compliance in Form 1.2 – Eligibility Declarations.

3.3 Eligibility of bidders from specified countries

Orders issued by the Government of India restricting procurement from bidders from certain countries that share a land border with India shall apply to this procurement.

1) Any bidder (as defined in GCC-clause 1.2) from a country that shares a land border with India[1], excluding countries as listed on the website of the Ministry of External Affairs[2], to which the Government of India has extended lines of credit or in which the Government of India is engaged in development projects (hereinafter called 'Restricted Countries') shall be eligible to bid in this tender only if Bidder is registered[3] with the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT). Bidders shall enclose the certificate in this regard in Form 1 - bid Form.

2) In Bids for Turnkey contracts, including Works contracts, the successful bidder shall not be allowed to sub-contract works to any contractor from such Restricted

[1] https://mea.gov.in/india-and-neighbours.htm

[2] http://meadashboard.gov.in/indicators/92

[3] https://dipp.gov.in/sites/default/files/Revised-Application-Format-for-Registration-of-Bidders-15Oct2020.pdf

Countries unless such contractor is similarly registered. In such cases, the bidders shall enclose the certificate in Form 1: Bid Form.

3) If Bidder has proposed to sub-contract Services or incidental Goods directly/ indirectly from the vendors from such countries, such vendor shall be required to be registered with the Competent Authority. However, if Bidder procures raw material, components, and sub-assemblies from such countries' vendors, such vendors shall not require registration.

4) "Bidder from such Restricted Countries" means: -

   a) An entity incorporated, established, or registered in such a country; or
   b) A subsidiary of an entity incorporated, established, or registered in such a country; or
   c) An entity substantially controlled through entities incorporated, established, or registered in such a country; or
   d) An entity whose beneficial owner is situated in such a country; or
   e) An Indian (or other) agent of such an entity; or
   f) A natural person who is a citizen of such a country; or
   g) A consortium/ joint venture where any member falls under any of the above

5) The beneficial owner shall mean:

   (a) In a company or Limited Liability Partnership, the beneficial owner is the natural person(s). Whether acting alone or together or through one or more juridical persons, controlling ownership interest or exercises control through other means.

   Explanation-

   (i) "Controlling ownership interest" means ownership of or entitlement to more than twenty-five percent of the company's shares or capital, or profits.
   (ii) “Control” shall include the right to appoint a majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholder agreements or voting agreements;

   (b) In the case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together or through one or more juridical persons, has ownership of entitlement to more than fifteen percent of capital or profits.
   (c) In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
   (d) Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official.
   (e) In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

3.4 Conflict of Interest.

Any bidder having a conflict of interest, which substantially affects fair competition, shall not be eligible to bid in this tender. Bids found to have a conflict of interest shall be rejected as nonresponsive. Bidder shall be required to declare the absence of such conflict of interest in Form 1.2 - Eligibility Declarations. A bidder in this Tender Process shall be considered to have a conflict of interest if the bidder:

1) directly or indirectly controls, is controlled by or is under common control with another Bidder; or

2) receives or have received any direct or indirect subsidy/ financial stake from another bidder; or

3) has the same legal representative/ agent as another bidder for purposes of this bid. A Principal can authorize only one agent, and an agent also should not represent or quote on behalf of more than one Principal. However, this shall not debar more than one Authorised distributor from quoting equipment manufactured by an Original Equipment Manufacturer (OEM), in procurements under Proprietary Article Certificate; or

4) has a relationship with another bidder, directly or through common third parties, that puts it in a position to have access to information about or influence the bid of another Bidder or influence the decisions of the Procuring Entity regarding this Tender process; or

5) participates in more than one bid in this tender process. Participation in any capacity by a Bidder (including the participation of a Bidder as sub-contractor in another bid or vice-versa) in more than one bid shall result in the disqualification of all bids in which he is a party. However, this does not limit the participation of a non-bidder firm as a sub-contractor in more than one bid; or

6) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services that it provided (or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm), for the procurement planning (inter-alia preparation of feasibility/ cost estimates/ Detailed Project Report (DPR), design/ technical specifications, terms of reference (ToR)/ Activity Schedule/ schedule of requirements or the Tender Document etc) of this Tender process; or

7) has a close business or family relationship with a staff of the Procuring Organisation who: (i) are directly or indirectly involved in the preparation of the Tender document or specifications of the Tender Process, and/or the evaluation of bids; or (ii) would be involved in the implementation or supervision of resulting Contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Procuring Entity throughout the Tender process and execution of the Contract.

3.5 Regulation of Indian Agents/ Associates of Foreign Principals

Wherever the foreign principal desires to involve in this tender process, an Indian Agent/ associate, their dealings shall be regulated. Foreign Principals and their Agents/ Associates must provide required declarations in Form 1.4 – Declarations by Agents/ Associates of Foreign Principals:

1) The name and address of the foreign principals, if any, indicating their nationality as well as their status, i.e., whether manufacturer or agents of manufacturer holding

the Letter of Authority of the Principal authorizing them specifically to make an offer in India in response to tender either directly or through the agents/ representatives.

2) Such Agents/ Associates shall provide self-attested documentary evidence about their identity, business details to establish that they are a bonafide business and conform to regulations.
3) The Bidder/ Foreign Principal must commit to submitting after the Financial bid opening, due to price-sensitive information, the Agreement between them, including the amount of commission/ remuneration included in the price (s).
4) Confirmation on behalf of the foreign principals that the commission/ remuneration, if any, reserved for Indian Agents/ Associates in the quoted price(s), shall be paid by the Procuring Entity in India in equivalent Indian Rupees on satisfactory completion of the Project or supplies of Goods and Spares.
5) Failure to furnish correct and detailed information shall render Foreign Principal's bid liable to be rejected as nonresponsive in addition to other punitive actions against the Foreign Principal and their Indian Agents/ Associates for violation of Code of Integrity as per the Tender Document.

4. Purchase Preference Policies of the Government

Unless otherwise stipulated in TIS/ AITB, the Procuring Entity reserves its right to grant preferences to the following categories of eligible Bidders under various Government Policies/ Directives:

1) Class I Local Suppliers under Public Procurement (Preference to Make in India) Order 2017" (MII) of Department for Promotion of Industry and Internal Trade, (DPIIT - Public Procurement Section) as revised from time to time.
2) Bidders from Micro and/ or Small Enterprises (MSEs) under Public Procurement Policy for the Micro and Small Enterprises (MSEs) Order, 2012 as amended from time to time.
3) Start-ups Bidders under Ministry of Finance, Department of Expenditure, Public Procurement Division OM No F.20\212014-PPD dated 25.07.2016 and subsequent clarifications; and/ or
4) Any other category of Bidders, as per any Government Policies, announced from time to time, if so provided in the TIS/ ITB/ AITB

4.1 Make in India Order

Orders issued by the Government of India regarding eligibility to participate and for purchase preference to "Local Suppliers" to encourage 'Make in India' and promote manufacturing and production of goods and services in India shall apply to this procurement, as detailed below.

4.1.1 Categories of Local Suppliers

Bidders/Contractors are divided into three categories based on Local Content. Local content in the context of this policy is the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.:

1) 'Class-I local Supplier' with local content equal to or more than that prescribed in TIS or 50% if not prescribed.

2) 'Class-II local Supplier' with local content equal to or more than that prescribed in TIS or 20%if not prescribed, but less than that applicable for Class-I local Supplier.

3) 'Non - Local Supplier' with local content less than that applicable for Class-II local Supplier, in sub-clause above.

4.1.2 Eligibility Restrictions based on Reciprocity.

If so stipulated in the Tender Document, entities from such countries identified as not allowing Indian companies to participate in their Government procurement shall not be allowed to participate on a reciprocal basis in this tender. The term 'entity' of a country shall have the same meaning as under the FDI Policy of DPIIT as amended from time to time.

4.1.3 Eligibility to participate

1) **Minimum local content for eligibility to participate**: Only bidders meeting the minimum prescribed local content for the product shall be eligible to participate subject to the following conditions. This threshold shall be declared in TIS and/ or Section VI: Schedule of Requirements

2) **Classes of Local Suppliers eligible to Participate:** Based on the Make in India Policy, classes of local/ non-local Suppliers eligible to participate in the tender shall be declared in TIS/ AITB/ Schedule of Requirements. If not so declared, only Class-I and Class-II local Suppliers shall be eligible to participate and not non-local Suppliers.

4.1.4 Thresholds

1) Following thresholds shall be declared in the Tender Document.

   (a) **Minimum local content for Contractor classification:** local content percentage prescribed to qualify as Class-I or Class-II local Suppliers for various products
   (b) **Minimum local content for eligibility to participate:** Minimum local content percentage prescribed for eligibility for a bid to be considered.
   (c) **The margin of purchase preference:** The bid price quoted by Class-I Local Supplier should be within this percentage from the L-1 price quoted by Non-local or Class-II bidders for being eligible for purchase preference.

2) If not so declared, the default threshold shall be as follows:

   (a) Local content for eligibility for Class-I; Class-II local Suppliers and Non-local Suppliers shall be 50% and above; 20% and above but less than 50%; and less than 20%, respectively.
   (b) Minimum local content for eligibility to participate shall be 50%,

4.1.5 Verification of local content and violations:

1) The 'Class-I local Supplier'/ 'Class-II local Supplier' at the time of tender, bidding, or solicitation shall be required to indicate the percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class-I local Supplier'/ 'Class-II local Supplier', as the case may be.

2) In cases of procurement for a tender value above Rs. 10 crores, the 'Class-I local Supplier'/ 'Class-II local Supplier' shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or a practising cost accountant or practising chartered accountant (in respect of Contractors other than companies) giving the percentage of local content.

3) Complaints about Local content declarations may be made through the channels of Procuring Entity. Procuring Entities and Nodal Ministries may prescribe fees for such complaints.

4) Bids with false declarations regarding Local contents shall be rejected as responsive, in addition to punitive actions under the MII orders and for violating the Code of Integrity as per the Tender Document.

4.1.6 Manufacture under license/ technology collaboration agreements with phased indigenization

1) If so, declared in TIS and/ or AITB, foreign companies shall enter into a joint venture with an Indian company to participate.

2) The Procuring Entity reserves its right, but without being under any obligation to do so, to grant exemption from meeting the stipulated local content to Bidders manufacturing indigenously a product developed abroad under a license from a foreign manufacturer (who holds intellectual property rights) under a technology collaboration agreement/ transfer of technology agreement with a precise phasing of increase in local content. Bidder must obtain such an exemption letter and submit it along with his bid to avail such an exemption.

4.1.7 Information to be provided by Bidders regarding Make in India policy

Bidder shall provide required self-declaration as detailed in Form 1.2 – Eligibility Declarations:

1) Self-declaration of their local content (and required certificate, in case of procurements above Rs 10 Crores) and their status as Class-I/ Class-II/ Non-local Supplier and their eligibility to participate as per this clause.

2) If the Tender Document indicates countries identified as not allowing Indian companies to participate in their Government procurement, then a declaration that they are not an 'Entity' of such countries (as per criteria of the FDI Policy of DPIIT as amended from time to time) and are therefore eligible to participate in this tender.

3) If a Bidder is claiming exemption (as obtained from relevant authorities) from meeting the stipulated local content on account of manufacturing the product in India under a license from a foreign manufacturer with the precise phasing of increase in local content, he must provide proof thereof.

5. Bid Prices, Taxes and Duties

5.1 Prices

5.1.1 Competitive and Independent Prices

a) The prices should be arrived at independently, without restricting competition, any consultation, communication, or agreement with any other bidder or competitor relating to:

   i) those prices; or
   ii) the intention to submit an offer; or
   iii) the methods or factors used to calculate the prices offered.

b) The prices should neither be nor shall be knowingly disclosed by the Bidder, directly or indirectly, to any other bidder or competitor before bid opening or contract award unless otherwise required by law.

5.1.2 Undue profiteering

1) **Controlled Price, if any or MRP:** The price quoted by Bidder shall not be higher than the controlled price fixed by law for the Goods, if any, or where there is no controlled price, it shall not exceed the prices or contravene the norms for fixation of prices if any, laid down by Government or where the Government has fixed no such prices or norms, it shall not exceed the price appearing in any agreement, if any, relating to price regulation by any industry. In any case, save for special reasons stated in the bid, if any, the price charged shall not be higher than the Maximum Retail Price (MRP).

2) **Undue profiteering:** If the price quoted is higher than the controlled price in the sub-clause above, Bidder shall specifically mention this fact in his bid giving reasons for quoting a higher price(s). If he fails to do so or makes any misstatement, it shall be lawful for the Procuring Entity either to revise the price at any stage to bring it in conformity with the sub-clause (1) above or to terminate the contract for default as per the contract and avail all the remedies available therein in addition to other punitive actions for violation of Code of Integrity.

5.1.3 Price Components

1) Bidder shall indicate in the Price Schedule all the specified components of prices shown therein, including the unit prices and total bid prices.

2) **The break-up of Prices based on Origin of Goods:** The quoted prices for Goods offered from India and those offered from abroad should be indicated separately in the applicable Price Schedules. The prices in the corresponding price schedule shall be entered separately in the following manner:

   (a) **Domestic Goods:** For Goods offered indigenously, the prices in the corresponding price schedule shall be entered separately in the following manner:

      (i) The price of the Goods quoted ex-factory, ex-showroom, ex-warehouse or off-the-shelf, as applicable, shall be assumed to include all taxes and duties like GST, customs duty, etc. already paid or payable on the components and raw material used in the manufacture or assembly of the Goods or on the previously imported Goods of foreign origin.
      (ii) Any GST, which shall be payable on the Goods in India if the contract is awarded.
      (iii) Charges towards inland transportation, insurance, and other local costs incidental to the delivery of the Goods to their final destination as stipulated in Section VI: Schedule of Requirements and
      (iv) The price of incidental Works/ Services, as and if mentioned in Section VI: Schedule of Requirements.

   (b) **Foreign Goods:** For Goods offered from abroad, the prices in the corresponding price schedule shall be entered separately in the following manner:

      (i) The price of Goods quoted FAS/ FOB port of shipment or CIF port of entry in India or CIF specified place of destination in India as indicated in the Schedule of Requirements.
      (ii) Wherever applicable, the amount of customs duty on the Goods to be imported.
      (iii) The charges for inland transportation, insurance, and other local costs incidental to the delivery of the Goods from the port of entry in India to their final destination, as stipulated in the Schedule of Requirements. and

(iv) The charges for incidental Works/ Services, as and if mentioned in the Schedule of Requirements, showing break-up as per their country of origin.
(v) Unless otherwise explicitly indicated in the contract, the terms FOB, FAS, CIF etc. for imported Goods offered from abroad shall be governed by the rules & regulations prescribed in the current edition of INCOTERMS, published by the International Chamber of Commerce, Paris
(vi) The need for an indication of all such price components by the Bidders, is for comparison of the Bids by the Procuring Entity and shall no way restrict the Procuring Entity's right to award the contract on the selected Bidder on any of the terms offered.

3) **Price Components in case of Capital Goods/ Machinery and Plant**

If TIS/ AITB declares it to be the procurement of Capital Goods/ Machinery & Plant following price components shall be provided in Form 2: Schedule of Requirements – Compliance and Form 3: Technical Specifications and Quality Assurance – Compliance:

(a) **Compulsory Spares for Two Year's Maintenance**

If so stipulated in TIS/ AITB, the Bidders shall also quote in their financial bids the prices of spares and their quantities estimated to be required for maintenance of equipment two years beyond the warrantee period. The total cost of such spares shall be added to the cost of equipment and incidental works/ services to evaluate financial bids. These spares shall be supplied along with the main equipment.

(b) **Annual Maintenance Contract (AMC)/Comprehensive Maintenance Contract (CMC)**

Bidder / OEM has to give an undertaking that after expiry of warranty period, it will provide Comprehensive Maintenance Service for next 3 years for the offered products at the rate not more than 5 % of contract price per annum. Buyer reserves the right to enter into a CMC agreement with the Successful Bidder / OEM after expiry of the Warranty period at above mentioned rate and the payment for the CMC charges would be made Biannually after rendering of the CMC Services of the relevant CMC period. Performance Security of the successful bidder shall be forfeited if it fails to accept the CMC contract when called upon by the buyer. CMC would include cost of 0 (Upload the undertaking). The original Performance Security of contract will be returned only after submission and verification of AMC Performance Security for 2% of total CMC value valid up to CMC period plus 2 months (if there is no other claim).

(c) **Insurance**

If so stipulated in TIS/ AITB, the Bidders shall also quote in their financial bids the cost of Insurance of the consignment of the equipment and spares upto the ultimate consignee. If not explicitly quoted, it shall be assumed to be included in the process quoted for the equipment.

(d) **Prices of Other Spares usually needed for Maintenance**

If so stipulated in TIS/ AITB, the Bidders shall also quote in their financial bids the indicative prices of crucial spares and their quantities estimated to be required for maintenance of equipment beyond the above mentioned two years period. This information is for future spares ordering, and the prices would not be added to the

bid amount. The successful bidder/ contractor shall endeavour to maintain such prices over a reasonable period. The Bidders who are OEM must give undertaking for supply of spare parts for a period of the expected life of the machine/equipment. Other tenderers must submit undertakings from their OEM to supply spare parts for a period of the expected life of the machine/equipment. In this connection, GCC-6.6 (Spare Parts) shall also be applicable.

(e) **Incidental Works/ Services**

If so stipulated in TIS/ AITB, the Bidders shall provide the specified incidental works/ services (e.g., Installation, Commissioning, Training of Operator etc.). The Bidders may quote separate prices for these. Otherwise, it shall be assumed to be included in the prices of the main equipment price.

4) The indication of such price components is to compare the Bids and shall not restrict the Procuring Entity's right to award the contract on any terms offered.

5.1.4 Price Schedule

1) Bidders are to upload only the downloaded Price Schedule (in excel format) after entering the relevant fields without any alteration/ deletion/ modification of other portions of the excel sheet. Delivery Schedule and Terms of delivery are also to be quoted. All the columns shown in the price schedule should be filled up as required. If any column does not apply to a Bidder, he should clarify the same.

2) Bidders shall fill in their rates other than zero value in the specified cells without keeping it blank.

3) The quoted price shall be considered to include all relevant financial implications, including inter-alia the scope of the Goods to be supplied, location of the bidder, location of the consignee(s), terms of delivery, extant rules and regulations relating to taxes, duties, customs, transportation, environment, labour of the bidder's country and in India.

5.1.5 Provisions of GST

1) Break up of different price elements, i.e., as per GST Act, shall be indicated separately, along with its associated HSN code and GST rate.

2) While quoting the basic rate, the bidder should offset the input credit available/ to be availed as per the GST Act.

3) Please refer to ITB-clause 6.3 for further details.

5.1.6 Currencies of Bid and Payment

1) Unless otherwise stipulated in the Tender Document, the currency of bid and payment shall be quoted by Bidder entirely in Indian Rupees. All payments shall be made in Indian Rupees only.

2) Where the Tender Document permits quotations in different currencies, then, for domestic Goods, prices shall be quoted in Indian rupees only, and for imported Goods, prices shall be quoted either in Indian rupees or in the currency stipulated in the AITB. For evaluation, all quoted prices shall be converted into Indian Rupees as per the procedure mentioned in ITB-clause 12.4.2 below.

(a) Regarding price(s) for incidental Works/ Services, if any required with the Goods, the same shall be quoted in Indian Rupees if such Works/ Services are to be performed/ undertaken in India.
(b) Commission for Indian Agent, if any and if payable, shall be indicated in the space provided for in the price schedule and quoted in Indian Rupees only.

5.1.7 Non-compliance

Tenders, where prices are quoted in any other way, shall be rejected as nonresponsive.

5.2 Firm/ Variable Price

5.2.1 Firm Price

Unless otherwise stipulated in the AITB, prices quoted by Bidder shall remain firm and fixed during the currency of the contract and not subject to variation on any account.

5.2.2 Price Variation Clause:

1) In case the Tender Documents require/ permit offers on a variable price basis, the price quoted by the Bidders shall be subject to adjustment during the original delivery period to take care of the changes in the input cost of labour, material, and fuel/ power components under the price variation formula as stipulated in the Tender Document.

2) If a Bidder submits a firm price quotation against the requirement of variable price quotation, that bid shall be prima-facie acceptable and considered further, taking price variation asked for by Bidder as nil.

5.2.3 Exchange Rate Variation

Subject to provisions of ITB-clause 6.2.1 above, where final prices are quoted in Indian Rupees (INR) involving substantial imports content (> 25%), and the deliveries exceed 12 months, Bidder may, if they so desire, stipulate Foreign Exchange Rate Variation (ERV) clause. In that case, the ERV shall be borne by the Procuring Entity within the original Delivery Period. ERV shall be applicable only for components used to manufacture supplied Goods imported after the contract date.

1) The offer of Bidder should indicate import content and the currency used for calculating import content. The Base Exchange rate of each significant currency used for calculating the Foreign Exchange content of the contract shall be as prevailing on the last deadline for submission of Techno-commercial Bids, and variation beyond the base Exchange Rate shall be calculated up to the midpoint of the delivery period unless the bidder has already indicated the schedule within which the bidder shall import material.

2) If the delivery period is refixed/ extended, ERV shall not be admissible if this is due to the contractor's default.

3) Unless otherwise stipulated in the contract, documents for claiming ERV shall be:

   (a) A bill of ERV claim enclosing working sheet.
   (b) Banker’s Certificate/ debit advice detailing F.E. paid and exchange rate as on the date of the relevant transactions.
   (c) Copies of import order/agreement placed by the contractor on its Suppliers.
   (d) Invoice of Contractor’s Suppliers for the relevant import order

5.3 Goods and Services Tax (GST)

5.3.1 GST Registration Status:

1) All the bidders/ Bidders should ensure that they are GST compliant and their quoted tax structure/ rates as per GST Act/ Rules. Bidder should be registered under GST and furnish GSTIN number and GST Registration Certificate in their offer unless they are specifically exempted from registration under specific notification/ circular/ section/ rule issued by statutory authorities.

2) **GST Registration Number (15-digit GSTIN).** If the bidder has multiple business verticals in a state and has separate registration for each vertical, the GSTIN of each vertical is concerned with the supply and service involved, as per the scope of Schedule of Requirements and Price Schedule quoted. If the supply/ service provided is from multiple states, the bidder should mention GST registration numbers for each state separately.

3) **Composition scheme:** If the Bidder has opted for a composition levy under Section 10 of CGST, he should declare the fact while bidding along with GSTIN and GST registration certificate.

4) **Exemption from Registration:** If a bidder is not liable to take GST registration, i.e., having turnover below threshold, he shall submit undertaking/ indemnification against tax liability. Bidder claiming exemption in this respect shall submit a valid certificate from practising Chartered Accountant (CA)/ Cost Accountant with Unique Document Identification Number (DIN) to the effect that Bidder fulfils all conditions prescribed in notification exempting him from registration. Such bidder/ dealer shall not charge any GST and/ or GST Cess in the bill/ invoice. In such case, applicable GST shall be deposited under Reverse Charge Mechanism (RCM) or otherwise as per GST Act by the Procuring Entity directly to concerned authorities. Bidder should note that his offer would be loaded with the payable GST under the RCM. Further, Bidder should notify and submit to the Procuring Entity within 15 days from the date of becoming liable to registration under GST.

5) The Procuring Entity's state-wise GSTINs are indicated in Section VI – Schedule of Requirements and/ or TIS/ AITB.

5.3.2 HSN Code and GST Rate:

1) HSN (Harmonized System of Nomenclature) code for the goods provided in this Tender Document is only indicative. It shall be the responsibility of Bidder to ensure that they quote the exact HSN Code and corresponding GST rate for the goods being offered by them.

2) As per the GST Act, the bid and contract must show the GST Tax Rates (and GST Cess if applicable) and GST Amount explicitly and separate from the bid/ contract price (exclusive of GST). If the price is stated to be inclusive of GST, the current rate included in the price must be declared by the bidder.

3) If a Bidder asks for GST (and GST Cess if applicable) to be paid extra, the rate and nature of such taxes applicable should be shown separately. Bidders should quote 'GST' if payable extra on the total basic rate of each cost element and quote GST in ‘%' inclusive of cess.

4) If GST, other taxes, duties are not specified, or column is left blank in the price schedule, it shall be presumed that no such tax/ levy is applicable or payable by the Procuring Entity.

5) **Applicability to Imported Goods/ Services:** Following the implementation of GST, the import of commodities shall not be subject to such erstwhile applicable duties like safeguard duty, education cess, basic customs duty, anti-dumping duty, etc. All these supplementary custom duties are subsumed under GST. The supply of commodities or services or both, if imported into India, shall be considered as supply under inter-state commerce/ trade and shall attract integrated tax (IGST). The IGST rate and GST cess shall be applicable on the 'Custom Assessable Value' plus the 'Basic Customs duty applicable thereon'.

5.4 Payments

5.4.1 General

Unless otherwise stipulated, Payment terms laid down in clause GCC 10.3 shall be applicable.

5.4.2 No Advance Payments

Unless otherwise stipulated, no advance payment of any type (Mobilization, secured advances etc.), shall be made by the Procuring Entity to the contractor. If so, provided the conditions for such advances shall be as per conditions stipulated therefor.

6. Downloading the Tender Document; Corrigenda and Clarifications

6.1 Downloading the Tender Document

The Tender Document shall be published and be available for download as mentioned in TIS. The Bidders can obtain the Tender Document after the date and time of the start of availability till the deadline for availability. If the office happens to be closed on the deadline for the availability of the Tender Document, the deadline shall not be extended.

6.2 Corrigenda/ Addenda to Tender Document

Before the deadline for submitting bids, the Procuring Entity may update, amend, modify, or supplement the information, assessment or assumptions contained in the Tender Document by issuing a corrigenda and addenda. The corrigenda and addenda shall be published in the same manner as the original Tender Document. Without any liability or obligation, the Portal may send intimation of such corrigenda/ addenda to bidders who have downloaded the document under their login. However, the bidders' responsibility is to check the website(s) for any corrigenda/ addenda. Any corrigendum or addendum thus issued shall be considered a part of the Tender Document. To give reasonable time to the prospective bidders to take such corrigendum/ addendum into account in preparing their bids, the Procuring Entity may suitably extend the deadline for the bid submission, as necessary. After the procuring entity makes such modifications, any Bidder who has submitted his bid in response to the original invitation shall have the opportunity to either withdraw his bid or re-submit his bid superseding the original bid within the extended time of submission as per ITB-clause 10.4.1 below.

6.3 Clarification on the Tender Document

A Bidder may seek clarification of the Tender Document from Office/ Contact Person/ e-procurement Help Desk as mentioned in TIS, provided the clarifications are raised before

the clarification end date mentioned in TIS (or if not mentioned, within 7 days before the deadline for the bid submission). The Procuring Entity shall respond within 5 working days of receipt of such a request for clarification. The query and clarification shall be shared on the portal with all the prospective bidders. Any modification of the Tender Document that may become necessary due to the clarification shall be made by the Procuring Entity through an Addendum/ Corrigendum issue under the sub-clause above.

7. Pre-bid Conference

1) If a Pre-bid conference is stipulated in the TIS, prospective bidders interested in participating in this tender may attend a Pre-bid conference to clarify techno-commercial conditions of the Tenders at the venue, date and time specified therein. Participation in the Pre-bid conference is restricted to prospective bidders who have downloaded the Tender Document.

2) Participation is not mandatory. However, if a bidder chooses not to (or fails to) participate in the Pre-bid conference or does not submit a written query, it shall be assumed that they have no issues regarding the techno/ commercial conditions.

3) The date and time by which the written queries for the Pre-bid must reach the authority and the last date for registration for participation in the Pre-bid conference are also mentioned in the TIS. If the dates are not mentioned, such date and time shall be 7 days before the date and time of the pre-bid conference.

4) Delegates participating in the Pre-bid conference must provide a photo identity and an authorization letter as per the format in Format 2: "Authorization for attending a Pre-bid Conference " from their Company/ principals; else, they shall not be allowed to participate. The pre-bid conference may also be held online at the discretion of the Procuring Entity.

5) After the Pre-bid conference, Minutes of the Pre-bid conference shall be published on the Procuring Entity's portal within seven days from the Pre-bid conference. If required, a clarification letter and corrigendum to Tender Document shall be issued, containing amendments of various provisions of the Tender Document, which shall form part of the Tender Document. As per ITB-clause 7.2 above, to give reasonable time to the prospective bidders to take such clarifications into account in preparing their bids, the Procuring Entity may suitably extend, as necessary, the deadline for the bid submission.

8. Preparation of Bids

8.1 The bid

8.1.1 Language of the bid

Unless otherwise stipulated in the AITB, the bid submitted by Bidder and all subsequent correspondence and documents relating to the bid exchanged between Bidder and the Procuring Entity shall be written in English or the Official Language. However, the language of any printed literature furnished by Bidder in connection with its bid may be written in any other language provided a translation accompanies the same in the bid language. For purposes of interpretation of the bid, translation in the language of the bid shall prevail.

8.1.2 Acquaintance with Local Conditions and Factors

The Bidder, at his own cost, responsibility, and risk, is encouraged to visit, examine, and familiarise himself with all the site/ local conditions and factors. The Bidder acknowledges

that before the submission of the bid, he has, after a complete and careful examination, made an independent evaluation of the Site/ local conditions, the legal, environmental, infrastructure, logistics, communications and any other conditions or factors of which would have any effect on the price to be quoted by him or affecting performance/ completion of the contract. Bidders shall themselves be responsible for compliance with Rules, Regulations, Laws and Acts in force from time to time at relevant places. On such matters, the Procuring Entity shall have no responsibility and shall not entertain any request from the bidders in these regards.

8.1.3 Cost of Bidding

The Bidder(s) shall bear all direct or consequential costs, losses and expenditure associated with or relating to the preparation, submission, and subsequent processing of their Bids, including but not limited to preparation, copying, postage, delivery fees, expenses associated with any submission of samples, demonstrations, or presentations which the Procuring Entity may require, or any other costs incurred in connection with or relating to their Bids. All such costs, losses and expenses shall remain with the Bidder(s), and the Procuring Entity shall not be liable in any manner whatsoever for the same or any other costs, losses and expenses incurred by a Bidder(s) for participation in the Tender Process, regardless of the conduct or outcome of the Tender Process.

8.1.4 Interpretation of Provisions of the Tender Document

The provisions in the Tender Document must be interpreted in the context in which these appear. Any interpretation of these provisions far removed from such context or other contrived or in between-the-lines interpretation is unacceptable.

8.1.5 Quote Quantities/ Prices in both Numerals and Words

Although the software on the Portal may convert quantities/ rates/ amounts in numerical digits in Bids to words, the bidders are advised to ensure that there is no ambiguity in this regard.

8.1.6 Alternative Bids not Allowed

Unless otherwise stipulated in the TIS/ AITB, conditional offers, alternative offers, multiple bids by a bidder shall not be considered. The Portal shall permit only one bid to be uploaded.

8.2 Documents comprising the bid:

8.2.1 Techno-commercial bid/ Cover

"Technical Bid" shall include inter-alia the original or scanned copies of duly signed or digitally signed copies of the following documents in pdf format. Pdf documents should not be password protected. If so, stipulated in TIS/ AITB, specified originals or self-certified copies of originals shall also be required to be physically submitted as per instruction contained therein. *No price details should be given or hinted at in the Technical bid*:

1) Form 1: bid Form (to serve as covering letter and declarations applicable for both the Technical bid and Financial bid);

   (a) Form 1.1: Bidder Information;
   (b) Form 1.2: Eligibility Declarations;
   (c) If applicable, Form 1.3: OEM's Authorization (Ref ITB-Clause 1.5 also): Unless specifically barred in TIS/ AITB, in case Bidder offers to supply Goods, which

some other firm (OEM) manufactures, Bidder must have been duly authorized by the OEM to quote for and supply the Goods to the Procuring Entity in this particular tender specifically. Bidder shall submit OEM's authorization letter to this effect as per this.

(d) If applicable. Form1.4: Declaration by Agents/ Associates of Foreign Principals/ OEMs (ITB-clause 3.5 above)

2) Form 4: 'Qualification Criteria - Compliance': Documentary evidence needed to establish the Bidder's qualifications as stipulated in Section VIII: Qualification Criteria as follows. Besides the stipulated documents, other supporting documents, literature, pamphlets may also be attached.:

   (a) Bidder shall also submit Form 4.1: Performance Statement to prove his technical, production and financial capabilities and eligibility, commensurate with requirements of this Tender.

3) Form 2: Schedule of Requirements - Compliance: Bidders should fill this form to detail the Schedules of Goods offered by them, maintaining the same numbering and structure. They may add additional details not covered elsewhere in their bid. They should highlight here any deviations/ exceptions/ reservations regarding Section VI: 'Schedule of Requirements', in a chart form, without any ambiguity or conditionality along with justification and supporting documents. Even in case of no deviation, please fill in confirmations and nil deviation statements. If mentioned elsewhere in the bid, such deviations shall not be recognised and null and void.

4) Form 3 - Technical Specifications and Quality Assurance - Compliance: Bidder shall upload the required and relevant documents like technical data, literature, drawings, test Reports/ Certificates and or/ or Type Test Certificates (if applicable/ necessary) from NABL/ ILAC/ Government lab with supporting documents, to establish that the goods and incidental Works/ Services offered in the bid fully conform to the goods and Works/ Services specified by the Procuring Entity in the Tender Document. Bidder is also required to provide clause by clause compliance/ deviation Statement in a chart form (without ambiguity or conditionality along with justification) relating to all parameters of Technical Specifications, Quality Assurance. Even in case of no deviation, please fill in confirmations and nil deviation statements. If mentioned elsewhere in the bid, such deviations shall not be recognised and null and void.

5) Form 5 - Terms and Conditions - Compliance: Bidder must comply with the entire commercial and other clauses of this Tender Document. Any deviations should be listed in a chart form without ambiguity or conditionality, along with justification and supporting documents. All such Statements and Documents shall be uploaded as Form 5. Even in case of no deviation, please fill in confirmations and nil deviation statements. If mentioned elsewhere in the bid, such deviations shall not be recognised and null and void.

6) Form 6- Checklist for the Bidders. Bidder must also upload the Checklist given in the Tender Document as Form 6 to confirm that he has complied with all the instructions in the Tender Document, and nothing is inadvertently left out. This checklist is only for general guidance and is not comprehensive, and does not absolve Bidder from complying with all the requirements stipulated elsewhere in the Tender Document.

7) If stipulated in TIS/ AITB, duly signed Form 8: Integrity Pact.

8) Any other format/ form if stipulated in AITB or if considered relevant by the bidder

8.2.2 Financial bid/ Cover

"Financial bid" shall comprise the Price Schedule (To be submitted separately as an excel sheet) considering all financially relevant details, including Taxes and Duties as per ITB-clause 6.3. No additional technical details, which have not been brought out in the Technical bid shall be brought out in the Financial bid.

8.3 Bid Validity

1) Unless specified to the contrary in the TIS/ AITB, Bids shall remain valid for a period not less than 120 days from the deadline for the bid submission stipulated in TIS. A bid valid for a shorter period shall be rejected as nonresponsive.

2) In case the day upto which the bids are to remain valid falls on/ subsequently declared a holiday or closed day for the Procuring Entity, the bid validity shall automatically be deemed to be extended upto the next working day.

3) In exceptional circumstances, before the expiry of the original time limit, the Procuring Entity may request the bidders to extend the validity period for a specified additional period. The request and the bidders' responses shall be made in writing or electronically. A bidder may agree to or reject the request. A bidder who has agreed to the Procuring Entity's request for extension of bid validity, in no case, he shall be permitted to modify his bid.

8.4 Bid Security - Related Documents

1) In lieu of Bid Security, all Bidders shall furnish/ upload a Bid Securing Declaration (BSD) as Form 7: Documents Relating to Bid Security, along with its Technical bid. The BSD is required to protect the Procuring Entity against the risk of the Bidder’s unwarranted conduct as amplified under the sub-clause below.
2) The BSD provides for automatic suspension of the Bidder from being eligible for bidding in any tender in Ministry/ Department of Procuring Organisation for 2 years from the date of such enforcement. This declaration shall stand enforced if Bidder breaches the following obligation(s) under the tender conditions:

   (a) withdraws or amends his bid or impairs or derogates from the bid in any respect within the period of validity of its bid; or
   (b) after having been notified within the period of bid validity of the acceptance of his bid by the Procuring Entity:

      i) refuses to or fails to submit the original documents for scrutiny or the required Performance Security within the stipulated time as per the conditions of the Tender Document.
      (i) fails or refuses to sign the contract.

4) Unsuccessful Bidders’ bid-Securing Declaration shall expire, if the contract is not awarded to them, upon:

   (a) receipt by Bidder of the Procuring Entity’s notification

      (i) of cancellation of the entire tender process or rejection of all bids or
      (ii) of the name of the successful bidder or

   (b) forty-five days after the expiration of the bid validity or any extension thereof

5) The bid-Securing Declaration of the successful bidder shall stand expired only when Bidder has furnished the required Performance Security and signed the Agreement.

8.5 Non-compliance with these provisions

Bids are liable to be rejected as nonresponsive if a Bidder:

1) fails to provide and/ or comply with the required information, instructions etc., incorporated in the Tender Document or gives evasive information/ reply against any such stipulations.

2) furnishes wrong and/ or misguiding data, statement(s) etc. In such a situation, besides rejection of the bid as nonresponsive, it is liable to attract other punitive actions under relevant provisions of the Tender Document for violation of the Code of Integrity.

Signing and Uploading of Bids

8.6 Relationship between Bidder and eProcurement Portal

The Procuring Entity is neither a party nor a principal in the relationship between Bidder and the organisation hosting the e-procurement portal (hereinafter called the Portal). Bidders must acquaint and train themselves with the rules, regulations, procedures, and implied conditions/ agreements of the Portal. Bidders intending to participate in the bid shall be required to register in the Portal. Bidders shall settle clarifications and disputes, if any, regarding the Portal directly with them. In case of conflict between provisions of the Portal with the Tender Document, provisions of the Portal shall prevail. Bidders may study the resources provided by the Portal for Bidders.

8.7 Signing of bid

The individual signing/ digitally signing the bid or any other connected documents should submit an authenticated copy of the document(s), which authorizes the signatory to commit and submit bids on behalf of the bidder in Form 1.1: Bidder Information.

8.8 Submission/ uploading of Bids.

8.8.1 Submission/ Uploading to the Portal

1) No manual Bids shall be made available or accepted for submission (except for originals of scanned copies as per sub-clause 5 below). In the case of downloaded documents, Bidder must not make any changes to the contents of the documents while uploading, except for filling the required information – otherwise, the bid shall be rejected as nonresponsive.

2) Bids shall be received only *Online* on or before the deadline for the bid submission as notified in TIS.

3) Only one copy of the bid can be uploaded, and Bidder shall digitally sign all statements, documents, certificates uploaded by him, owning sole and complete responsibility for their correctness/ authenticity as per the provisions of the IT Act 2000 as amended from time to time.

4) Bidder need not sign or up-load the Schedules in ITB-clause 1.4 above while uploading his bid unless otherwise instructed in the Tender Document. It is assumed that Bidder commits itself to comply with all the Sections and documents uploaded by the Tender Inviting Officer.

5) Bidder must upload scanned copies of originals (or self-attested copies of originals – as specified). Uploaded Pdf documents should not be password protected. Bidder should ensure the clarity/ legibility of the scanned documents uploaded by him.

6) If stipulated in the TIS, copies/ originals of such specified uploaded scanned documents must also be physically submitted sealed in double cover and acknowledgement be obtained before the deadline for the bid submission at the venue mentioned. Failure to do so is likely to result in the bid being rejected as non-responsive. If the office is closed on the deadline for physical submission of originals, it shall stand extended to the next working day at the same time and venue. The Procuring Entity reserves its right to call for verification originals of all such self-certified documents from the Bidders at any stage of evaluation, especially from the successful Bidder(s) before the issue of Letter of Award (LoA).

7) Regarding the protected Price Schedule (excel format, Cover-2), Bidder shall write his name in the space provided in the specified location only. Bidder shall type rates in the figure only in the rate column of respective item(s) without any blank cell or Zero values in the rate column, without any alteration/ deletion/ modification of other portions of the excel sheet. If space is inadequate, Bidder may upload additional documents under "Additional Documents" in the "bid Cover Content."

8) The date and time of the deadline for the bid submission shall remain unaltered even if the specified date is declared a holiday for the Tender Inviting Officer.

9) The date and time of the e-Procurement server clock, which is also displayed on the dashboard of the bidders, shall be taken as the reference time for deciding the closing time of bid submission. Bidders are advised to ensure they submit their bid within the deadline and time of bid submission, taking the server clock as a reference, failing which the portal shall not accept the Bids. No request on the account that the server clock was not showing the correct time and that a particular bidder could not submit their bid because of this shall be entertained. Failure or defects on the internet or heavy traffic at the server shall not be accepted as a reason for a complaint. The Procuring Entity shall not be responsible for any failure, malfunction or breakdown of the electronic system used during the e-Tender Process.

10) All Bids uploaded by Bidder to the portal shall get automatically encrypted. The encrypted bid can only be decrypted/ opened by the authorised persons on or after the due date and time. The bidder should ensure the correctness of the bid before uploading and take a printout of the system generated submission summary to confirm successful bid upload.

11) The Procuring Entity may extend the deadline for bids submission by issuing an amendment as per ITB-clause 7.2 above, in which case all rights and obligations of the Procuring Entity and the bidders previously subject to the original deadline shall then be subject to the new deadline for the bid submission.

12) Bid submitted through modalities other than those stipulated in TIS shall be liable to be rejected as nonresponsive.

8.8.2 Implied acceptance of procedures by Bidders

Submission of bid in response to the Tender Document is deemed to be acceptance of the e-Procurement and tender procedures and conditions of the Tender Document.

Late Bids

The bidder shall not be able to submit his bid after the expiry of the deadline for the bid submission (as per server time). Therefore, in eProcurement, a situation of Late Tender does not arise.

8.9 Modification, Resubmission and Withdrawal of Bids

8.9.1 Modification & Resubmission

Once submitted in e-Procurement, Bidder cannot view or modify his bid since it is locked by encryption. However, resubmission of the bid by the bidders for any number of times superseding earlier bid(s) before the date and time of submission is allowed. Resubmission of a bid shall require uploading of all documents, including financial bid afresh. The system shall consider only the last bid submitted as the valid bid.

8.9.2 Withdrawal

1) The bidder may withdraw his bid before the bid submission deadline, and it shall be marked as withdrawn and shall not get opened during the Bid opening.

2) No bid should be withdrawn after the deadline for the bid submission and before the expiry of the bid validity period. If a Bidder withdraws the bid during this period, the Procuring Entity shall be within its right to enforce Bid Securing Declaration (in lieu of forfeiture of the Bid Security), in addition to other punitive actions provided in the Tender Document for such misdemeanour.

9. Bid Opening

The date & time of the opening bid is as stipulated in TIS. Bids cannot be opened before the specified date & time, even by the Tender Inviting Officer, the Procurement Officer, or the Publisher. If the specified date of Bid Opening falls on is subsequently declared a holiday or closed day for the Procuring Entity, the Bids shall be opened at the appointed time on the next working day.

10. Evaluation of Bids and Award of Contract

10.1 General norms

10.1.1 Evaluation based only on declared criteria.

The evaluation shall be based upon scrutiny and examination of all relevant data and details submitted by Bidder in its/ his bid and other allied information deemed appropriate by Procuring Entity. Evaluation of bids shall be based only on the criteria/ conditions included in the Tender Document.

10.1.2 Deviations/ Reservations / Omissions - Substantive or Minor

1) During the evaluation of Bids, the following definitions apply:

   (a) “Deviation” is a departure from the requirements specified in the Tender Document;
   (b) “Reservation” is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Tender Document; and
   (c) “Omission” is the failure to submit part or all of the information or documentation required in the Tender Document.

2) A deviation/ reservation/ omission from the requirements of the Tender Document shall be considered as a substantive deviation as per the following norm, and the rest shall be considered as Minor deviation:

(d) which affects in any substantive way the scope, quality, or performance of the product;
(e) which limits in any substantive way, inconsistent with the Tender Document, the Procuring Entity's rights or the Bidder's obligations under the contract; or
(f) Whose rectification would unfairly affect the competitive position of other Bidders presenting substantively responsive Bids.

3) The decision of the Procuring Entity shall be final in this regard. Bids with substantive deviations shall be rejected as nonresponsive.

4) Variations and deviations and other offered benefits (techno-commercial or financial) above the scope/ quantum of the Goods specified in the Tender Document shall not influence evaluation Bids. If the bid is otherwise successful, such benefits shall be availed by the Procuring Entity, and these would become part of the contract.

5) The Procuring Entity reserves the right to accept or reject bids with any minor deviations. Wherever necessary; the Procuring Entity shall convey its observation as per ITB-clause 12.1.3 below, on such 'minor' issues to Bidder by registered/ speed post/ electronically etc. asking Bidder to respond by a specified date. If Bidder does not reply by the specified date or gives an evasive reply without clarifying the point at issue in clear terms, that bid shall be liable to be rejected as nonresponsive.

10.1.3 Clarification of Bids and shortfall documents

1) During the evaluation of Techno commercial or Financial Bids, the Procuring Entity may, at its discretion, but without any obligation to do so, ask Bidder to clarify its bid by a specified date. Bidder should answer the clarification within that specified date (or, if not specified, 7 days from the date of receipt of such request). The request for clarification shall be submitted in writing or electronically, and no change in prices or substance of the bid shall be sought, offered, or permitted that may grant any undue advantage to such bidder. Any clarification submitted by a Bidder regarding its Bid that is not in response to a request by the Purchasing Entity shall not be considered.

2) If discrepancies exist between the uploaded scanned copies and the Originals submitted by the bidder, the original copy's text, etc., shall prevail. Any substantive discrepancy shall be construed as a violation of the Code of Integrity, and the bid shall be liable to be rejected as nonresponsive in addition to other punitive actions under the Tender Document for violation of the Code of Conduct.

3) The Procuring Entity reserves its right to, but without any obligation to do so, to seek any shortfall information/ documents only in case of historical documents which pre-existed at the time of the Bid Opening, and which have not undergone change since then and does not grant any undue advantage to any bidder. There is a provision on the portal for requesting Short-fall documents from the bidders. The system allows taking the shortfall documents from any bidders only once after the technical bid opening.

10.1.4 Contacting Procuring Entity during the evaluation

From the time of bid submission to awarding the contract, no Bidder shall contact the Procuring Entity on any matter relating to the submitted bid. If a Bidder needs to contact the Procuring Entity for any reason relating to this tender and/ or its bid, it should do so only in writing or electronically. Any effort by a Bidder to influence the Procuring Entity

during the processing of bids, evaluation, bid comparison or award decisions shall be construed as a violation of the Code of Integrity, and bid shall be liable to be rejected as nonresponsive in addition to other punitive actions for violation of Code of Integrity as per the Tender Document.

10.2 Evaluation of Bids

10.2.1 Preliminary Examination of Bids - Determining Responsiveness

A substantively responsive bid is complete and conforms to the Tender Document's essential terms, conditions, and requirements, without substantive deviation, reservation, or omission. Only substantively responsive bids shall be considered for further evaluation. Unless otherwise stipulated in the AITB, the following are some of the crucial aspects for which a bid shall be liable to be rejected as nonresponsive:

1) The bid is not in the prescribed format or is not submitted as per the stipulations in the Tender Document.
2) Required Bid Security Declaration (Form 7) has not been provided.
3) Bidder is not eligible to participate in the bid as per laid down eligibility criteria;
4) The Goods offered are not eligible as per the provision of this tender.
5) Bidder has quoted Goods manufactured by a different firm without the required authority letter from the proposed manufacturer.
6) Bidder has quoted conditional bids or more than one bid or alternative bids unless permitted explicitly in the TIS/ AITB.
7) The bid validity is shorter than the required period.
8) The bid departs from the essential requirements stipulated in the bidding document;
9) Against a schedule in Section VI: Schedule of Requirement, Bidder has not quoted the entire Goods as stipulated in that schedule.
10) Non-submission or submission of illegible scanned copies of stipulated documents/ declarations.

The evaluation process in Single/ multiple Cover(s) and PQB Tenders

1) Unless otherwise stated, this Tender Process is for multiple (two or more) covers Bids. Initially, only the techno-commercial bids shall be opened on the stipulated date of opening of bids. After that, the techno-commercial evaluation shall be done whether these bids meet the eligibility & qualification criteria and techno-commercial aspects. Subsequent opening of financial bids and financial evaluation shall be done only of bids declared successful in techno-commercial evaluation.
2) If it is stipulated that this is the second stage of the two-stage tender Process or pre-qualified bidding (PQB) after shortlisting qualified bidders in the EoI/ PQB stage, evaluation of responses from the shortlisted qualified bidders shall follow the same procedure as described above for multiple covers Tender Process.
3) If the TIS/ AITB stipulate this to be a single cover Tender process, the single cover bids shall be opened on the stipulated date of opening of bids. After that, evaluation of eligibility/ qualification of bidders, the techno-commercial, and the financial aspects shall be done simultaneously. There shall be no interim/ separate declaration of results of the techno-commercial evaluation.

10.3 Techno-commercial Evaluation

Only substantively responsive bids shall be evaluated for techno-commercial evaluation. In evaluating the techno-commercial bid, conformity to the eligibility/ qualification criteria, technical specifications, and Quality Assurance; and commercial conditions of the offered Goods to those in the Tender Document is ascertained. Additional factors incorporated in the Tender Document shall also be considered in the manner indicated therein. Bids with substantive techno-commercial deviations shall be rejected as nonresponsive. Procuring entity reserves its right to consider and allow minor deviations in technical and Commercial Conditions as per ITB-clause 12.1.2.

10.3.1 Evaluation of eligibility

Procuring Entity shall determine, to its satisfaction, whether the Bidders are eligible as per ITB-clause 3.2 and NIT-clause 3 above to participate in the Tender Process as per submission in Form 1.2: Eligibility Declarations in Form 1: bid Form. Tenders that do not meet the required eligibility criteria prescribed shall be rejected as nonresponsive.

10.3.2 Evaluation of Qualification Criteria

Procuring Entity shall determine, to its satisfaction, whether the Bidders are qualified and capable in all respects to perform the contract satisfactorily (subject to dispensation, if any, for Start-ups as per ITB-Clause 4.3 above) as per submission in Form 4 and its Form 4.1. This determination shall, inter-alia, consider the Bidder's financial, technical and production or other prescribed capabilities for satisfying requirements incorporated in the Tender Document. The determination shall not consider the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than specialized subcontractors if permitted in the bidding document), or any other firm(s) different from the Bidder.

10.3.3 Evaluation of Conformity to Schedule of Requirements and Technical Specifications/ Quality Assurance

Procuring Entity shall evaluate schedule-wise conformity of the description, scope of supply, quantity, delivery schedules, terms of delivery, transportation of the offered goods to Section VI- Schedule of requirements as per submissions in Form 2: 'Schedule of Requirements - Compliance'. Technical specifications, drawings, quality assurance and other technical terms and conditions of the Bids shall be examined, as per Form 3: 'Technical Specifications and Quality Assurance - Compliance'. Unless otherwise stated in the TIS/ AITB, alternative offers/ makes/ models shall *not* be considered.

10.3.4 Evaluation of Conformity to Commercial and Other Clauses

Bidder must comply with all the Commercial and other clauses of the Tender Document as per submissions in Form 5. The Procuring Entity shall also evaluate the commercial conditions quoted by Bidder to confirm that all terms and conditions stipulated in the Tender Document have been accepted without substantive omissions/ reservations/ exception/ deviation by the Bidder. Deviations from or objections or reservations to critical provisions such as those concerning Governing laws and Jurisdiction (GCC Clause 3), Contractor's Obligations and Restrictions of its Rights (GCC Clause 5), Performance Bond/ Security (GCC Clause 5.8), Warranty/ Guarantee (GCC Clause 6.7), Force Majeure (GCC Clause 9.13), Taxes & Duties (GCC Clause 10.2) and Code of Integrity (GCC Clause 13) will be deemed to be a material deviation.

10.3.5 Declaration of Techno-commercially Suitable Bidders and Opening of Financial Bids

Bids that succeed in the above techno-commercial evaluation shall be considered techno-commercially suitable, and financial evaluation shall be done only of such Bids. The list of such techno-commercially suitable bidders and a date/time and venue for the opening of their financial bids shall be declared on the Portal and individually to all participant bidders in accordance with ITB-clause 12.2.2 as per the type of Tender Processes.

10.4 Evaluation of Financial Bids and Ranking of Bids

10.4.1 Ranking of Financial Bids

1) Unless otherwise stipulated, evaluation of the financial bids shall be on the price criteria only. Financial Bids of all Techno-commercially suitable bids are evaluated and ranked to determine the lowest priced bidder.

2) Unless otherwise stipulated, the comparison of the responsive Bids shall be on total outgo from the Procuring Entity's pocket, to be paid to the contractor or any third party, including all elements of costs as per the terms of the proposed contract, on FOR/ FOT destination basis, duly delivered, commissioned, etc. as the case may be, including any taxes, duties, levies etc., freight, transit Insurance, loading/ unloading/ stacking, insurance etc.

3) Unless otherwise stipulated, if the Schedule of Requirements contains more than one schedule, the financial ranking of bids shall be done based on all schedules put together. The bid for a schedule shall not be considered if the complete requirements prescribed in that schedule are not included in the bid;

4) If any bidder offers conditional discounts/ rebates in his bid or suo motu discounts and rebates after the Bid Opening (techno-commercial or financial), such rebates/ discounts shall not be considered for ranking the offer. But if such a bidder does become L-1 without discounts/ rebates, such discounts/ rebates shall be availed and incorporated in the contracts;

5) Unless announced beforehand, the quoted price shall not be loaded based on deviations in the techno-commercial conditions. If it is so declared, such loading of the financial bid shall be done as per the relevant provisions;

6) As per policies of the Government, from time to time, the Procuring Entity reserves its option to give purchase preferences to eligible categories of Bidders as indicated in the Tender Document.

7) evaluation of Bids shall include and consider the following taxes/ duties, as per ITB-clause 6.3 above:

   (a) in the case of Goods manufactured in India or Goods of foreign origin already located in India, GST & other similar duties, which shall be contractually payable, on the Goods if a contract is awarded on the bidder;
   (b) The offers shall be evaluated based on the GST rate quoted by each bidder, and the same shall be used for determining the inter-se ranking. The Procuring Entity shall not be responsible for any misclassification of HSN Number or incorrect GST rate if quoted by the bidder. Any increase in GST rate due to misclassification of HSN number shall have to be absorbed by the supplier; and
   (c) If GST is quoted extra, but with the provision that it shall be charged as applicable at the time of delivery, the offer shall be evaluated for comparison

purposes by loading the maximum existing rate of GST for the product/ HSN code.

8) **Price Variation:** If the tenders have been invited on a variable price basis, the tenders shall be evaluated, compared, and ranked based on the position as prevailing on the last deadline for techno-commercial bid submission and not on any future date.

9) **Ambiguous Financial bid:** If the financial bid is ambiguous and leads to two equally valid total price amounts, it shall be rejected as nonresponsive.

10.4.2 Cartel Formation/ Pool Rates

1) Unless the Procuring Entity decides this to be a case of Cartel/ Pool Rates, if more than one bidder quote the same total evaluated price, then the Procuring Entity reserves its right to distribute unequal quantities among the bidders - excluding one or more bidders, based on considerations like performance/ financial capabilities, the distance of destination godowns from the location of the factories, production capacities, any extra features/ benefits offered etc.

2) If Procuring Entity decides this to be a case of Cartel/ Pool Rates, leading to "Appreciable Adverse Effect on Competition" (AAEC) as identified in Competition Act, 2002, as amended from time to time, it reserves its rights to:

   (a) order any quantity on any one or more bidders without assigning any reason thereof.

   And/ or

   (b) consider it as a violation of the Code of Integrity and reject the bid(s) as nonresponsive in addition to other punitive actions provided in this regard in the Tender Document. In addition to such remedies, the Procuring Entity also reserves the right to refer the matter to the Competition Commission of India (CCI) for obtaining necessary relief. In addition, the attention of the bidders is drawn to Chapter VI of the "The Competition Act 2002", which deals with Penalties. Such actions shall be in addition to other rights and remedies available to the Procuring Entity under the contract and Law.

10.4.3 Reasonableness of Rates Received

Procuring Entity shall evaluate whether the rates received in the Bids in the zone of consideration are reasonable. If the rates received are considered abnormally low or unreasonably high, it reserves its right to take action as per the following sub-clauses, or as per ITB-clause 2.3, reject any or all Bids; abandon/ cancel the Tender process and issue another tender for the identical or similar Goods.

10.4.4 Consideration of Abnormally Low Bids

An Abnormally Low bid is one in which the bid price, in combination with other elements of the bid, appears so low that it raises substantive concerns as to the Bidder's capability to perform the contract at the offered price. Procuring Entity shall in such cases seek written clarifications from the Bidder, including detailed price analyses of its bid price concerning scope, schedule, allocation of risks and responsibilities, and any other requirements of the Tender Document. If, after evaluating the price analyses, procuring entity determines that Bidder has substantively failed to demonstrate its capability to deliver the contract at the offered price, the Procuring Entity shall reject the bid/ proposal, and evaluation shall proceed with the next ranked bidder.

10.4.5 Price Negotiation

Usually, there shall be no price negotiations. However, the Procuring Entity reserves its right to negotiate with the lowest acceptable bidder (L-1), who is techno-commercially suitable for supplying bulk quantity and on whom the contract would have been placed but for the decision to negotiate.

11. Award of Contract

11.1 The Procuring Entity's Rights

11.1.1 Right to Vary Quantities at the Time of Award

At the time of contract award, the Procuring Entity reserves the right to increase or decrease, without any change in the unit prices or other terms and conditions of the bid and the Tender Document, the quantity of Goods originally stipulated in Section VI: Schedule of Requirements, provided this increase/ decrease does not exceed 25 (twenty-five) percent of tendered quantity (or any other percentage indicated in the Tender Document).

11.1.2 Parallel Contracts or Splitting of Award

The Procuring Entity reserves its right to split the quantities and conclude Parallel contracts with more than one bidder (for the same tender) in the following circumstances:

1) Unless otherwise stipulated in TIS/ AITB, there shall be no parallel orders or splitting quantities among more than one Bidders.

2) After due processing, if it is discovered that the quantity to be ordered is far more than what L-1 alone is capable of supplying and there was no prior stipulation in the Tender Document for parallel contracts, then it reserves its rights to distribute the quantity being finally ordered, among the other bidders by counter offering the L-1 rate to willing L-2 or higher bidders, in a transparent manner to avail full assessed capacities of lower-priced bidders first, before inviting higher-priced bidders. The decision of Procuring Entity shall be final.

3) However, if the Tender Document stipulates such parallel contracts due to the critical/ strategic/ specific nature of the supplies/ Goods, the manner of deciding relative share of the lowest bidder (L-1) and the rest shall be clearly defined, along with the minimum number of Bidders sought (subject to availability of suitable bids meeting the requirements) for the contract. In such cases, the bidders should not quote for less than 25% of the tendered quantity; otherwise, their offer shall be rejected as nonresponsive. Unless otherwise stipulated in the AITB, in case of splitting in two and three, the ratio of 70:30; 50:30:20, respectively shall be used. These ratios are approximate, and the Procuring Entity reserves its right to marginally vary quantities to suit capacity/ past performance of the bidder/ unit loads of packing or transportation/ relative ranking of the bids/ delivery period offered/ existing load of Bidder and other similar factors affecting smooth supplies as per requirements.

11.1.3 Additional Conditions for Rate Contracts

If stipulated expressly in the TIS/ AITB that this is a Tender Process to enter into “Rate Contract(s)” for the supply of Goods, then the following additional conditions shall be applicable:

1) The conditions governing the resultant Rate Contract would be as per G.C.C-clause 6.8. The "Fall Clause" as described in the G.C.C-clause 10.1.6 shall be expressly applicable in Rate Contracts.

2) Unless otherwise specified, the currency of a Rate Contract would be for one year.

3) **Parallel Rate Contracts:** Procuring Entity reserves the right to conclude more than one rate contract for the same Schedule/ Goods. The procedure for negotiation and counter-offering for concluding parallel rate contracts would be as follows.

   (a) Initially, the rate contract would be awarded to the L-1 Bidder. Then the price of L-1 shall be counter-offered to the higher quoting responsive Bidders (under intimation to L-1), asking them to send their revised Bids online on the e-procurement portal to be opened at a specified place, date, and time (as per the standard procedure). L-1 Bidder would be specifically informed that it may, if it so desires, reduce its price and send its revised Bid accordingly. The Bidders, who accept the counter-offered rate or rate lower than that, would be awarded parallel rate contracts. If L-1 Bidder lowers its rate in its revised offer, the same would also be accepted with effect from that date, and its rate contract amended accordingly.

   (b) In the case where parallel rate contracts are necessary, but even the lowest responsive Bidder (L-1) price is not reasonable. In that case, price negotiation may be conducted with L-1 Bidder in the first instance. If the L1 Bidder agrees to bring down the price to the desired level, a rate contract would be concluded with it, and parallel rate contracts would be concluded as per the sub-clause above. If, however, L1 Bidder does not agree to reduce its price in the first instance itself, then the price, which has been decided as reasonable, would be counter-offered to all the higher quoting responsive Bidders (including L-1) for further action on the above lines.

   (c) All such parallel rate contracts would be released transparently and simultaneously.

4) The quantities mentioned in the tender in Section- I (N.I.T.) and Section-VI (Schedule of Requirements) are indicative without any commitment on a rate-contract basis, as detailed in G.C.C-clause 6.8.

11.2 Letter of Award (Acceptance - LoA) and Signing of Contract

11.2.1 Selection of Successful Bidder(s)

The Procuring Entity shall award the contract to the Bidder(s) whose bid(s) is Techno-commercially suitable and bid price(s) is lowest and reasonable, as per evaluation criteria detailed in the Tender Document.

11.2.2 Verification of Original Documents

Before issuing a Letter of Award (LoA) to the successful Bidder(s), the Procuring Entity may, at its discretion, ask Bidder to submit online for verification the originals of all such documents whose scanned copies were submitted online along with the Technical bid. If so decided, the photocopies of such self-certified documents shall be verified and signed by the competent officer and kept in the records as part of the contract agreement. If the Bidder fails to provide such originals or in case of substantive discrepancies in such documents, it shall be construed as a violation of the Code of Integrity. Such bid shall be liable to be rejected as nonresponsive in addition to other punitive actions in the Tender Document. The evaluation of Bids shall proceed with the subsequent ranked offers.

11.2.3 Letter of Award (LoA)

1) The Bidder, whose bid has been accepted and documents verified (at the discretion of Procuring Entity), shall be notified of the award by the Procuring Entity before the expiration of the Bid-Validity period by written or electronic means. This notification (hereinafter and in the Conditions of Contract called the "Letter of Award - LoA") shall state the sum (hereinafter and in the contract called the "Contract Price") that the Procuring Entity shall pay the contractor in consideration of the supply of the Goods. The Letter of Award (LoA) shall constitute the legal formation of the contract, subject only to the furnishing of performance security as per the provisions of the sub-clause below. The Procuring Entity, at its discretion, may directly issue the contract subject only to the furnishing of performance security, skipping the issue of LoA.

2) It shall be mandatory for the successful bidder to be registered on GeM and obtain a unique GeM Seller ID. before the placement of LoA or the contract. This ID shall be incorporated in the contract.

11.2.4 Performance Security

1) Within 14 days (or any other period stipulated in AITB) of receipt of the Letter of Award (LoA, or the contract if LoA has been skipped), performance Security as per details in GCC-5.8 shall be submitted by the contractor to the Procuring Entity.

2) If the contractor, having been called upon by the Procuring Entity to furnish Performance Security, fails to do so within the specified period, it shall be lawful for the Procuring Entity at its discretion to annul the award and enforce Bid Securing Declaration (in lieu of forfeiture of the Bid Security), besides taking any other administrative punitive action like ‘Removal from List of Registered Suppliers’ etc.

3) If the bidder, whose bid is the lowest evaluated bid withdraws or whose bid has been accepted, fails to sign the procurement contract as may be required or fails to provide the security as may be required for the performance of the contract or otherwise withdraws from the procurement process, the Procuring Entity shall cancel the procurement process. If the Procuring Entity is satisfied that it is not a case of cartelization and that the integrity of the procurement process has been maintained may offer the next successful bidder an opportunity to match the financial bid of the first successful bidder, and if the offer is accepted, award the contract to the next successful bidder at the price bid of the first successful bidder.

11.2.5 Signing of Contract

1) Within seven working days of receiving performance security, the Procuring Entity shall send the contract form (as per Format 1: Contract Form along with sub-formats) duly completed and signed, in duplicate, by registered/ speed post or by suitable digital means to the successful Bidder.

2) If so asked by the Procuring Entity, the successful Bidder shall return the original copy of the contract, duly signed and dated, within seven days from the date of receipt of the contract, to the Procuring Entity by registered/ speed post or by a suitable digital means.

3) Otherwise, the contract shall be taken to be legally effective from the date of its signing. The Contractor may point out to the Procuring Entity, in writing/ electronically, any anomalies noticed in the contract within seven days of its receipt.

11.2.6 Expiry of bid Declaring Declarations

Upon the furnishing by the successful Bidder of the Performance Security, the Procuring Entity shall promptly notify the other Bidders that their Bids have been unsuccessful. The Bid Securing Declarations of unsuccessful bidders shall expire on receipt of this notification by them, in terms of ITB-clause 9.4 above. The bid-Securing Declaration of the successful bidder shall expire when Bidder has furnished the required Performance Security and signed the Agreement.

11.2.7 Publication of Tender Result

The name and address of the successful Bidder(s) receiving the contract(s) shall be published in the Portal and notice board/ bulletin/website of the Procuring Entity.

12. Grievance Redressal/ Complaint Procedure

1) Bidder has the right to submit a complaint or seek de-briefing regarding the rejection of his bid, in writing or electronically, within 10 days of declaration of techno-commercial or financial evaluation results. The complaint shall be addressed to the Head of Procurement.

2) Within 5 working days of receipt of the complaint, the Tender Inviting Officer shall acknowledge the receipt in writing to the complainant indicating that it has been received, and the response shall be sent in due course after a detailed examination.

3) The Tender Inviting Officer shall convey the final decision to the complainant within 15 days of receiving the complaint. No response shall be given regarding the confidential process of evaluating bids and awarding the contract before the award is notified, although the complaint shall be kept in view during such a process. However, no response shall be given regarding the following topics explicitly excluded from such complaint process:

   (a) Only a bidder who has participated in the concerned Tender Process, i.e., pre-qualification, bidder registration or bidding, as the case may be, can make such representation.
   (b) Only a directly affected bidder can represent in this regard.

      (i) In case of pre-qualification bid has been evaluated before the bidding of Technical/ financial bids, an application for review concerning the technical/ financial bid may be filed only by a bidder who has qualified in pre-qualification bid;
      (ii) In case a technical bid has been evaluated before the opening of the financial bid, an application for review concerning the financial bid may be filed only by a bidder whose technical bid is found to be acceptable.

   (c) Following decisions of the Procuring Entity shall not be subject to review:

      (i) Determination of the need for procurement.
      (ii) Complaints against specifications except under the premise that they are either vague or too specific to limit competition
      (iii) Selection of the mode of procurement or bidding system;
      (iv) Choice of the selection procedure.
      (v) Provisions limiting the participation of bidders in the Tender Process, in terms of policies of the Government

(vi) Provisions regarding purchase preferences to specific categories of bidders in terms of policies of the Government
(vii) The decision to enter into negotiations with the L-1 bidder; and
(viii) Cancellation of the Tender Process except where it is intended to subsequently re-tender the same Goods.

13. Code of Integrity in Public Procurement, Misdemeanours and Penalties:

Procuring authorities, bidders, suppliers, contractors, and consultants should observe the highest standard of integrity and not indulge in prohibited practices or other misdemeanours, either directly or indirectly, at any stage during the Tender Process or during the execution of resultant contracts. GCC-clause 13 (including the penalties prescribed therein) shall be considered to be part of this clause of ITB (even though it is not being reproduced here for the sake of brevity) and shall apply mutadis mutandis during the pre-award tender process.

Section III: Appendix to Instructions to Bidders (AITB)

Document No. NIT/CHS/PMDP/23-24; Tender Title: GOODS

taken to be negated or additional provision be added to, or existing provisions be altered as per column 2. Whenever there is any conflict between the provision in the ITB and that in the AITB, the provision contained in the AITB shall prevail.

Column 1 **ITB clauses**	**Column 2** **To be read as**
ITB 3, 4	**Bidders - Eligibility and Preferential Policies**
ITB 4.1	Indian suppliers of this item are not allowed to participate and/ or compete in procurement by some foreign governments. Bidders / products from such countries are not eligible / not allowed to participate in this bid in terms of clause 1 (d) of Public Procurement (Preference to Make in India) Order, 2017
ITB 4.3.2	No relaxation in prior turnover and experience
ITB 5 to 6	**Schedule of Requirements, Bid Prices, Taxes and Duties**
ITB 5.2	Value Wise Evaluation
ITB 12 Evaluation of Bids and Award of Contract	
ITB 12.2.1	The successful bidder shall provide and deploy skilled manpower resources, who shall be responsible for the operation and maintenance of the entire central heating System for a period of 04 years. It will be the sole responsibility of the bidder to ensure safe & reliable operation of the CHS throughout the above period.
ITB 12.2.2	**Two Cover**
ITB 12.3.1, 12.3.2	**Refer Section VIII: Qualification Criteria**
ITB 13.1.1	**OPTION CLAUSE: The Purchaser reserves the right to increase or decrease the quantity to be ordered up to 25 percent of bid quantity at the time of placement of contract. The purchaser also reserves the right to increase the ordered quantity by up to 25% of the contracted quantity during the currency of the contract at the contracted rates. Bidders are bound to accept the orders accordingly.**
ITB 13.2.4	**Performance Security of 10% of the total contract value in the form of Bank guarantee/DD/FDR, for the warranty period will have to be submitted at the time of singing of contract by the successful bidder.**

Section IV: General Conditions of Contract (GCC)

1. General

1.1 Tenets of Interpretation

Unless where the context requires otherwise, throughout the contract:

1) The heading of these conditions shall not affect the interpretation or construction thereof.
2) Writing or written includes matter either whole or in part, in digital communications, manuscript, typewritten, lithographed, cyclostyled, photographed, or printed under or over signature or seal or digitally acceptable authentication, as the case may be.
3) Words in the singular include the plural and vice-versa.
4) Words importing the masculine gender shall be taken to include other genders, and words importing persons shall include any company or association or body of individuals, whether incorporated or not.
5) Terms and expression not herein defined shall have the meanings assigned to them in the contract Act, 1872 (as amended) or the Sale of Goods Act, 1930 (as amended) or the General Clauses Act, 1897 (as amended) or of INCOTERMS, (current edition published by the International Chamber of Commerce, Paris) as the case may be.
6) Any reference to 'Goods' shall be deemed to include the incidental Works/ Services also.
7) Any generic reference to GCC shall also imply a reference to SCC as well.
8) In case of conflict, provisions of SCC shall prevail over those in GCC.
9) Any reference to 'Contract' shall be deemed to include all other documents (inter-alia GCC, SCC) as described in GCC-clause 2.5.
10) Any reference to any legal Act, Government Policies or orders shall be deemed to include all amendments to such instruments, from time to time, till date.
11) GCC-clause 5.10 (Book Examination clause), GCC-clause 6.5 (Option Quantity clause), GCC-clause 10.1.6 (Fall clause) shall not apply unless invoked explicitly in the contract. Nevertheless, Fall Clause (GCC-clause 10.1.6) shall be expressly applicable in the case of Rate Contract

1.2 Definitions

In the contract, unless the context otherwise requires:

1) "Agent" is a person employed to do any act for another or represent another in dealings with a third person. In the context of public procurement, an Agent is a representative participating in the Tender Process or Execution of a Contract for and on behalf of its principals.
2) "Allied Firm" are all business entities that are within the 'controlling ownership interest' (ownership of or entitlement to more than twenty-five percent of the company's shares or capital or profits) or 'control'(including the right to appoint a majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholder agreements or

voting agreements) of the principal firm acting alone or together or through one or more juridical persons. All successor firms or assigns of the principal firm shall be considered allied firms.

3) "bid" (including the term ‘tender’, ‘offer’, ‘quotation’ or ‘proposal’ in specific contexts) means an offer to supply goods, services or execution of works made as per the terms and conditions set out in a document inviting such offers.
4) "Bidder" (including the term 'Bidder', 'consultant' or 'service provider' in specific contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a Tender Process.
5) “Bill of Quantities” (including the term Price Schedule or BOQ) means the priced and completed Bill of Quantities forming part of the bid.
6) "Commercial Bank" means a bank, defined as a scheduled bank under section 2(e) of the Reserve Bank of India Act, 1934.
7) “Consignee” means the person to whom the goods are required to be delivered as stipulated in the contract. A contract may provide the goods to be delivered to an interim consignee for further despatch to the ultimate consignee.
8) “Contract” (including the terms ‘Purchase Order’ or ‘Supply Order’ or ‘Withdrawal Order’ or ‘Work Order’ or ‘Consultancy Contract’ or ‘Contract for Services’, ‘rate contract’ or ‘framework contract’ or ‘Letter of Award – LoA’ (letter or memorandum communicating to the contractor the acceptance of his bid) or ‘Agreement’ or a ‘repeat order’ accepted/ acted upon by the contractor or a ‘formal agreement’, under specific contexts), means a formal legal agreement in writing relating to the subject matter of procurement, entered into between the Procuring Entity and the contractor on mutually acceptable terms and conditions and which are in compliance with all the relevant provisions of the laws of the country;
9) “Contractor” (including the terms ‘Supplier’ or ‘Service Provider’ or ‘Consultant’ or ‘Firm’ or ‘Vendor’ or ‘Manufacturer’ or ‘Successful Bidder’ under specific contexts) means the person, firm, company, or a Joint Venture with whom the contract is entered into and shall be deemed to include the contractor's successors (approved by the Procuring Entity), agents, subcontractor, representatives, heirs, executors, and administrators as the case may be unless excluded by the terms of the contract.;
10) “Day”, “Month”, “Year” shall mean calendar day/ month or year (unless reference to financial year is clear from the context).
11) “Drawing” means the drawing or drawings stipulated in or annexed to the Specifications or the Tender Document/ Contract;
12) “General Conditions” means the General Conditions of Contract, also referred to as GCC.
13) "Goods" (including the terms ‘Stores’, ‘Material(s)’ in specific contexts) includes all articles, material, commodity, livestock, medicines, furniture, fixtures, raw material, consumables, spare parts, instruments, machinery, equipment, industrial plant, vehicles, aircrafts, ships, railway rolling stock assemblies, sub-assemblies, accessories, a group of machines comprising an integrated production process or such other categories of goods or intangible, products like technology transfer, licenses,

patents or other intellectual properties (but excludes books, publications, periodicals, etc., for a library) under specific context), procured or otherwise acquired by a Procuring Entity. Any reference to Goods shall be deemed to include specific small work or some services that are incidental or consequential to the supply of such goods;

14) "Government" means the Central Government or a State Government as the case may be and includes agencies and Public Sector Enterprises under it, in specific contexts;

15) "Inspection" means activities such as measuring, examining, testing, analysing, gauging one or more characteristics of the goods or services or works, and comparing the same with the specified requirement to determine conformity.

16) "Inspecting Officer" means the person or organisation stipulated in the contract for inspection under the contract and includes his/ their authorised representative;

17) "Intellectual Property Rights" (IPR) means the rights of the intellectual property owner concerning a tangible or intangible possession/ exploitation of such property by others. It includes rights to Patents, Copyrights, Trademarks, Industrial Designs, Geographical indications (GI).

18) "Parties": The parties to the contract are the "Contractor" and the Procuring Entity, as defined in this clause;

19) "Performance Security" (includes the terms 'Security Deposit' or 'Performance Bond' or 'Performance Bank Guarantee' or other specified financial instruments in specific contexts) means a monetary guarantee to be furnished by the successful Bidder or Contractor in the form prescribed for the due performance of the contract;

20) "Place of Delivery" the delivery of the Goods shall be deemed to take place on delivery of the Goods, after approval by the Inspecting Officer (If provided in the contract) at following places as per the terms and conditions of the contract -

    (a) The consignee at his premises; or
    (b) Where so provided, the interim consignee at his premises; or
    (c) A carrier or other person named in the contract for transmission to the consignee: or
    (d) The consignee at the destination station in case of a contract stipulating for delivery of Goods at the destination station.

21) "Procurement" or "public procurement" (or 'Purchase', or 'Government Procurement/ Purchase' including an award of Public-Private Partnership projects, in specific contexts) means the acquisition of Goods/ Services/ works by way of purchase, lease, license or otherwise, either using public funds or any other source of funds (e.g. grant, loans, gifts, private investment etc.) of goods, works or services or any combination thereof, by a Procuring Entity, whether directly or through an agency with which a contract for procurement services is entered into, but does not include any acquisition without consideration. The term "procure"/ "procured" or "purchase"/ "purchased" shall be construed accordingly;

22) "The Procuring Entity" means the entity in The Procuring Organization procuring Goods or Works or Services;

23) "Procurement Officer" means the officer signing the Letter of Award (LoA) and/or the contract on behalf of the Procuring Entity;

24) "Service(s)" (including the term 'Non-consultancy services' or 'Outsourcing of Services' in specific contexts) are defined by exclusion as services that cannot be classified as Consultancy Services. Services (Non-consultancy) involve routine, repetitive physical, procedural, and non-intellectual outcomes for which quantum and performance standards can be tangibly identified and consistently applied and are bid and contracted on such basis but does not include the appointment of an individual made under any law, rules, regulations, or order issued in this behalf. Any reference to Services shall be deemed to include the supply of goods or performance of consultancy service or small works, which are incidental or consequential to such services;

25) "Special Conditions" means Special Conditions of Contract, which override the General Conditions, also referred to as SCC.

26) "Specification" or "Technical Specification" means the drawing/ document/ standard or any other details governing the construction, manufacture or supply of goods or performance of services that prescribes the requirement to which goods or services have to conform as per the contract.

27) "Signed" means ink signed or digitally signed with a valid Digital Signature as per IT Act 2000 (as amended from time to time). It also includes stamped, except in the case of Letter of Award or amendment thereof.;

28) "Tender"; "Tender Document"; "Tender Enquiry" or "Tender Process": 'Tender Process' is the whole process from the publishing of the Tender Document till the resultant award of the contract. 'Tender Document' means the document (including all its sections, appendices, forms, formats, etc.) published by the Procuring Entity to invite bids in a Tender Process. The Tender Document and Tender Process may be generically referred to as "Tender" or "Tender Enquiry", which would be clear from context without ambiguity.

29) "Test" means such test as is prescribed by the particulars governing the construction, manufacture or supply of Goods as may be prescribed by the contract or considered necessary by the Inspecting Officer whether performed or made by the Inspecting Officer or any agency acting under the direction of the Inspecting Officer;

30) "Works" refer to any activity involving construction, fabrication, repair, overhaul, renovation, decoration, installation, erection, excavation, dredging, and so on, which make use of a combination of one or more of engineering design, architectural design, material and technology, labour, machinery, and equipment.

1.3 Document Conventions

All words and phrases defined in GCC-clause 1.2 are written as 'Capitalised word' and shall have the defined meaning. The rest of the words shall be as per grammar, inter-alia 'Goods' shall indicate definition as given in the GCC while 'goods' shall have usual dictionary meaning.

1.4 Abbreviations:

Abbreviation	Definition
AITB	Appendix to Instructions To Bidders

Abbreviation	Definition
BOQ	Bill of Quantities (Excel sheet of Price Schedule)
BSD	Bid Securing Declaration
CFR	Cost and Freight (port of destination)
CGST	Central Goods and Services Tax
CIF	Cost, Insurance & Freight (port of destination)
CPPP	Central Public Procurement Portal
DAP	Delivered at Place (Destination)
DoE	Department of Expenditure
DP	Delivery Period
DPIIT	Department for Promotion of Industry and Internal Trade
DSC	Digital Signature Certificate
e-RA	Electronic Reverse Auction
EFT/ NEFT	(National) Electronic Funds Transfer
ERV	Exchange Rate Variation
FAS	Free Alongside Ship (port of loading)
FDI	Foreign Direct investment
FOB	Free on Board (port of loading)
FOR	Free on Rail (named Station)
GCC	General Conditions of Contract
GeM	Government e-Marketplace
GRIR	Goods Receipt and Inspection Report
GST	Goods and Services Tax
GTE	Global Tender Enquiry (International Competitive Bidding)
HSN	Harmonized System of Nomenclature
IEM	Independent External Monitor
IPR	Intellectual Property Rights
INR	Indian Rupee
ITB	Instructions To Bidders
ITC (HS)	Indian Tariff Classification (Harmonised System)
LoA	Letter of Award (Acceptance)

Abbreviation	Definition
MII	Make in India
MSE	Micro and Small Enterprises
MSME	Micro, Small and Medium Enterprises
MSMED	MSME Development (Act)
NIT	Notice Inviting Tender
OEM	Original Equipment Manufacturer
PVC	Price Variation Clause
PAN	Permanent Account Number
PC	(Indian) Penal Code
PPD	Procurement Policy Division
PQB	Pre-Qualification Bidding
RAP	Reverse Auction (Process)
RCM	Reverse Charge Mechanism
SC	Scheduled Caste
SCC	Special Conditions of Contract
ST	Scheduled Tribe
TCS	Tax Collected at Source
TDS	Tax Deducted at Source
TIA	Tender Inviting Authority
TIS	Tender Information Summary

2. The Contract

2.1 Language of Contract

Unless otherwise stipulated in SCC, the contract shall be written in the Official Language or English. All correspondence and other contract documents, which the parties exchange, shall also be written/ translated accordingly in that language. For purposes of interpretation of the contract, the English documents/ translation shall prevail.

2.2 The Entire Agreement

This Contract and its documents (referred to in GCC-clause 2.5 below) constitutes the entire agreement between the Procuring Entity and the contractor and supersedes all other communications, negotiations, and agreements (whether written or oral) of the Parties made before the date of this Contract. No agent or representative of either Party has the authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not outlined in this Contract.

2.3 Severability

If any provision or condition of this Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of this Contract.

2.4 Parties

The parties to the contract are the contractor and the Procuring Entity, as defined in GCC-clause 1.2 above and nominated in the contract.

2.5 Contract Documents and their Precedence

The following conditions and documents in indicated order of precedence (higher to lower) shall be considered an integral part of the contract, irrespective of whether these are not appended/ referred to in it. Any generic reference to 'Contract' shall imply reference to all these documents as well:

1) Valid and authorized Amendments issued to the contract.
2) the Agreement consisting of the initial paragraphs, recitals and other clauses set forth immediately before the GCC and including the formats annexed to it and signatures of Procuring Entity;
3) the Letter of Award (LoA)
4) Final written submissions made by the contractor during negotiations, if any;
5) the SCC
6) the GCC
7) the contractor's bid;
8) any other document listed in the SCC as forming part of this Contract.
9) Integrity Pact if any

2.6 Modifications/ Amendments, Waivers and Forbearances

2.6.1 Modifications/ Amendments of Contract

1) If any of the contract provisions must be modified after the contract documents have been signed, the modifications shall be made in writing and signed by the Procuring Entity, and no modified provisions shall be applicable unless such modifications have been done. No variation in or modification of the contract terms shall be made except by a written amendment signed by the Procuring Entity. Requests for changes and modifications may be submitted in writing by the contractor to the Procuring Entity. At any time during the currency of the contract, the Procuring Entity may suo-moto or, on request from the contractor, by written order, amend the contract by making alterations and modifications within the general scope of the Contract.
2) If the contractor does not agree to the suo-moto modifications/ amendments made by the Procuring Entity, he shall convey his views within 14 days from the date of amendment/ modification. Otherwise, it shall be assumed that the contractor has consented to the amendment.
3) Any verbal or written arrangement abandoning, modifying, extending, reducing, or supplementing the contract or any of the terms thereof shall be deemed conditional and shall not be binding on the Procuring Entity unless and until the same is

incorporated in a formal instrument and signed by the Procuring Entity, and till then the Procuring Entity shall have the right to repudiate such arrangements.

2.6.2 Waivers and Forbearances

The following shall apply concerning any waivers, forbearance, or similar action taken under this Contract:

1) Any waiver of a Procuring Entity's rights, powers, or remedies under this Contract must be in writing, dated, and signed by an authorized representative of the Procuring Entity granting such waiver and must specify the terms under which the waiver is being granted.

2) No relaxation, forbearance, delay, or indulgence by Procuring Entity in enforcing any of the terms and conditions of this Contract or granting of an extension of time by Procuring Entity to the contractor shall, in any way whatsoever, prejudice, affect, or restrict the rights of Procuring Entity under this Contract, neither shall any waiver by Procuring Entity of any breach of Contract operate as a waiver of any subsequent or continuing breach of Contract.

3. Governing Laws and Jurisdiction

3.1 Governing Laws and Jurisdiction

1) This Contract, its meaning and interpretation, and the relation between the Parties shall be governed by the Laws of India for the time being in force.

2) Irrespective of the place of delivery, or the place of performance or the place of payments under the contract, the contract shall be deemed to have been made at the place from which the Letter of Award (LoA, or the contract Agreement, in the absence of LoA) has been issued. The courts of such a place shall alone have jurisdiction to decide any dispute arising out or in respect of the contract.

3.2 Changes in Laws and Regulations

Unless otherwise stipulated in the contract, if after the last deadline for the bid submission (Techno-commercial), any law, regulation, ordinance, order or bye-law having the force of law is enacted, promulgated, abrogated, or changed in India (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/ or the contract Price, then such Delivery Date and/ or Contract Price shall be correspondingly increased or decreased, to the extent that the contractor has thereby been affected in the performance of any of its obligations under the contract. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable.

4. Communications

4.1 Communications

1) All communications under the contract shall be served by the parties on each other in writing, in the contract's language, and served in a manner customary and acceptable in business and commercial transactions.

2) The effective date of such communications shall be either the date when delivered to the recipient or the effective date mentioned explicitly in the communication, whichever is later.

3) No communication shall amount to an amendment of the terms and conditions of the contract, except a formal letter of amendment of the contract, so designated.

4) Such communications would be an instruction or a notification or an acceptance or a certificate from the Procuring Entity, or it would be a submission or a notification from the contractor. A notification or certificate which the contract requires must be communicated separately from other communications.

4.2 The person signing the Communications

For all purposes of the contract, including arbitration, thereunder all communications to the other party shall be signed by:

1) The person who has signed the contract on behalf of the contractor shall sign all correspondences. A person signing communication in respect of the contract or purported to be on behalf of the contractor, without disclosing his authority to do so, shall be deemed to warrant that he has authority to bind the contractor. If it is discovered at any time that the person, so signing has no authority to do so, the Procuring Entity reserves its right to, without prejudice to any other right or remedy, to terminate the contract for default in terms of the contract and avail any or all the remedies thereunder and hold such person personally and/ or the contractor liable to the Procuring Entity for all costs and damages arising from such remedies.

2) Unless otherwise stipulated in the contract, the Procurement Officer signing the contract shall administer the contract and sign communications on behalf of the Procuring Entity. Interim or ultimate consignees; Inspecting Agency/ officers and the paying authorities mentioned in the contract shall also administer respective functions during Contract Execution.

4.3 Address of the parties for sending communications by the other party.

1) For all purposes of the contract, including arbitration, thereunder the address of parties to which the other party shall address all communications and notices shall be:

   (a) The address of the contractor as mentioned in the contract unless the contractor has notified the change of address by a separate communication containing no other topic to the Procuring Entity. The Contractor shall be solely responsible for the consequence of an omission to notify a change of address in the manner aforesaid, and
   (b) The address of the Procuring Entity shall be the address mentioned in the contract. The contractor shall also send additional copies to officers of the Procuring Entity presently dealing with the contract.
   (c) In case of the communications from the contractor, copies of communications shall be marked to the Procurement Officer signing the contract, and as relevant also to Inspecting Agency/ Officer; interim/ ultimate consignee and paying authorities mentioned in the contract. Unless already stipulated in the contract before the contract's start, the Procuring Entity and the contractor shall notify each other if additional copies of communications are to be addressed to additional addresses.

5. Contractor's Obligations and restrictions on its Rights

5.1 Changes in Constitution/ financial stakes/ responsibilities of a Contract's Business

The Contractor must proactively keep the Procuring Entity informed of any changes in its constitution/ financial stakes/ responsibilities during the execution of the contract. Where the contractor is a partnership firm, the following restrictions shall apply to changes in the constitution during the execution of the contract:

1) a new partner shall not be introduced in the firm except with the previous consent in writing of the Procuring Entity, which shall be granted only upon execution of a written undertaking by the new partner to perform the contract and accept all liabilities incurred by the firm under the contract before the date of such undertaking.

2) On the death or retirement of any partner of the contractor firm before the complete performance of the contract, the Procuring Entity may, at his option, terminate the contract for default as per the Contract and avail any or all remedies thereunder.

3) If the contract is not terminated as provided in Sub-clause (2) above notwithstanding the retirement of a partner from the firm, that partner shall continue to be liable under the contract for acts of the firm until a copy of the public notice given by him under Section 32 of the Partnership Act, has been sent by him to the Procuring Entity in writing or electronically.

5.2 Obligation to Maintain Eligibility and Qualifications

1) The contract has been awarded to the contractor based on specific eligibility and qualification criteria. The Contractor is contractually bound to maintain such eligibility and qualifications during the execution of the contract. Any change which would vitiate the basis on which the contract was awarded to the contractor should be pro-actively brought to the notice of the Procuring Entity within 7 days of it coming to the Contractor's knowledge. These changes include but are not restricted to:

   (a) Change regarding declarations made by it in its bid in Form 1.2: Eligibility Declaration

5.3 Change in its qualification criteria submitted in its bid in Form 4: Qualification Criteria - Compliance and its sub-form(s).Restriction on Potential Conflict of Interests

Neither the contractor nor its Subcontractors nor the Personnel shall engage, either directly or indirectly, in any of the following activities:

1) during the term of this Contract, any business or professional activities in India that would conflict with the activities assigned to them under this Contract.

2) after the termination of this Contract, such other activities as may be stipulated in the contract.

5.4 Consequences of a breach of Obligations

Should the contractor or any of its partners or its Subcontractors or the Personnel commit a default or breach of GCC-clause 5.1 to 5.7, the Contractor shall remedy such breaches within 21 days, keeping the Procuring Entity informed. However, at its discretion, the Procuring

Entity shall be entitled, and it shall be lawful on his part, to treat it as a breach of contract and avail any or all remedies thereunder. The decision of the Procuring Entity as to any matter or thing concerning or arising out of GCC-clause 5.1 to 5.7 or on any question whether the contractor or any partner of the contractor firm has committed a default or breach of any of the conditions shall be final and binding on the contractor.

5.5 Assignment and Sub-contracting

1) the contractor shall not, save with the previous consent in writing of the Procuring Entity, sublet, transfer, or assign the contract or any part thereof or interest therein or benefit or advantage thereof in any manner whatsoever.

2) the contractor shall notify the Procuring Entity in writing all subcontracts awarded under the contract if not already stipulated in the contract. In its original bid or later, such notification shall not relieve the contractor from any of its liability or obligation under the terms and conditions of the contract. Subcontract shall be only for bought out items and incidental Works/ Services. Subcontracts must comply with and should not circumvent Contractor's compliance with its obligations under GCC-clause 5.1 to 5.7, based on which the contract was awarded to him.

3) If the Contractor sublets or assigns this contract or any part thereof without such permission, the Procuring Entity shall be entitled, and it shall be lawful on his part, to treat it as a breach of contract and avail any or all remedies thereunder.

5.6 Indemnities for breach of IPR Rights

1) the contractor shall indemnify and hold harmless, free of costs, the Procuring Entity and its employees and officers from and against all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which may arise in respect of the Goods provided by the contractor under this Contract, as a result of any infringement or alleged infringement of any patent, utility model, registered design, copyright, or other Intellectual Proprietary Rights (IPR) or trademarks, registered or otherwise existing on the date of the contract arising out of or in connection with:

   (a) any design, data, drawing, specification, or other documents or Goods provided or designed by the contractor for or on behalf of the Procuring Entity.
   (b) The sale by the Procuring Entity in any country of the products produced by the Goods supplied by the contractor, and
   (c) The installation of the Goods by the contractor or the use of the Goods at the Procuring Entity's Site

2) Such indemnity shall not cover any use of the Goods or any part thereof or any products produced thereby:

   (a) other than for the purpose indicated by or to be reasonably inferred from the contract
   (b) in association or combination with any other equipment, plant, or materials not supplied by the contractor.

3) If any proceedings are brought, or any claim is made against the Procuring Entity arising out of the matters referred above, the Procuring Entity shall promptly give the contractor a notice thereof. At its own expense and in the Procuring Entity's

name, the contractor may conduct such proceedings and negotiations to settle any such proceedings or claim, keeping the Procuring Entity informed.

4) If the contractor fails to notify the Procuring Entity within twenty-eight (28) days after receiving such notice that it intends to conduct any such proceedings or claim, then the Procuring Entity shall be free to conduct the same on its behalf at the risk and cost to the contractor.

5) At the contractor's request, the Procuring Entity shall afford all available assistance to the contractor in conducting such proceedings or claim and shall be reimbursed by the contractor for all reasonable expenses incurred in so doing.

5.7 Confidentiality, Secrecy and IPR Rights

5.7.1 IPR Rights

All deliverables, outputs, plans, drawings, specifications, designs, reports, and other documents and software submitted by the contractor under this Contract shall become and remain the property of the Procuring Entity and subject to laws of copyright and must not be shared with third parties or reproduced, whether in whole or part, without the Procuring Entity's prior written consent. The contractor shall, not later than upon termination or expiration of this Contract, deliver all such documents and software to the Procuring Entity, together with a detailed inventory thereof. The contractor may retain a copy of such documents and software but shall not use it for any commercial purpose.

5.7.2 Confidentiality

All documents, drawings, samples, data, associated correspondence or other information furnished by or on behalf of the Procuring Entity to the contractor, in connection with the contract, whether such information has been furnished before, during or following completion or termination of the contract, are confidential and shall remain the property of the Procuring Entity and shall not, without the prior written consent of Procuring Entity neither be divulged by the contractor to any third party, nor be used by him for any purpose other than the design, procurement, or other services and work required for the performance of this Contract. If advised by the Procuring Entity, all copies of all such information in original shall be returned on completion of the contractor's performance and obligations under this contract.

5.7.3 Secrecy

If The Contract declares the subject matter of this Contract as coming under the Official Secrets Act, 1923 or if the contract is marked as "Secret", the contractor shall take all reasonable steps necessary to ensure that all persons employed in any connection with the contract, have acknowledged their responsibilities and penalties for violations under the Official Secrets Act and any regulations framed thereunder.

5.7.4 Obligations of the contractor

1) Without the Procuring Entity's prior written consent, the contractor shall not use the information mentioned above except for the sole purpose of performing this contract.

2) The contractor shall treat and mark all information as confidential (or Secret – as the case may) and shall not, without the written consent of the Procuring Entity, divulge to any person other than the person(s) employed by the contractor in the

performance of the contract. Further, any such disclosure to any such employed person shall be made in confidence and only so far as necessary for such performance for this contract.

3) Notwithstanding the above, the contractor may furnish to its holding company or its Subcontractor(s) such documents, data, and other information it receives from the Procuring Entity to the extent required for performing the contract. In this event, the contractor shall obtain from such holding company/ Subcontractor(s) an undertaking of confidentiality (or secrecy – as the case may be) similar to that imposed on the contractor under the above clauses.

4) The obligation of the contractor under sub-clauses above, however, shall not apply to information that:

   (a) the contractor needs to share with the institution(s) participating in the financing of the contract;
   (b) now or hereafter is or enters the public domain through no fault of Contractor;
   (c) can be proven to have been possessed by the contractor at the time of disclosure and which was not previously obtained, directly or indirectly, from the Procuring Entity; or
   (d) otherwise lawfully becomes available to the contractor from a third party that has no obligation of confidentiality.

5) The above provisions shall not in any way modify any undertaking of confidentiality (or Secrecy – as the case may be) given by the contractor before the date of the contract in respect of the contract/ the Tender Document or any part thereof.

6) The provisions of this clause shall survive completion or termination for whatever reason of the contract.

5.8 Performance Bond/ Security

1) Within fourteen days (or any other period mentioned in Tender Document or Contract) after the issue of Letter of Award (LoA or the contract, if LoA is skipped) by the Procuring Entity, the contractor shall furnish to the Procuring Entity, performance security, valid up to sixty days (or any other period mentioned in Tender Document or Contract) after the date of completion of all contractual obligations by the contractor, including the warranty obligations.

2) The amount of Performance security shall be as stipulated in Tender Document or Contract (or if not specified @ 3% of the contract Price) denominated in Indian Rupees or the currency of the contract and shall be in one of the following forms:

   (a) Unless otherwise stipulated in Tender Document or Contract, Account Payee Demand Draft or Fixed Deposit Receipt or Banker's Cheque is drawn on any commercial bank in India, favouring the authority mentioned in therein (or FA&CAO of the Procuring Organisation, if not mentioned).
   (b) Bank Guarantee issued by a commercial bank in India, in the prescribed form provided in Format 1.3.

3) If the contractor, having been called upon by the Procuring Entity to furnish Performance Security, fails to do so within the specified period, it shall be lawful for the Procuring Entity at its discretion to annul the award and enforce Bid Securing

Declaration (in lieu of forfeiture of the Bid Security), besides taking any other administrative punitive action like 'Removal from List of Registered Suppliers' etc.

4) If the contractor during the currency of the Contract fails to maintain the requisite Performance Security, it shall be lawful for the Procuring Entity at its discretion at its discretion

   (a) to terminate the Contract for Default besides availing any or all contractual remedies provided for breaches/ default, or
   (b) without terminating the Contract:

      1. recover from the contractor the amount of such security deposit by deducting the amount from the pending bills of the contractor under the contract or any other contract with the Procuring Entity or the Government or any person contracting through the Procuring Organisation or otherwise howsoever as per GCC-clause 10.4, or
      2. treat it as a breach of contract and avail any or all availing any or all contractual remedies provided for breaches/ default.

5) In the event of any amendment issued to the contract, the contractor shall furnish suitably amended value and validity of the Performance Security in terms of the amended contract within fourteen days of issue of the amendment.

6) The Procuring Entity shall be entitled, and it shall be lawful on his part,

   (a) to deduct from the performance securities or to forfeit the said security in whole or in part in the event of:

      (i) any default, or failure or neglect on the part of the contractor in the fulfilment or performance in all respect of the contract under reference or any other contract with the Procuring Organisation or any part thereof
      (ii) for any loss or damage recoverable from the contractor which the Procuring Entity may suffer or be put to for reasons of or due to above defaults/ failures/ neglect

   (b) and in either of the events aforesaid to call upon the contractor to maintain the said performance security at its original limit by making further deposits, provided further that the Procuring Entity shall be entitled, and it shall be lawful on his part, to recover any such claim from any sum then due or which at any time after that may become due to the contractor for similar reasons.

7) Subject to the sub-clause above, the Procuring Entity shall release the performance security without any interest to the contractor on completing all contractual obligations, including the warranty obligations, if any. Alternatively, for the duration of Warranty obligations, upon the contractor submitting a suitable separate Warranty Security, the original Performance Guarantee Security shall be released mutatis mutandis.

8) No claim shall lie against the Procuring Entity regarding interest on cash deposits or Government Securities or depreciation thereof.

5.9 Permits, Approvals and Licenses

Whenever the supply of Goods and incidental Works/ Services requires that the contractor obtain permits, approvals, and licenses from local public authorities, it shall be the

contractor's sole responsibility to obtain these and keep these current and valid. Such requirements may include but not be restricted to export licence or environmental clearance if required. If requested by the contractor, the Procuring Entity shall make its best effort to assist the contractor in complying with such requirements in a timely and expeditious manner, without any dilution of the Contractor's responsibility in this regard.

5.10 Book Examination Clause

If explicitly invoked in the contract, the Procuring Entity reserves the right for 'Book Examination' as follows:

1) the contractor shall, whenever called upon and required to produce or cause to be produced, for examination by any Government Officer duly authorised in that behalf, any cost or other book of account, voucher, receipt, letter, memorandum, paper or writing or any copy of or extract from any such document. The Contractor shall also furnish information relating to the execution of this contract or relevant for verifying or ascertaining the cost of executing this contract to such Government Officer in such manner as may be required. The decision of such Government Officer on the question of relevancy of any document, information of return being final and binding on the parties. The obligation imposed by this clause is without prejudice to the contractor's obligations under any other statute, rules or orders which shall be concurrently binding on the contractor.

2) the contractor shall, if the authorised Government Officer so requires (whether before or after the prices have been finally fixed), afford facilities to the Government Officer concerned to visit the contractor's premises to examine the processes of production and estimate or ascertaining the cost of performance of Contract. The authorised Government Officer shall have power, mutadis mutandis, to examine all the relevant books of Contractor's subcontractor, or any subsidiary or allied firm or company, If any portion of the contract is entrusted or carried out by such entities.

3) If on such examination, it is established that the contracted price is more than the actual cost-plus reasonable margin of profit, the Procuring Entity shall have the right to reduce the price and determine the amount to a reasonable level.

4) The Contractor or its agency is bound to allow examination of its books within 60 days from the date the notice is received by the contractor or its agencies calling for the production of documents under sub-clause (1) above. In the event of the contractor's or his agency's failure to do so, the contract price would be reduced and determined according to the best judgment of the Procuring Entity, which would be final and binding on the contractor and his agencies.

5.11 Custody and Return of the Procuring Entity's Materials/ Equipment/ Documents loaned to Contractor.

1) Unless stipulated in the contract, no asset/ property/ drawings/ material/ samples/ equipment/ utility shall be provided or loaned to the contractor for the performance of the contract. Whenever such assets are required to be issued to the contractor (inter-alia in fabrication or design or development) as per the contract, these would be issued only as per terms and conditions and against appropriate safeguards (including Insurances, Bank Guarantee, Indemnity Bonds, Retention Money etc.)

specified therein. The Contractor shall use such property for the execution of the contract and no other purpose whatsoever.

2) The contractors shall sign receipts for all tools, plants and materials or other assets/ properties made over to him by the Procuring Entity. All such assets shall be deemed to be in good condition when received by the contractor unless he has within twenty-four hours of the receipt thereof notified the Procuring Entity to the contrary. Otherwise, he shall be deemed to have lost the right to do so at any subsequent stage.

3) These assets shall remain the property of the Procuring Entity, and the contractor shall take all reasonable care of all such assets. The contractor shall be responsible for all damage or loss from whatever cause caused while such assets are possessed or controlled by the contractor, staff, workmen or agents.

4) Where the contractor insures such assets against loss or fire at the request of the Procuring Entity, such insurance shall be deemed to be by way of additional precaution and shall not prejudice the liability of the contractor as aforesaid

5) The Contractor shall return all such assets in good order or repair, fair wear and tear excepted, before the completion/ closure/ termination of the contract and shall be responsible for any failure to account for the same or any damage done to that as assessed by the Procuring Entity, whose decision shall be final and binding.

5.12 Labour Codes and Related Obligations

This clause shall be applicable only if it is specifically indicated to be applicable in SCC.

5.12.1 Independent Contractor

The contractor's status shall be that of an independent contractor and Primary Employer of staff deployed during the contract by him or his sub-contractors or other associates. The Contractor, its employees, agents, and subcontractors performing under this Contract are not employees or agents of the Procuring Organisation or Procuring Entity or Central or State Government or their agencies/ Enterprises, simply by Services delivered under this Contract.

5.12.2 Obligations of the contractor under Labour Codes and Rules

1) In cases where Contract or part(s) thereof is to be performed by the contractor at the premises of the Procuring Entity or Consignee, the contractor shall comply with the provisions of the Labour Codes, which including Code on Wages, 2019, The Industrial Relations Code 2020, Code on the Social Security 2020, and The Occupational Safety, Health and Working Conditions 2020, and Draft Rules made thereunder, as modified from time-to-time, wherever applicable and shall also indemnify the Procuring Entity from and against any claims under the aforesaid Labour codes and the Rules.

2) The Contractor shall obtain a valid licence under the aforesaid Labour codes and the Rules as modified from time-to-time before the commencement of the contract and continue to have a valid licence until the completion of the contract. Any failure to fulfil this requirement, the Procuring Entity shall treat it as a breach of contract for default as per the contract and avail any or all remedies thereunder.
3) In respect of all labour directly or indirectly employed in the contract for the performance of the contractor's part of the contract, the contractor shall comply

with or cause to comply with the provisions of the aforesaid Labour codes and the Rules wherever applicable. The contractor shall be solely responsible for submitting all the necessary returns under these Codes and the Rules. Nevertheless, the contractor shall submit monthly returns to the Procuring Entity to confirm compliance with such Codes and rules. Failure to do so shall entitle Procuring Entity to take any measure to ensure compliance to such codes and rules by the contractor and his associates, including, but not limited to, withholding contractor's on-account bills.

4) The Contractor shall pay the wages as per the Code on Wages to their workers not below the rate of minimum wages, as notified by the State Government or Central Government, whichever is higher, through the bank transfer. Notwithstanding the contract's provisions to the contrary, the Contractor shall cause to be paid the wages to labour directly or indirectly engaged on the contract, including any engaged by his Sub-Contractors in connection with the said contract as if he had immediately employed the labour. The Procuring Entity shall, without any commitments or being obliged to do, may its discretion, monitor that such payments are being made. The Contractor shall be required to submit, every month, documentary evidence in the form of a Bank Statement of having transferred the gross minimum wages to each of the workers. Failure to do so shall entail Procuring Entity taking up any measure to ensure the payment of wages including, but not limited to, withholding contractor's on-account bills.
5) In every case in which, by virtue of the provisions of the aforesaid Labour codes and the Rules, the Procuring Entity is obliged to pay any amount of wages to a workman employed by the contractor or his Sub-Contractor in execution of the contract or to incur any expenditure in providing welfare and health amenities required to be provided under the aforesaid Labour codes and the Rules or to incur any expenditure on account of the contingent liability of the Procuring Entity due to the contractor's failure to fulfil his statutory obligations under the aforesaid Labour codes and the Rules the Procuring Entity shall recover from the contractor, the amount of wages so paid or the amount of expenditure so incurred, and without prejudice to the rights of the Procuring Entity under the aforesaid Labour codes and the Rules, the Procuring Entity shall be at liberty to recover such amount or part thereof by deducting it from the security deposit and/ or from any sum due by the Procuring Entity to the contractor whether under the contract or otherwise. The Procuring Entity shall not be bound to contest any claim made against it under the aforesaid Labour codes and the Rules except on the contractor's written request, and upon giving the Procuring Entity complete security for all costs, Procuring Entity might become liable in contesting such claim. The decision of the Procuring Entity regarding the amount actually recoverable from the contractor as stated above shall be final and binding on the contractor.

5.12.3 The obligation of Contractor to ensure awareness of Labour Codes

1) The Contractor has to mandatorily provide a comprehensive day-long training carried out by a certified Third-Party agency for the awareness of Labour codes and the Rules, grievance redressal mechanism and other provisions applicable to his and his Sub-contractor's staff, workers, labour employed by him directly or indirectly in delivery of service to the Procuring Entity. The Contractor must submit relevant documentary proof to Procuring Entity of having conducted such training to all workers.

2) The Contractor must provide a comprehensive booklet (Procuring Entity approves that) containing all the relevant updated labour codes, rules, and other applicable provisions, to every worker at the outset of the contract in the local vernacular language.
3) Procuring Entity, without any commitments or being obliged to do, may its discretion, provide following facilities for Contractor's Contract Labour working on this Contract:

    a) Helpline for complaints from labour regarding payment of wages, worksite facilities, sexual harassment etc
    b) Provision for recording anonymous complaints from workers, citizens etc., regarding violation of Labour codes and the Rules by Contractor.

6. Scope of Supply and Technical Specifications

6.1 The Scope of Supply

1) This contract is for the supply of the Goods of the description, specifications, and drawings, and in the quantities outlined in the contract on the dates specified therein.

2) **Incidental Works/ Services:** If so stipulated, the contractor shall be required to perform specified incidental Works/ Services (e.g., Installation, Commissioning, Operator's Training etc. in case of Supply of Capital Goods/ Machinery & Plant) as an integral part of the Goods in the contract.

6.2 Technical Specifications and Standards

The Goods & incidental Works/ Services to be provided by the contractor under this contract shall conform to the technical specifications and quality control parameters mentioned in 'Technical Specification and Quality Assurance' under Sections VII of the Tender Document or as stipulated in the contract. Wherever references are made in the Contract to codes and standards by which it shall be executed, the edition or the revised version of such codes and standards shall be those specified in the Contract. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Purchaser. For standards and requirements where no applicable specifications/ Quality Assurance are mentioned, appropriate latest authoritative standards and quality assurance issued by the concerned institution shall be applicable. The Goods supplied shall be.

1) Entirely brand new, unused, and incorporate all recent improvements in design and materials unless prescribed otherwise by the Procuring Entity in the contract.

2) conform to materials, manufacture and workmanship as stipulated in the contract, free of all defects and faults using specified/ appropriate materials, manufacture, and workmanship throughout and consistent with the established and generally accepted standards for Goods of the type ordered and in full conformity with the contract specification, drawing or sample, if any.

6.3 Quantity Tolerance

Unless otherwise stipulated in the contract, the obligation for completing supplies shall be considered complete if the Goods have been supplied to the tolerance of plus or minus 5% of the quantity or of the total value of goods ordered in the contract. Only the supplied quantity shall be paid for as per the terms of the contract.

6.4 Eligible Goods - Country of Origin and Minimum Local Content

Unless otherwise stipulated in SCC or Contract, the country of origin of 'Goods' and 'incidental Works/ Service' to be supplied under the contract shall have their origin in India or other countries and must conform to the declaration made by the contractor in its bid regarding but not limited to i) restrictions on certain countries with land-borders with India; ii) minimum local content and location of value addition (Make in India Policy); iii) Contractor's status as MSE or Start-up. The term "origin" used in this clause means where the goods (including subcontracted components) are mined, grown, produced, or manufactured or from where the incidental Works/ Services are arranged and supplied. For purposes of this Clause, the term 'Goods' shall have the meaning as defined in GCC-clause 1.2.

6.5 Option Quantity Clause:

If invoked explicitly in the contract, the Procuring Entity shall reserve the right, but without any obligation to do so, to increase or decrease the ordered quantity upto a percentage specified therein (or 25% if not specified) at any time, till the final delivery date of the contract, by giving reasonable notice and commensurate delivery period, even though the quantity ordered initially has been supplied in full before the last date of Delivery Period.

6.6 Spare parts in Supply of Capital Goods/ Machinery and Plant

1) If SCC/ Contract declares it to be the procurement of Capital Goods/ Machinery & Plant, the contractor shall supply/ provide any or all of the following materials, information etc. about spare parts manufactured and/ or supplied by them:

   (a) The spare parts as selected by the Procuring Entity to be purchased from the contractor, subject to the condition that such purchase of the spare parts shall not relieve the contractor of any contractual obligation including warranty obligations; and

   (b) In case the production of the spare parts is discontinued within the service life of the equipment supplied hereunder (or a period stipulated in the contract):

      (i) sufficient advance notice to the Procuring Entity before such discontinuation to provide adequate time for it to purchase the required spare parts etc., and

      (ii) immediately following such discontinuation, as and if requested by the Procuring Entity, provide free of cost the designs, drawings, layouts, specifications, and alternative sources of supply of such spare parts.

2) the contractor shall carry sufficient inventories to assure ex-stock supply of consumable spares for the Goods so that the same is supplied to the Procuring Entity promptly on receipt of the order from the Procuring Entity.

6.7 Warranty/ Guarantee

If so stipulated in the SCC/ Contract, the following warranty/ Guarantee clause shall apply:

1) the contractor hereby covenants that it is a condition of the contract that all Goods supplied to the Procuring Entity under this contract shall be free of all defects and faults arising from design, materials (except when the design adopted and/ or the material used are as per the Procuring Entity's specifications) or workmanship or from any act or omission of the contractor, that may develop under regular use of the supplied Goods under the conditions prevailing in India.

2) Unless otherwise indicated in the contract, the contractor also guarantees that the said Goods would continue to conform to the description and quality as aforesaid, for 30 months after their delivery or 24 months from the date of placement in service (e.g., installation and commissioning), whichever shall be sooner.

3) Obligations of the contractor under the warranty clause shall survive even though:

   (a) The Goods may have been inspected, accepted, installed/ commissioned and paid for by the Procuring Entity.
   (b) The contract is terminated for any reason whatsoever.

4) The Procuring Entity shall promptly notify in writing to the contractor, If during the period above, the said goods/ stores/ articles are discovered not to conform to the description and quality or have deteriorated, otherwise than by fair wear and tear (the decision of the Procuring Entity in that behalf being final and conclusive).

5) Upon receipt of such notice, the contractor shall, within 14 days (or within any other period, if stipulated in the contract), expeditiously repair or replace the defective Goods or parts thereof, free of cost, at the ultimate destination. The Contractor shall take over the replaced parts/ Goods after providing their replacements, and no claim shall lie on the Procuring Entity for such replaced parts/ Goods after that.

6) A penalty of 0.5% (half per cent) of the contract value for the delay in response time beyond specified time as detailed above shall be recoverable from the Performance/ Warrantee Guarantee or as per GCC-clause 10.4 below. The maximum penalty for warranty failure will be 5% (Five percent) of the contract value during the whole warranty period. If there is further such delay after reaching this limit, Procuring Entity shall be entitled to encashment of whole of Performance/ Warrantee Guarantee Bonds. In such an event, action similar to GCC-clause 9.10 for inordinate delays would also be taken.

7) In case of any rectification of a defect or replacement of any defective Goods during the warranty period, the warranty for the rectified/ replaced Goods shall remain till the original warranty period.

8) If the contractor, having been notified, fails to rectify/ replace the defect(s) within 21 days (or within any other period, if stipulated in the contract), it shall amount to breach of Contract for default under GCC-clause 12.1, and the Procuring Entity shall avail any or all remedial action(s) thereunder.

6.8 Additional Conditions for Rate Contracts

If SCC/ Contracts stipulates explicitly that this is a “Rate Contract” for the supply of the Goods outlined in the Contract during the period therein specified, then the following additional Contract Conditions shall be applicable:

6.8.1 Quantity Contracted-for

1) The Rate Contract is only a standing offer from the Contractor. Subject as hereinafter mentioned, no guarantee is given as to the number or quantity of the Goods which shall be ordered during the period of the rate contract.

2) The Procuring Entity undertakes to place the supply (withdrawal/ off-take) orders for Goods detailed in the Contract at the terms and prices mentioned therein.

3) However, they reserve the right to obtain from any source any Goods referred to in the Contract to meet an emergency or for values less than the threshold specified in the Contract (Rs 1.5 - one and a half - Lakhs, if not specified) if the Procuring Entity is satisfied that the Contractor is not in a position to supply specific quantities of Goods within the period in which these are required.

6.8.2 Applicability of Fall Clause

GCC-clause 10.1.6 shall be expressly applicable to Rate Contracts.

6.8.3 Supply Orders and Deliveries

1) Supply (withdrawal/ offtake) orders for obtaining supplies through the rate contract, incorporating a definite quantity of Goods along with all other required conditions following the rate contract terms, shall be issued by the Procuring Entity or its nominated Direct Demanding Officers (D.D.O.). Such DDOs shall be nominated and authorised during the contract period by the Procuring Entity to place such Supply orders directly on the Contractor.

2) The Contract shall deliver the quantities thus ordered as per the terms and conditions of the Supply Order and the Rate Contract.

3) Procuring Entity is entitled to place supply orders up to the last day of the validity of the rate contract and, though supplies against such supply orders shall be affected beyond the validity period of the rate contract, all such supply shall be guided by the terms & conditions of the rate contract.

6.8.4 Monetary limits for indents

The Procuring Entity may stipulate an upper threshold of value of Supply Orders directly placed by DDOs on the Contractor during the Contract Period. Except with prior approval of the Procuring Entity, the Contractor shall not comply with the supply orders directly received from the DDOs, more than such threshold amount.

6.8.5 Right to repeat competitive bidding

1) Procuring Entity reserves the right to undertake repeat competitive bidding through open/ advertised tenders on the same terms & conditions, including specifications during the validity period of existing valid R/Cs.

2) In such cases, the existing R/C holders can bid, apart from the new eligible bidders, and equal and fair opportunity would be provided.

3) If the prices received are found lower than the existing R.C. prices, new R/Cs may be awarded at reduced prices.

4) Existing R/Cs at higher prices may be short-closed, giving adequate notice if they do not match such reduction in prices under the fall clause (GCC-clause 10.1.6).

6.8.6 Short-closing or Renegotiation of the Rate Contract

During the currency of the Rate Contract, the Procuring Entity can short-close the rate contract or renegotiate the price by serving a suitable notice of thirty days.

6.8.7 Renewal of Rate Contracts

In case it is not possible to conclude new rate contracts before the expiry of existing ones, due to some exceptional reasons, the existing rate contracts would be extended with identical terms, conditions etc., for a suitable period, with the consent of the rate contract holders. Rate contracts of the firms, who do not agree to such extension, shall be left out. The period of such extension would generally not be more than three months.

7. Inspection and Quality Assurance

7.1 Tests and Inspections

1) The `Technical Specification and Quality Assurance' (Section VII) shall specify inspections and tests (including raw materials and/ or stage inspections, if so specified) to be carried out and where and how they are to be conducted. If such inspections and tests are conducted in the premises of the contractor or its subcontractor(s), all reasonable facilities and assistance, including access to relevant drawings, design details and production data, shall be furnished by the contractor to the Procuring Entity's inspector at no charge to the Procuring Entity.

2) The Procuring Entity and/ or its nominated representative(s) shall, without any extra cost to the Procuring Entity, inspect and/ or test the ordered Goods and the incidental Works/ Services to confirm their conformity to the contract specifications and other quality assurance details incorporated in the contract. As soon as a consignment is getting ready, the contractor shall submit a request for inspection to the Inspecting Officer and the Procuring Entity. The Inspecting Officer shall inform the contractor in writing of its programme for such inspection and the officials' identity to be deputed for this purpose.

3) If so stipulated in the contract, the contractor shall, before proceeding with bulk manufacture or delivery of the Goods, submit to the Inspecting Officer for inspection samples of the specified raw-material used in the manufacture and/ or the Goods as stipulated in the contract or by the Inspecting Officer. However, the Contractor shall not be entitled to be shown any consideration or give any extension of time or claim to be exonerated from completing the delivery within the stipulated period only on the ground of delay in the approval of any such sample.

4) Unless otherwise provided for in the contract, if the test proves satisfactory and the stores or any instalment thereof is accepted, the quantity of the stores or materials expended in the test shall be deemed to have been taken delivery of by the Purchaser and be paid for as such.

5) Unless otherwise stipulated, in the contract, all costs of tests and inspections (including any special or third-party tests), whether at the contractor's premises, shall be borne by the contractor. However, in case of stipulation for type testing/ proto-type testing of machinery and plant involving special tests, the contract shall indicate the apportionment of test and expended material costs among the parties.

6) Under no circumstances does the Inspecting officer have the authority to modify the governing specifications, approved drawings, or samples during inspection without the Procuring Entity's approval.

7.2 Consequence of Rejection

Upon the Goods being rejected by the Inspecting Officer or Interim Consignee or Consignee at a place other than the premises of the contractor, the Procuring Entity shall be at liberty to:

1) Demand that such stores shall be removed by the contractor at his cost subject as hereinafter stipulated, within 21 days of the date of intimation of such rejection. Provided that the Inspecting Officer may call upon the contractor to remove dangerous, infected, or perishable stores within 48 hours of the receipt of such communication and the decision of the Inspecting Officer in this regard shall be final in all respects. Provided further that where the price or part thereof has been paid, the consignee is entitled without prejudice to his other rights to retain the rejected stores till the price paid for such stores is refunded by the contractor or dispose off such rejected Goods as per clause below save that such retention shall not in any circumstances be deemed to be acceptance of the stores or waiver of rejection thereon. The Contractor shall bear all cost of such replacement, including taxes and freight, if any, on replacing and replacing Goods without being entitled to any extra payment on that or any other account.

2) All rejected Goods shall, in any event, and circumstances remain and always be at the contractor's risk immediately on such rejection. If the contractor does not remove such Goods within the periods aforementioned, the Procuring entity /inspecting officer, as the case may be as per the place of rejection, may remove the rejected Goods. The Procuring Entity or Inspecting Officer may either return the same to the contractor at his risk and cost by such mode of transport as it may decide or dispose off such Goods at the contractor's risk and on his account and retain such portion of the proceeds from such disposal, as may be necessary to recover any expense incurred in connection with such disposals (or any price refundable as a consequence of such rejection). The Procuring Entity shall, in addition, be entitled to recover from the contractor ground rent/ demurrage charges on the rejected Goods after the expiry of the time-limit mentioned above.

3) Disposal of rejected goods in an aforesaid manner shall not exonerate contractor but still hold him liable to pay to the procuring entity, the dues as may arise as per the terms of contract besides the cost of goods if already paid to the contractor and any inspection charges. The Purchaser can take action as per contract terms if the contractor fails to pay the amount due to him.

4) where under the contract the price payable is fixed F.O.R. dispatching station, the contractor shall, if the Goods are rejected at destination by the consignee, be liable, in addition to his other liabilities, including a refund of price recoverable in respect of the Goods so rejected, to reimburse to the Procuring Entity the freight and all other expenses incurred by it in this regard. The Contractor shall be allowed to take back rejected Goods only after such refunds are received by the Procuring Entity.

7.3 Inspections at the last moment

1) If the contract stipulates pre-despatch inspection of the ordered Goods at Contractors premises, he shall put up the Goods for inspection well ahead of the delivery period to complete the inspection within that period.

2) In cases where only a portion of the Goods ordered is tendered for inspection at the last moments of the delivery period and also in cases where inspection is not completed in respect of the portion of the Goods tendered for inspection during the

delivery period, the inspector shall carry out the inspection and complete the formality beyond the contractual delivery period at the specific written request by and at the risk and expense of the contractor. The fact that the Goods have been inspected after the contractual delivery period shall not amount to keeping the contract alive, and this shall be without any prejudice to the legal rights and remedies available to the Procuring Entity under the terms & conditions of the contract.

3) If the Goods tendered for inspection during or at the last moments of the delivery period are not found acceptable after carrying out the inspection, the Procuring Entity is entitled to cancel the contract in respect of the same at the risk and expense of the contractor. If the Goods tendered for inspection are found acceptable, the Procuring Entity may grant an extension of the delivery period subject to conditions mentioned in GCC-clause 9.11 below.

7.4 Consignee's right of Rejection of Inspected Goods

1) Goods accepted by the Procuring Entity and/ or its inspector at the initial inspection and final inspection in terms of the contract shall in no way dilute the Procuring Entity's right to reject the same later if found deficient concerning 'Technical Specifications and Quality Assurance'.

2) Notwithstanding any approval which the Inspecting Officer may have given in respect of the Goods or any materials or other particulars or the work or workmanship involved in the performance of the contract (whether with or without any test carried out by the contractor or the Inspecting Officer or under the direction of the Inspecting Officer) and notwithstanding delivery of the Goods where so provided to the interim consignee, it shall be lawful for the consignee, on behalf of the Procuring Entity, to inspect, test and, if necessary, reject the Goods or any part, portion or consignment thereof, after the Goods' arrival at the final destination within a reasonable time after actual delivery thereof to him at the place of destination stipulated in the contract, if such Goods or part, portion or consignment thereof is not in all respects in conformity with the terms and conditions of the contract whether on account of any loss, deterioration or damage before despatch or delivery or during transit or otherwise howsoever.

Note: Regarding materials pre-inspected at the firm's premises during manufacture or before delivery or dispatch, the consignee shall issue rejection advice within 90 days from the date of receipt.

8. Packing, Transportation, Insurance and Receipt

8.1 Packing Specifications and Quality

1) The marking of the Goods must comply with the Goods of the laws relating to merchandise marks for the time being in force in India.

2) The packing for the Goods to be provided by the contractor should be strong and durable enough to withstand, without limitation, the entire journey during transit, including transhipment (if any), rough handling, open storage etc., without any damage, deterioration etc. If necessary, the size, weights, and volumes of the packing cases, the remoteness of the goods' final destination, and availability or otherwise of transport and handling facilities at all points during transit upto the final destination shall also be considered.

3) The quality of packing, the manner of marking within & outside the packages, and accompanying documentation shall strictly comply with the `Technical Specification and Quality Assurance' and in the contract. If the packing requirements are amended due to any amendment to the contract, the contractor shall comply accordingly.

4) Unless otherwise provided in the contract, all containers (including packing cases, boxes, tins, drums, and wrappings) in which the contractor supplies the Goods shall be considered non-returnable and their cost included in the contract price.

5) If the contract provides that the containers shall be returnable, they must be marked 'returnable'. Unless otherwise specified, the cost of reverse transportation shall be borne by the contractor.

6) If the contract provides that returnable containers shall be separately charged, they shall be invoiced by the contractor at a price stipulated in the contract. In such cases, the contractor shall give full credit for the invoiced amount if the containers are returned to the contractor. Return of containers shall be made within a reasonable time, and in the event of any dispute or difference arising as to whether the containers were so returned, the decision of the Procuring Entity thereon shall be final and binding. In his discretion, the Procuring Entity may award such compensations as may, in his opinion, be proper for any undue delay in returning the containers.

8.2 Packing instructions

Unless otherwise mentioned in the `Technical Specification and Quality Assurance' under Sections VII and SCC under Section V, the contractor shall make separate packages for each consignee (in case there is more than one consignee mentioned in the contract) and mark each package on three sides with the following with indelible paint of proper quality:

1) An iconic graphical mark to visually identify a particular consignment.

2) Name of the Procuring Entity; contract number and date

3) brief description of Goods including quantity.

4) the gross weight of the package

5) Serial number of this package and the total number of packages in the consignment

6) packing list reference number

7) country of origin of goods

8) consignee's name and full address and

9) Contractor's name and address

8.3 Transfer of Title of Goods

1) Unless otherwise stated in the contract, notwithstanding any inspection and approval by the Inspecting Officer on the contractor's premises, or any payments made to the contractor, property in the Goods (and resultant rights and liabilities) shall not pass on to the Procuring Entity until the Goods have been received, inspected, and accepted by the consignee. The Goods and every constituent part thereof, whether in the possession or control of the contractor, his agents or servants or a carrier, or the joint possession of the contractor, his agents or servants and the Procuring Entity,

his agents, or servants, shall remain in every respect at the risk of the contractor, until their actual delivery to a person stipulated in the contract as the interim consignee for despatch to the consignee. The Contractor shall be responsible for all loss, destruction, damage, or deterioration of or to the Goods from any cause whatsoever while the Goods after approval by the Inspecting Officer are awaiting despatch or delivery or are in the course of transit from the contractor to the consignee or, as the case may be, interim consignee. The Contractor shall alone be entitled and responsible for making claims against any carrier in respect of non-delivery, short delivery, mis-delivery, loss, destruction, damage, or deterioration of the Goods entrusted to such carrier by the contractor for transmission to the consignee or the interim consignee as the case may be.

2) Provided that where, under the terms of the contract, the Goods are required to be delivered to an interim consignee for despatch to the consignee, the Goods shall be at the Procuring Entity's risk after their delivery to the interim consignee.

8.4 Transportation

8.4.1 Instructions for transportation of domestic Goods

If no instruction is provided in the contract, the contractor shall arrange transportation of the ordered Goods as per its procedure.

8.4.2 Shipping Arrangement for Foreign Contracts:

In the case of FOB/ FAS contracts, shipping arrangements shall be made by the Procuring Entity. The Contractor shall give adequate notice to the Procuring Entity and its Forwarding Agents/ Nominees about the readiness of the cargo from time to time and at least six weeks' notice in advance of the required date of dispatch for finalising the shipping arrangements. In the case of CFR contracts, the contractor shall arrange the shipment as per the instructions from the Procuring Entity.

8.4.3 Airlifting

Should the Procuring Entity intend to airlift all or some of the Goods, the contractor shall pack the Goods accordingly upon receiving intimation to that effect. Such deliveries shall be agreed upon well in advance and paid for as may be mutually agreed.

8.4.4 Distribution of Despatch Documents for Clearance/ Receipt of Goods

1) the contractor shall send all the relevant despatch documents well in time to the Procuring Entity to enable it to clear or receive (as the case may be) the Goods in terms of the contract. Unless otherwise stipulated in the contract, the usual documents involved and the drill to be followed in general for this purpose are as follows:

2) For Domestic Goods within 24 hours of despatch, the contractor shall notify the Procuring Entity, consignee, and others concerned, if mentioned in the contract, the complete details of despatch and also supply the following documents (as relevant) to them by registered post/ speed post/ courier besides advance intimation by digital means (or as instructed in the contract or SCC):

   (a) the contractor's Invoice indicating, inter alia description and specification of the Goods, quantity, unit price, total value;
   (b) Packing list;
   (c) Insurance certificate;
   (d) Railway receipt/ Road Consignment note;
   (e) Manufacturer's guarantee certificate and in-house inspection certificate;
   (f) Inspection certificate issued by the Procuring Entity's inspector
   (g) Expected date of arrival of goods at destination and
   (h) Any other document(s), as and if mentioned explicitly in the contract.

3) For Imported Goods, within 3 days of despatch, the contractor shall notify the Procuring Entity, consignee and other concerned, if mentioned in the contract, the complete details of despatch and also supply the following documents to them by Courier (or as instructed in the contract), besides advance intimation by digital means:

   (a) Clean on-Board Airway Bill/ Bill of Lading (B/ L)
   (b) Original Invoice
   (c) Packing List
   (d) Certificate of Origin from Seller's Chamber of Commerce
   (e) Certificate of pre-despatch inspection by the Procuring Entity's representative/ nominee
   (f) Certificate of Quality and current manufacture from OEM
   (g) Dangerous Cargo Certificate, if any.
   (h) Insurance Policy of 110% if CIF contract.
   (i) Performance Bond/ Warranty Bond

8.5 Freight

The Goods shall be despatched at public tariff rates. In the case of F.O.R. station of despatch contract, the Goods shall be booked by the most economical route or most economical tariff available at the time of despatch as the case may be. Failure to do so shall render the contractor liable for any avoidable expenditure caused to the Procuring Entity. Where alternative routes exist, the Procuring Entity shall, if called upon to do so, indicate the most economical route available or name the authority whose advice in the matter shall be taken and acted upon. If any advice of any such authority is sought, his decision or advice in the matter shall be final and binding on the contractor,

8.6 Insurance

Unless otherwise instructed in the contract, the contractor shall arrange for insuring the Goods against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery in the following manner:

1) In case of domestic goods supply on CIF/ FOR destination basis, the contractor shall be responsible until the entire Goods contracted arrive in good condition at destination. The contractor shall cover the transit risk in this respect by getting the Goods duly insured at its own cost. The contractor shall obtain the insurance cover in its name and not in the name of the Procuring Entity or its Consignee.

2) In FOB and CFR offers for the import of Goods, the insurance shall be arranged by the Procuring Entity. However, the contractor must give sufficient notice to the Procuring Entity before the date of shipment so that the Insurance Cover for the shipment can be activated. The Contractor must co-ordinate to ensure that the Shipment sails only with Insurance cover in place.

3) In case of import of goods, even when the Procuring Entity pays the insurance, it shall entirely be the contractor's responsibility to make good loss/ damage without waiting for settlement of insurance claim so that equipment is commissioned within the time stipulated in the contract. After the insurance claim settlement, reimbursement shall be made by the Procuring Entity to the contractor.

8.7 Receipt of Consignment

8.7.1 Preliminary Acknowledgement

At the time of the delivery at the destination, the consignee shall receive the Goods on a "subject to inspection and acceptance in terms of contract" basis and shall issue the preliminary receipt to acknowledge having received the claimed quantity (not the quality) of consignment.

8.7.2 Goods Receipt and Inspection Report

If the received consignment successfully passes the quantity and quality checks, procuring Entity shall issue a Goods Receipt and Inspection Report (GRIR, or a similar voucher by any other name). The contractor may claim payment based on this document inter-alia other specified documents.

8.7.3 Rejection of Consignment by the Consignee

If the received consignment or part thereof fails to pass quantity and quality checks, the Procuring Entity shall issue a Rejection Note, noting the reasons for rejection. The Paying Authority shall recover any part payment or freight charges paid for the rejected consignment. The Contractor shall take back the rejected consignment as per GCC-clause 7.2 above within 21 days unless otherwise stipulated in the contract.

8.7.4 Short Receipt Certificate

If the quantity received is less than claimed/ invoiced, GRIR/Rejection Note shall be issued only for the received quantity. In such cases, a short receipt certificate shall also be issued by the consignee.

8.7.5 Perishable Goods

For Goods with a limited shelf life, the contractor shall ensure that at least 75% (or any other percentage stipulated in the contract) of shelf life remains a balance on delivery date.

The Procuring Entity reserves its rights to reject expired or products with less than such specified shelf life.

9. Terms of Delivery and delays

9.1 Effective Date of Contract

The effective date of the contract shall be the date on which it has been signed by the Procuring Entity or the effective date mentioned in the contract, whichever is later. If the procurement entity receives no communication from the contractor within 14 days of the date signed by the procuring entity or the date of sending it to the contractor, whichever is later, then the date of signing shall be the effective date of the contract. The dates of deliveries shall be counted from such date. No notice to commence the contract shall be issued separately.

9.2 Time is the Essence of the contract

The time for and the date for delivering the Goods stipulated in the contract or as extended shall be deemed to be of the essence of the contract. Delivery must be completed not later than the date(s) so specified or extended.

9.3 Destination Places

The destination(s) where the Goods are to be delivered shall be as stipulated in the contract or Section VI – Schedule of Requirements.

9.4 Terms of Delivery

1) Terms of delivery (e.g., F.O.R. destination/ CIF/ DAP etc.) shall determine the point at which the responsibilities and property in goods passes over from the contractor to the Procuring Entity. These terms also determine the time of delivery.

2) the contractor shall either deliver free or F.O.R. or C.I.F. at the place/ places or otherwise as detailed in the contract, the quantities of the Goods detailed therein, and the Goods shall be delivered or despatched not later than the dates stipulated in the contract. The delivery shall not be complete unless the Goods are inspected and accepted by the Consignee as provided in the contract. No Goods shall be deliverable to the consignee on Sundays and public holidays or outside designated working hours without the written permission of the consignee.

3) the contractor shall not despatch the Goods after the expiry of the delivery period. The Contractor must apply to the Procuring Entity to extend the delivery period and obtain the same before despatch. If the contractor despatches the Goods without obtaining an extension, it would be doing so at its own risk, and no claim for payment for such supply and/ or any other expense related to such supply shall lie against the Procuring Entity.

9.5 Part Supplies

The Contractor shall not arrange part-shipments and/ or transhipment if not stipulated in the contract without the express/ prior written consent of the Procuring Entity.

9.6 Progressing of Deliveries

The Contractor shall allow reasonable facilities and free access to his Works/ records to the Inspecting Officer or such other Officer as may be nominated by the Procuring Entity to

ascertain the progress of the deliveries under the contract. The Contractor shall, from time-to-time, render such reports concerning the progress of the contract and/ or supply of the Goods in such form as may be required by the Procuring Entity. The submission, receipt and acceptance of such reports shall not prejudice the rights of the Procuring Entity under the contract, nor shall operate as an estoppel against the Procuring Entity merely because he has not taken notice of/ or subjected to test any information contained in such report.

9.7 Notification of Delivery.

Notification of delivery or despatch regarding every instalment shall be made to the consignee and to the Procuring Entity immediately on despatch or delivery. The Contractor shall further supply to the consignee, or the interim consignee, as the case may be, packing list of the consignment and the contract references. All packages, containers, bundles, and loose materials part of every instalment shall be fully described in the packing list, and complete details of the contents of the packages and quantity of materials shall be given to enable the consignee to check the Goods on arrival at destination. The Railway Receipt/ Consignment Note or Bill of Lading shall be forwarded to the consignee by registered post/ Courier/ by hand immediately on the despatch of Goods. The Contractor shall bear and reimburse the Procuring Entity demurrage/ wharfage or other charges, if any, paid because of delay on the contractor's part in forwarding the Railway Receipt, Consignment Note or Bill of Lading.

9.8 Dispatches at the last moment or after the expiry of the delivery

1) If the contractor locally supplies a consignment after the expiry of the contracted delivery date, the Consignee may either refuse to receive it or receive it without prejudice to the rights of the Procuring Entity under the terms and conditions of the contract. Such consignments shall lie at the risk and responsibility of the contractor. Such a receipt by the consignee shall not acquiesce or condone the late delivery and shall not intend or amount to an extension of the delivery period or keeping the contract alive. The Contractor must obtain an extension of the delivery date/period from the Procuring Entity.

2) As regards supplies coming from outside, if the contractor dispatches the Goods after the expiry of the delivery period, it shall be at his own risk and responsibility, and that the consignee is not liable for any demurrage, wharfage, and deterioration of Goods at the destination station and, in his interest, the contractor shall get an extension of the delivery period from the contracting Entities.

3) In the case of imports, the contractor must not dispatch the consignment after the expiry of the delivery period without taking a prior extension of the delivery period. Otherwise, payment against the LC shall be denied. If dispatched, it shall be at the risk and responsibility of the contractor and procuring entity shall not take any responsibility for such consignments.

9.9 Delay in the contractor’s performance

If the contractor fails to deliver the Goods or any instalment thereof or delays incidental Work/ Services (e.g. installation, commissioning, operator training etc.) within the period fixed for such delivery in the contract or as extended or at any time repudiates the contract before the expiry of such period, the Procuring Entity may without prejudice to his other rights:

1) recover from the contractor liquidated damages as per clause 9.12 below, or

2) treat the delay as a breach of contract as per clause 12.1 below and avail all the remedies therein.

9.10 Inordinate Delays

Inexcusable delays of more than one-fourth (25%) of the total completion period shall be treated as inordinate delays. Such inordinate delays shall be noted as poor performance and be held against the contractor in future tenders. A show-cause notice shall be issued to the contractor before declaring it a poor performance. Such delays may be considered as a breach of the contract at the option of the Procuring Entity.

9.11 Extension of Delivery Period:

1) If at any time during the currency of the contract, the contractor encounters conditions hindering timely delivery of the Goods and performance of incidental Works/ Services, he shall promptly inform the Procuring Entity in writing about the same and its likely duration. He must make a request to the Procuring Entity for an extension of the delivery schedule. On receiving the contractor's communication, the Procuring Entity shall examine the situation and, at its discretion, may agree to extend the delivery schedule, with or without liquidated damages and with and without denial clause by issuing an amendment to the contract.

2) **Conditions for Extension of Delivery Period:** When the period of delivery is extended due to unexcused delay by the contractor, the amendment extending the delivery period shall, inter alia, be subject to the following conditions:

   (a) **Liquidated Damages:** The Procuring Entity shall recover from the contractor, under the provisions of this clause, liquidated damages on the Goods and incidental Works/ Services, which the contractor has failed to deliver within the delivery period stipulated in the contract.

   (b) **Denial Clause:**

      (i) No increases in price on account of any statutory increase in or fresh Imposition of GST, customs duty or on account of any other taxes/ duty/ cess/ levy), leviable in respect of the Goods and incidental Works/ Services stipulated in the said contract which takes place after the original delivery date, shall be admissible on such of the said Goods, as are delivered after the said date; and

      (ii) Notwithstanding any stipulation in the contract for an increase in price on any other ground, including price variation clause or foreign exchange rate variation, or any other variation clause, no such increase after the original delivery date shall be admissible on such goods delivered after the said date.

      (iii) Nevertheless, the Procuring Entity shall be entitled to the benefit of any decrease in price on account of reduction in or remission of GST, customs duty or on account of any other Tax or duty or any other ground as stipulated in the price variation clause or foreign exchange rate variation or any other variation clause which takes place after the expiry of the original delivery date.

9.12 Liquidated damages

1) Subject to GCC clause 9.11, if the contractor fails to deliver any or all of the Goods or fails to perform the incidental Works/ Services (e.g. installation, commissioning or operator training) within the time frame(s) incorporated in the contract, the

Procuring Entity shall, without prejudice to other rights and remedies available to the Procuring Entity under the contract, deduct from the contract price, as agreed liquidated damages, but not as a penalty, a sum equivalent to the ½% percent (or any other percentage if prescribed in the contract) of the delivered price (including elements of GST & freight) of the delayed Goods and/ or incidental Works/ Services for each week of delay or part thereof until actual delivery or performance, subject to a maximum deduction of the 10% (or any other percentage if prescribed in the contract) of the delayed Goods' or incidental Works/ Services' contract price(s). Besides liquidated damages during such a delay, the denial clause as per GCC-clause 9.11-2(b) shall also apply.

2) Any failure or delay by any sub-contractor, though their employment may have been sanctioned under GCC-clause 5.5 above, shall not be admitted as a ground for any extension of time or for exempting the contractor from liability for any such loss or damage as aforesaid.

9.13 Force Majeure

1) On the occurrence of any unforeseen event, beyond the control of either Party, directly interfering with the delivery of Services arising during the currency of the contract, such as war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts, or acts of God, the affected Party shall, within a week from the commencement thereof, notify the same in writing to the other Party with reasonable evidence thereof. Unless otherwise directed by the Procuring Entity in writing, the contractor shall continue to perform its obligations under the contract as far as reasonably practicable and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event. If the force majeure condition(s) mentioned above be in force for 90 days or more at any time, either party shall have the option to terminate the contract on expiry of 90 days of commencement of such force majeure by giving 14 days' notice to the other party in writing. In case of such termination, no damages shall be claimed by either party against the other, save and except those which had occurred under any other clause of this contract before such termination.

2) Notwithstanding the remedial provisions contained in GCC-clause 9.12 or 12.1, none of the Party shall seek any such remedies or damages for the delay and/ or failure of the other Party in fulfilling its obligations under the contract if it is the result of an event of Force Majeure.

10. Prices and Payments

10.1 Prices

10.1.1 Charged Prices

Prices to be charged by the contractor for the supply of Goods and provision of incidental Works/ Services in terms of the contract shall not vary from the corresponding prices quoted by the contractor in its bid or during negotiations, if any, and incorporated in the contract except for any price adjustment authorized in the contract.

10.1.2 Controlled Prices

1) The price charged by the contractor shall not be higher than the controlled price fixed by law for the Goods, or where there is no controlled price, it shall not exceed the minimum of Maximum Retail Price (MRP) at which the same or similar Goods are available in the market in the relevant region, or contravene the norms for fixation of prices laid down by Government, or where the Government has not fixed such prices or norms, it shall not exceed the price appearing in any agreement relating to price regulation by any industry in consultation with the Government.

2) **Penalties for overcharging:** If the sub-clause above is violated, unless the contractor had explicitly mentioned this fact in his bid giving reasons for quoting a higher price (s), or makes any mis-statement, it shall be lawful for the Procuring Entity to:

   (a) annul the award and treat it as a misdemeanour as per the contract and take any or all punitive remedies available thereunder, or
   (b) without annulling the award, take action as per GCC-clause 10.4 to recover the overcharged amount, or
   (c) treat it as a breach of contract as per GCC-Clause 12.1 and avail any or all remedies thereunder.

10.1.3 Price Components and Incidental Works/ Services

Unless otherwise stated in the contract, The Procuring Entity shall not pay for consignment of incomplete components unless the full useable Scope of Goods (as per the contract/ Schedule of Requirement) has been received. Deficiencies in incidental Works/ Services shall also amount to incomplete delivery. Spares would not be paid for unless the primary Goods are received.

10.1.4 Firm Prices

Unless otherwise stipulated in the contract, Prices shall be fixed and firm. If a Price Variation Clause, an Exchange Rate Variation Clause, or any other variation clause is included, such up and down variations shall also be payable as per clause 10.3.3 below.

10.1.5 Price Variation and Exchange Variation Clause

(a) In case the contract provides for a Price Variation Clause or Exchange Rate variation clause or variation on any other account, the price shall be subject to adjustment as per such clauses, only during the original Delivery Period, subject to the following:
(b) Any increase due to such variations during the extended delivery period, beyond the original delivery period, shall not be paid by the Procuring Entity; however, it shall be entitled to any reduction during this period under the GCC-clause 9.11-2)b) (Denial Clause).
(c) Taxes and duties, if any, chargeable and payable on the Goods shall be charged on the nett price after variations.
(d) While claiming payments where such variations are applicable, the contractor must submit its calculations for each invoice, even if the payment on account of these variations is nil. Prices reduction due to such variations must be passed on to the Procuring Entity.
(e) **No Other Claim due to Variations:** With the payment of such variations, no additional individual claim shall be admissible on account of fluctuations in market rates, increase in taxes/any other levies/tolls etc.

1) **Price Variation Clause**

(a) If the Price Variation clause is applicable as per the contract, the price shall be subject to adjustment to take care of the changes in the cost of labour, material, and fuel/ power components as per the price variation formula specified therein. The amount payable on account of Price variation shall be settled every quarter.

(b) **Base Month and Quarter:** Unless otherwise stipulated in the contract, the Base Month for 'Price Variation Clause' shall be taken as the month before the month of the last date of bid submission, if any, unless otherwise stated elsewhere. The Base Quarter for applicability of PVC shall end on the Base Month. Unless The Contract has stipulated a different time lag for reckoning Price Variation, the month of reckoning the variated price shall be the month before the month in which delivery has been made. The Quarter of reckoning for applicability of PVC shall end on the Month of reckoning. The Price Variation shall be based on the relevant Indices in the Base Quarter and Quarter of reckoning.

(c) **Applicability:** If Contract provides for some inputs to be supplied by Procuring Entity free or at a fixed rate, cost of such inputs shall be excluded from the value of the Goods supplied in the relevant quarter for payment/recovery Of price variation.

2) **Exchange Rate Variation Clause**

(a) The contract shall indicate import content and the currency used for calculating import content. The Base Exchange rate of each significant currency used for calculating the Foreign Exchange content of the contract shall be as prevailing on the last deadline for submission of Techno-commercial Bids, and variation beyond the base Exchange Rate shall be calculated up to the midpoint of the delivery period unless the bidder has already indicated the schedule within which the bidder shall import material.

(b) Unless otherwise stipulated in the contract, documents for claiming ERV shall be:

(i) A bill of ERV claim enclosing working sheet.
(ii) Banker's Certificate/ debit advice detailing F.E. paid and exchange rate as on the date of the relevant transactions.
(iii) Copies of import order/agreement placed by the contractor on its Suppliers.
(iv) Invoice of Contractor's Suppliers for the relevant import order

10.1.6 Fall Clause

This clause shall be applicable only if explicitly invoked in SCC. Nevertheless, Fall Clause shall be expressly applicable in case of Rate Contract:

1) The price charged for the Goods supplied under the contract by the contractor shall in no event exceed the lowest price at which the contractor sells the Goods or offers to sell Goods of identical description, to any persons/ organisations including the Procuring Entity or any Department or Undertaking of the Central Government, as the case may be during the currency of the contract. Contractor shall forthwith notify such reduction or sale or offer of sale to the Procuring Entity and the price payable under the contract for the Goods supplied after the date of coming into force or such reduction or sale or offer of sale shall stand correspondingly reduced.

2) The above stipulation shall, however, not apply to:

(a) Exports by the contractor
(b) Sale of Goods as original equipment at prices lower than the prices charged for normal replacement

(c) Sale of perishable Goods having a limited shelf life, such as drugs that have expiry dates

3) the contractor shall furnish the following certificate to the concerned Accounts Officer with each bill for payment of supplies made against the contract.

> ** We certify that there has been no reduction in the sale price of the Goods of description identical to the Goods supplied to the Procuring Entity under the contract herein, and such Goods have not been offered/ sold by me/ us to any person/ organisation including any Ministry/ Department/ Attached and Subordinate Office/ Public Sector Undertaking of Central or State Government(s) as the case may be upto the date of bill/ the date of completion of Contract at a price lower than the price charged under this contract except for the quantity of Goods categories under (a), (b) and (c) of sub-clause (2) above, details of which are as follows:-"*

10.2 Taxes and Duties

1) the contractor shall be entirely responsible for all taxes, duties, fees, levies etc., incurred until delivery of the Goods to the Procuring Entity. Further instruction, if any, shall be as provided in the contract.

2) If applicable under relevant tax laws and rules, the Procuring Entity shall deduct from all payments and deposit required taxes to respective authorities on account of GST Reverse Charge Mechanism; Tax Deducted at Source (TDS), and Tax Collected at Source (TCS) relating to Income Tax, labour cess, royalty etc.

3) **Payment of GST Tax under the contract:**

(a) The payment of GST and GST Cess to the contractor shall be made only on the latter submitting a GST compliant Bill/ invoice indicating the appropriate HSN code and applicable GST rate thereon duly supported with documentary evidence as per the provision of relevant GST Act and the Rules made there under. The delivery shall be shown being made in the name, location/ state, and GSTIN of the consignee only; the location of the procurement office of the procuring entity has no bearing on the invoicing.

(b) The supply of Goods or services or both, if imported into India, shall be considered as supply under inter-state commerce/ trade and shall attract integrated tax (IGST). The IGST rate and GST cess shall be applicable on the 'Custom Assessable Value' plus the 'Basic Customs duty applicable thereon'.

(c) While claiming reimbursement of duties, taxes etc. (like GST) from the Procuring Entity, as and if permitted under the contract, the contractor shall also certify that in case it gets any refund out of such taxes and duties from the concerned authorities at a later date, it (the contractor) shall refund to the Procuring Entity, the Procuring Entity's share out of such refund received by the contractor. The Contractor shall also refund the appropriate amount to the Procuring Entity immediately on receiving the same from the concerned authorities.

(d) All necessary adjustment vouchers such as Credit Notes/ Debit Notes for any short/ excess supplies or revision in prices or any other reason under the contract shall be submitted to the Procuring Entity in compliance with GST provisions.

(e) Liquidated damages or any other recoveries should be shown as deductions on the invoice, and GST shall be applicable only on the nett balance payment due.

(f) In case of Price Variation or Exchange Rate variation, or any other variation is applicable, GST shall be applicable on the nett invoice value after the variation is taken into account.

(g) GST shall be paid as per the rate at which it is liable to be assessed or has been assessed provided the transaction of the sale is legally liable to such taxes and is payable as per the terms of the contract subject to the following conditions:

(i) The Procuring Entity shall not pay a higher GST rate if leviable due to any misclassification of HSN number or incorrect GST rate incorporated in the contract due to contractor's fault. Wherever the contractor invoices the Goods at GST rate or HSN number, which is different from that incorporated in the contract, payment shall be made as per GST rate, which is lower of the GST rates incorporated in the contract or billed.

(ii) However, the Procuring Entity shall not be responsible for the contractor's tax payment or duty under a misapprehension of the law.

(iii) Bidder is informed that he shall be required to adjust his basic price to the extent required by a higher tax rate billed as per invoice to match the all-inclusive price mentioned in the contract.

(iv) In case of profiteering by the contractor relating to GST tax, the Procuring Entity shall treat it as a violation of the Code of Integrity in the contract and avail any or all punitive actions thereunder, in addition to recovery and action by the GST authorities under the Act.

(v) The contractor should issue Receipt vouchers immediately on receipt of all types of payments along with tax invoices after adjusting advance payments, if any, as per Contractual terms and GST Provisions.

(vi) Liquidated damages or any other recoveries should be shown as deductions on the invoice, and GST shall be applicable only on the nett balance payment due.

4) **Statutory Variation Clause:** Unless otherwise stated in the contract, statutory increase in applicable GST rate only during the original delivery period shall be to Procuring Entity's account. Any increase in the rates of GST beyond the original completion date during the extended delivery period shall be borne by the contractor. The benefit of any reduction in GST rate must be passed on to the Procuring Entity during the original and extended delivery period. However, GST rate amendments shall be considered for quoted HSN code only, against documentary evidence, provided such an increase of GST rates after the last date of bid submission.

5) **Duties/ Taxes on Raw Materials**

The Procuring Entity is not liable for any claim from the contractor on account of fresh imposition and/ or increase (including statutory increase) of GST, customs duty, or other duties on raw materials and/ or components used directly in the manufacture of the contracted Goods taking place during the pendency of the contract unless such liability is expressly agreed to in terms of the contract.

6) **Customs Duty**

Bidder shall specify the rate and the total amount of customs duty payable regarding imported goods. Bidder shall also indicate the corresponding Indian Tariff Classification (ITC-HS) applicable for the Goods in question.

10.3 Terms and Mode of Payment

1) 60% of the payment will be released after the delivery of all equipment and items in satisfactory condition at NIT Srinagar, after due certification by the purchase committee. Balance payment of 40% will only be released after the successful completion, installation and commissioning of the entire Central Heating System at NIT Srinagar, along with skilled manpower.

10.3.1 General Payment condition for payment

1) In Domestic Contracts, payments shall only be made in Indian Rupees. In Global Tenders, payment to foreign bidders shall be made in the currency/ currencies authorized in the contract. However, agency commission and local value addition shall be paid only in Indian Rupees.

2) the contractor shall send its claim for payment in writing as per GST compliant Invoice and documents, when contractually due, along with relevant documents etc., as stipulated in Contract and a manner as also specified therein.

3) While claiming payment, the contractor is also to certify in the bill that the payment being claimed is strictly in terms of the contract and all the obligations on the part of the contractor for claiming that payment has been fulfilled as required under the contract.

4) Unless otherwise specified documents which the contractor is to furnish while claiming payment are:

   (a) Original Invoice (GST Compliant format)
   (b) Certificate of pre-despatch inspection by the Procuring Entity's representative/ nominee, if applicable
   (c) Manufacturer's test certificate, if applicable
   (d) Performance/ Warrantee Bond, if applicable
   (e) Certificate of Insurance, if applicable
   (f) Clean on Bill of lading/ Airway bill/ Rail receipt or any other despatch document, in case of payment against dispatch documents, if so provided
   (g) Consignee's Certificate confirming receipt and acceptance of Goods, in case of payment after receipt and acceptance
   (h) Any other document specified.

5) In a case where the contractor is not in a position to submit its bill for the balance payment for want of receipt certificate from the consignee and the consignee has not complained about the non-receipt, shortage, or defects in the supplies made, the balance amount shall be paid by the paying authority without consignee's receipt certificate after three months from the date of the preceding part payment for the Goods in question, subject to the following conditions:

   (a) The contractor must provide proof that he has given sufficient prior notice in this regard to the Procuring Entity and the concerned Consignee(s), but there has been no response.
   (b) the contractor shall undertake to make good any defect or deficiency that the consignee (s) may report within six months from the date of despatch of Goods.
   (c) Delay in supplies, if any, has been regularized.
   (d) The Contract price, where it is subject to variation, has been finalized.
   (e) the contractor furnishes the following undertakings:

"We, _____ certify that We have not received back the Inspection Note duly receipted by the consignee or any communication from the Procuring Entity or the consignee about non-receipt, shortage or defects in the Goods supplied. We _____ undertake to make good any defect or deficiency that the consignee may report within three months from the date of receipt of this balance payment or six months from the date of despatch, whichever is later.

10.3.2 Advance/ mobilization Payment not allowed:

Payments for supplies made or incidental works/ services rendered shall be released after supplies have been made and only after such incidental works/ services have also been rendered. If expressly provided for in the contract, partial payments against dispatch documents shall not be considered an advance payment for this clause.

10.4 Withholding and lien in respect of sums claimed:

1) Whenever any claim or claims for payment of a sum of money arises against the contractor, out of or under the contract, the Procuring Entity shall be entitled, and it shall be lawful on his part, to withhold and also have a lien to retain such sum or sums, in whole or in part pending finalisation or adjudication of any such claim from-

   (a) any security or retention money, if any, deposited by the contractor.
   (b) any sum(s) payable till now or hereafter to the contractor under the same Contract or any other contract with the Procuring Entity if the security is insufficient or if no security has been taken from the contractor.

2) Where the contractor is a partnership firm or a limited company, the Procuring Entity shall be entitled, and it shall be lawful on his part, to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/ limited company, as the case may be, whether in his capacity or otherwise.
3) It is an agreed term of the contract that the sum(s) of money so withheld or retained under the lien referred above shall be kept withheld or retained till the claim arising out of or under the contract is determined under clause GCC 11 and/ or 12. The contractor shall have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to supra and duly notified as such to the contractor.
4) **Lien in respect of Claims in other Contracts:** Any sum of money due and payable to the contractor (including the security deposit returnable to him) under the contract may be withheld or retained by way of lien by the Procuring Entity or Government against any claim of the Procuring Entity or Government in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Procuring Entity or Government.

10.5 Payment Against Time-Barred Claims

All claims against the Procuring Entity shall be legally time-barred after three years calculated from the date when the payment falls due unless the payment claim has been under correspondence. The Procuring Entity is entitled to, and it shall be lawful for it to reject such claims.

10.6 Commissions and Fees

The Contractor shall disclose any commissions or fees that may have been paid or are to be paid to agents, representatives, or commission agents concerning the selection process or execution and performance of this Contract. The information disclosed must include the name and address of the agent, representative, or commission agent, the amount and currency, and the purpose of the commission or fee in a format similar to Form 1.4 of the Tender Document.

11. Resolution of disputes

11.1 Disputes and Excepted Matters

All disputes and differences between the parties hereto, as to the construction or operation of this contract, or the respective rights and liabilities of the parties on any matter in question; or any other account whatsoever, but excluding the Excepted Matters (detailed below); arising out of or in connection with the contract, within thirty (30) days from aggrieved Party notifying the other Party of such matters; whether before or after the completion/ termination of the contract, that cannot be resolved amicably between the Procurement Officer and the contractor within thirty (30) days from aggrieved Party notifying the other Party of such matters, shall be hereinafter called the “Dispute”. The aggrieved party shall give a ‘Notice of Dispute’ indicating the Dispute and claims citing relevant Contractual clause to the designated authority and requesting for invoking the following dispute resolution mechanisms. The Dispute shall be resolved without recourse to courts through dispute resolution mechanisms detailed subsequently, in the sequence as mentioned below, and the next mechanism shall not be invoked unless the earlier mechanism has been invoked or has failed to resolve it within the deadline mentioned therein.

1) Adjudication
2) Conciliation
3) Arbitration

11.2 Excepted Matters

Matters for which provision has been made in any Clause of the contract shall be deemed as ‘excepted matters’ (matters not disputable/ arbitrable), and decisions of the Procuring Entity, thereon shall be final and binding on the contractor. The ‘excepted matters’ shall stand expressly excluded from the purview of the sub-clauses below, including Arbitration. However, where the Procuring Entity has raised the dispute, this sub-clause shall not apply. Unless otherwise stipulated in the contract, excepted matters shall include but not limited to:

1) any controversies or claims brought by a third party for bodily injury, death, property damage or any indirect or consequential loss arising out of or in any way related to the performance of this Contract (“Third Party Claim”), including, but not limited to, a Party’s right to seek contribution or indemnity from the other Party in respect of a Third-Party Claim.
2) Issues related to the pre-award tender process or conditions
3) Issues related to ambiguity in contract terms shall not be taken up after a contract has been signed. All such issues should be highlighted before the signing of the contract by the contractor.

4) Provisions incorporated in the contract, which are beyond the purview of The Procurement Entity or are in pursuance of policies of Government, including but not limited to

   (a) Provisions of restrictions regarding local content and Purchase Preference to Local suppliers in terms of Make in India policy of the Government
   (b) Provisions regarding restrictions on Entities from Countries having land-borders with India in terms of the Government's policies in this regard
   (c) Purchase preference policies regarding MSEs and Start-ups

11.3 Adjudication

After exhausting efforts to resolve the Dispute with the Purchasing Officer executing the contract on behalf of the Procuring Entity, the contractor shall give a 'Notice of Adjudication' specifying the matters which are in question, or subject of the dispute or difference indicating the relevant contractual clause, as also the amount of claim item-wise to Head of Procurement or any other authority mentioned in the contract (hereinafter called the "Adjudicator") for invoking resolution of the dispute through Adjudication. During his adjudication, the Adjudicator shall give adequate opportunity to the contractor to present his case. Within 60 days after receiving the representation, the Adjudicator shall make and notify decisions in writing on all matters referred to him. The parties shall not initiate, during the adjudication proceedings, any conciliation or arbitral or judicial proceedings in respect of a dispute that is the subject matter of the adjudication proceedings. If not satisfied by the decision in adjudication, or if the adjudicator fails to notify his decision within the abovementioned time-frame, the contractor may proceed to invoke the process of Conciliation as follows.

11.4 Conciliation of disputes

1) Any party may invoke Conciliation by submitting "Notice of Conciliation" to the Head of the Procuring Organisation. Since conciliation is a voluntary process, within 30 days of receipt of "Notice of Conciliation", the Head of the Procuring Organisation shall notify a sole Conciliator if the other party is agreeable to enter Conciliation. If the other party is not agreeable to Conciliation, the aggrieved party may invoke Arbitration.

2) The Conciliator shall proactively assist the parties to reach an amicable settlement independently and impartially within the terms of the contract, within 60 days from the date of appointment of the Conciliator.

3) If the parties reach an agreement on a dispute settlement, they shall draw up a written settlement agreement duly signed by the parties and conciliator. When the parties sign the settlement agreement, it shall be final and binding on the parties. The dispute shall be treated as resolved on the date of such agreement.

4) The parties shall not initiate, during the conciliation proceedings, any arbitral or judicial proceedings in respect of a dispute that is the subject matter of the conciliation proceedings.

5) Termination of Conciliation: Disputes shall remain alive if the conciliation is terminated as follows:

(a) By written declaration of the conciliator, after consultation with the parties, to the effect that further efforts at conciliation are no longer justified, on the date of such declaration; or
(b) By a written declaration of any party to the conciliator to the effect that the conciliation proceedings are terminated, on the date of such declaration; or
(c) If the parties fail to reach an agreement on a settlement of the dispute, within 60 days of the appointment of Conciliator

6) On termination of Conciliation, if the dispute is still alive, the aggrieved party shall be free to invoke Arbitration.

11.5 Arbitration Agreement

11.5.1 This Agreement

1) This Arbitration Agreement (hereinafter referred to as this "Agreement") relating to this Contract (hereinafter called the "Main Agreement" for this agreement) is made under the provisions of The Arbitration and Conciliation Act, 1996 as amended from time to time and the rules thereunder (hereinafter called The Arbitration Act). This Agreement shall continue to survive termination, completion, or closure of the Main Agreement for 120 days after that.

2) Subject to aforesaid provisions, relevant clauses of the contract shall apply to the appointment of arbitrators and arbitration proceedings under this Agreement.

3) The Micro, Small and Medium Enterprises Development (MSMED) Act, 2006 provides parties to a dispute (where one of the parties is a Micro or Small Enterprise) to be referred to Micro and Small Enterprises Facilitation Council if the dispute is regarding any amount due under Section 17 of the MSMED Act, 2006. If a Micro or Small Enterprise, being a party to dispute, refers to the provisions in MSMED Act 2006, these provisions shall prevail over this Agreement.

11.5.2 Notice for Arbitration

1) **Authority to Appoint Arbitrator(s)**: For this Arbitration Agreement 'The Appointing Authority', to appoint the arbitrator shall be Head of the Procuring Organisation named in the contract and includes if there be no such authority, the officer who is for the time being discharging the functions of that authority, whether in addition to other functions or otherwise.

2) In the event of any dispute as per GCC-clause 11.1 above, if the Adjudicator fails to decide within 60 days (as referred in 11.3 above), or the Conciliation is terminated (as referred in sub-clause 11.4 above) then, parties to the contract, after 60 days but within 120 days of 'Notice of Dispute" (clause 11.1 above) shall request the Appointing Authority through a "Notice for Arbitration" in writing requesting that the dispute or difference be referred to arbitration.

3) The "Notice for arbitration" shall specify the matters in question or subject of the dispute or difference indicating the relevant contractual clause, as well as the amount of claim item-wise.

11.5.3 Reference to Arbitration

After appointing Arbitrator(s), the Appointing Authority shall refer the Dispute to them. Only such dispute or difference shall be referred to arbitration regarding which the demand has

been made, together with counter-claims or set off. Other matters shall be beyond the jurisdiction of Arbitrator(s)

11.5.4 Appointment of Arbitrator

1) **Qualification of Arbitrators:**

   (a) In the case of retired officers of The Procuring organisation, he shall have retired in the rank of Senior administrative grade (or equivalent) and shall have retired at least 1 years prior and must not be over 70 years of age on the date of Notice for arbitration.
   (b) He/ they shall not have had an opportunity to deal with the matters to which the contract relates or who, in the course of his/ their duties as officers of the Procuring Organisation, expressed views on any or all of the matters under dispute or differences. A certification to this effect (as per Format 1.4) shall be taken from Arbitrators. The proceedings of the Arbitral tribunal or the award made by such Tribunal shall, however, not be invalid merely for the reason that one or more arbitrators had in the course of his service, an opportunity to deal with the matters to which the contract relates or who in the course of his/ their duties expressed views on all or any of the matters under dispute.
   (c) An Arbitrator may be appointed notwithstanding the total no. of arbitration cases in which he has been appointed in the past.
   (d) Not be other than the person appointed by The Appointing Authority and that if for any reason that is not possible, the matter shall not be referred to arbitration at all.

2) **Replacement of Arbitrators**

   If one or more of the arbitrators appointed as above refuses to act as arbitrator, withdraws from his office as arbitrator, or in the event of the arbitrator dying, neglecting/ unable or unwilling or refusing to act for any reason, or his award being set aside by the court for any reason, or in the opinion of The Appointing Authority fails to act without undue delay, the Appointing Authority shall appoint new arbitrator/ arbitrators to act in his/ their place in the same manner in which the earlier arbitrator/ arbitrators had been appointed. Such a re-constituted Tribunal may, at its discretion, proceed with the reference from the stage at which it was left by the previous arbitrator (s).

3) **Appointment of Arbitrator:**

   (a) In cases where the total value of all claims in question added together does not exceed Rs 50,00,000/ - (Rupees Fifty Lakh only), the Arbitral Tribunal shall consist of sole Arbitrator. For this purpose, The Appointing Authority shall send to the contractor, within 60 days from the day of receipt of a written and valid notice for arbitration, a panel of at least four (4) names of retired officers, duly indicating their retirement dates.
   (b) The contractor shall be asked to nominate at least two names out of the panel for appointment as his nominee within 30 days from the dispatch date of the request by The Appointing Authority. The Appointing Authority shall appoint at least one out of them as the sole arbitrator within 30 days from the receipt of the names of the contractor's nominees.
   (c) In cases where the total value of all claims in question added together exceeds Rs 50,00,000/ - (Rupees Fifty Lakh only), the Arbitral Tribunal shall consist of

three (3) retired Officers of the Procuring Organisation. For this purpose, The Appointing Authority shall send a panel of at least four (4) names of such Officer(s) empanelled to work as Arbitrators duly indicating their retirement date to the contractor within 60 days from the day when a written and The Appointing Authority receives valid demand for arbitration.

(d) The contractor shall be asked to nominate at least 2 names out of the panel for appointment as his nominee within 30 days from the dispatch date of the request by The Appointing Authority. The Appointing Authority shall appoint at least one out of them as the contractor's nominee. It shall also simultaneously appoint the balance number of arbitrators either from the panel or outside the panel, duly indicating the 'Presiding Arbitrator' from amongst the 3 arbitrators so appointed, within 30 days from the receipt of the names of Contractor's nominees.

(e) If the contractor does not suggest his nominees for the arbitral tribunal within the prescribed timeframe, The Appointing Authority shall proceed for appointment of the arbitral tribunal within 30 days of the expiry of such time provided to the contractor.

11.5.5 Failure to appoint Arbitrators.

If The Appointing Authority fails to appoint an arbitrator within 60 (sixty) days, then subject to the survival of this Arbitration Agreement, in international commercial arbitration, the Supreme Court of India shall designate the arbitral institution for the appointment of arbitrators. In case of national arbitrations, the High Court shall designate arbitral institutions. The Arbitration Council of India must have graded these arbitration institutions. These arbitral institutions must complete the selection process within thirty days of accepting the request for the arbitrator's appointment.

11.5.6 The Arbitral Procedure

1) **Effective Date of Entering Reference:** The arbitral tribunal shall be deemed to have entered the reference on the date on which the arbitrator(s) have received notice of their appointment. All subsequent time limits shall be counted from such date.

2) **Seat and Venue of Arbitration:** The seat of arbitration shall be the place from which the Letter of Award or the contract is issued. The venue of arbitration shall be the same as the seat of arbitration. However, in terms of section 20 of The Arbitration Act, the arbitrator, at his discretion, may determine a venue other than the seat of the arbitration without in any way affecting the legal jurisdictional issues linked to the seat of the arbitration.

3) If the Adjudication and/ or Conciliation mechanisms had not been exhausted before such reference to Arbitration, the Arbitrator should ask the aggrieved party to approach designated authority for such mechanisms before the Arbitration proceedings are started.

4) The claimant shall submit to the Arbitrator(s) with copies to the respondent his claims stating the facts supporting the claims along with all the relevant documents and the relief or remedy sought against each claim within 30 days from the date of appointment of the Arbitral Tribunal unless otherwise extension has been granted by Arbitral Tribunal.

5) On receipt of such claims, the respondent shall submit its defence statement and counter claim(s), if any, within 60 days of receipt of the copy of claims, unless otherwise extension has been granted by Arbitral Tribunal.

6) No new claim shall be added during proceedings by either party. However, a party may amend or supplement the original claim or defence thereof during arbitration proceedings subject to acceptance by the Tribunal having due regard to the delay in making it.

7) Statement of claims, counterclaims and defence shall be completed within six months from the effective reference date.

8) **Oral arguments to be held on a day-to-day basis:** Oral arguments as far as possible shall be heard by the arbitral tribunal on a day-to-day basis, and no adjournments shall be granted without sufficient cause. The arbitrator (s) may impose an exemplary cost on the party seeking adjournment without sufficient cause.

9) **Award within 12 (twelve) months:** The arbitral tribunal is statutorily bound to deliver an award within 12 (twelve) months from the date when the arbitral tribunal enters reference. The award can be delayed by a maximum of six months only under exceptional circumstances where all parties consent to such extension of time. The court's approval shall be required for further extension if the award is not made out within such an extended period. During the period of an application for extension of time is awaiting before the court, the arbitrator's proceedings shall continue until the disposal of the application.

10) **Fast Track Procedure:** The parties to arbitration may choose to opt for a fast-track procedure either before or after the commencement of the arbitration. The award in fast-track arbitration is to be made out within six months, and the arbitral tribunal shall be entitled to additional fees. The salient features of the fast-track arbitration are:

    (a) The dispute is to be decided based on written pleadings only.
    (b) Arbitral Tribunal shall have the power to call for clarifications in addition to the written pleadings where it deems necessary.
    (c) An oral hearing may be held only if all the parties request or the arbitral tribunal considers it necessary.
    (d) The parties are free to decide the fees of the arbitrator(s) for fast-track procedure.

11) **Powers of Arbitral Tribunal to grant Interim Relief:** The parties to arbitration may approach the arbitral tribunal for seeking interim relief on the grounds available under section 9 of the act. The tribunal has the powers of a court while making interim awards in the proceedings before it.

12) **Confidentiality:** As provided in Section 42A of The Arbitration Act, all the details and particulars of the arbitration proceedings shall be kept confidential, except in certain situations like if the disclosure is necessary for the implementation or execution of the arbitral award.

13) **Obligation During Pendency of Arbitration:** Performance of the contract shall, unless otherwise directed by the Procuring Entity, continue during the arbitration proceedings, and no payment due or payable by the Procuring Entity shall be withheld on account of such proceedings, provided; however, it shall be open for Arbitral Tribunal to consider and decide whether or not the performance of the contract or payment therein should continue during arbitration proceedings.

11.5.7 The Arbitral Award

1) In the case of the Tribunal, comprising of three members, any ruling on award shall be made by a majority of members of the Tribunal. In the absence of such a majority, the views of the Presiding Arbitrator shall prevail.

2) The arbitral award shall state item-wise the sum and reasons upon which it is based. The analysis and reasons shall be detailed enough so that the award can be inferred from it.

3) It is further a term of this arbitration agreement that where the arbitral award is for the payment of money, no interest shall be payable on whole or any part of the money for any period till the date on which the award is made in terms of Section 31 (7) (a) of The Arbitration Act.

4) The award of the arbitrator shall be final and binding on the parties to this contract.

5) A party may apply for corrections of any computational errors, typographical or clerical errors, or any other error of similar nature occurring in the award or interpretation of a specific point of the award to the Tribunal within 60 days of receipt of the award.

6) A party may apply to the Tribunal within 60 days of receiving the award to make an additional award as to claims presented in the arbitral proceedings but omitted from the arbitral award.

11.5.8 Savings

The Arbitral Tribunal shall decide any matter related to Arbitration not covered under this Arbitration Agreement as per the provisions of The Arbitration Act.

11.5.9 Cost of Arbitration and fees of the Arbitrator(s)

1) The concerned parties shall bear the cost of arbitration in terms of section 31 (A) of The Arbitration Act. The cost shall inter-alia include fees of the Arbitrator. Further, the fees payable to the Arbitrator shall be governed by instructions issued on the subject by the Procuring Entity and/ or the Government from time to time, in line with the Arbitration and Conciliation Act, irrespective of the fact whether the Arbitrator is appointed by the Procuring Entity or the Government under this clause or by any court of law unless directed explicitly by Hon'ble court otherwise on the matter. A sole arbitrator shall be entitled to a 25% extra fee over such a prescribed fee.

2) The arbitrator shall be entitled to a 50 percent extra fee if the award is made within 6 months in terms of provisions contained in section 29(A) (2) of The Arbitration Act.

3) Besides the above, Arbitrator shall also be entitled to this extra fee in cases where Fast Track Procedure in terms of section 29 (B) of The Arbitration Act is followed.

12. Defaults, Breaches, Termination, and closure of Contract

12.1 Termination due to Breach, Default, and Insolvency

12.1.1 Defaults and Breach of Contract

In case the contractor undergoes insolvency or receivership; neglects or defaults, or expresses inability or disinclination to honour his obligations relating to the performance of the contract or ethical standards or any other obligation that substantively affects the

Procuring Entity's rights and benefits under the contract, it shall be treated as a breach of Contract. Such defaults could include inter-alia:

1) **Default in Performance and Obligations:** if the contractor fails to deliver any or all of the Goods or fails to perform any other contractual obligations (including Code of Integrity or obligation to maintain eligibility and Qualifications based on which contract was awarded) within the period stipulated in the contract or within any extension thereof granted by the Procuring Entity.

2) **Insolvency:** If the contractor being an individual or if a firm, any partner thereof, shall at any time, be adjudged insolvent or shall have a receiving order or order for the administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or enter into any assignment or composition with his creditors or suspend payment or if the firm be dissolved under the Partnership Act, or

3) **Liquidation:** if the contractor is a company being wound up voluntarily or by order of a Court or a Receiver, Liquidator or Manager on behalf of the Debenture-holders is appointed, or circumstances shall have arisen which entitle the Court or Debenture-holders to appoint a Receiver, Liquidator or Manager

12.1.2 Notice for Default:

As soon as a breach of contract is noticed, a show-cause 'Notice of Default' shall be issued to the contractor, giving two weeks' notice, reserving the right to invoke contractual remedies. After such a show-cause notice, all payments to the contractor would be temporarily withheld to safeguard needed recoveries that may become due on invoking contractual remedies.

12.1.3 Terminations for Default

1) **Notice for Termination for Default:** In the event of unsatisfactory resolution of 'Notice of Default' within two weeks of its issue as per sub-clause above, the Procuring Entity, if so decided, shall by written Notice of Termination for Default sent to the contractor, terminate the contract in whole or in part, without compensation to the contractor.

2) Such termination shall not prejudice or affect the rights and remedies, including under sub-clause below, which have accrued and/ or shall accrue to the Procuring Entity after that.

3) Unless otherwise instructed by the Procuring Entity, the contractor shall continue to perform the contract to the extent not terminated.

4) All warranty obligations, if any, shall continue to survive despite the termination.

12.1.4 Contractual Remedies for Breaches/Defaults or Termination for Default

If there is an unsatisfactory resolution within this period, the Procuring Entity shall take one; or more of the following contractual remedies.

1) Temporary withhold payments due to the contractor till recoveries due to invocation of other contractual remedies are complete.

2) Call back any loaned property or advances of payment, if any, with the levy of interest at the prevailing rate (MIBID - Mumbai Interbank Bid Rate).

3) Recover liquidated damages and invoke denial clause for delays.

4) Encash and/ or Forfeit performance or other contractual securities.

5) Prefer claims against insurances, if any.

6) Terminate contract for default, fully or partially including its right for Risk-and-Cost Procurement as per following sub-clause.

7) **Risk and Cost Procurement:** In addition to termination for default, the Procuring Entity shall be entitled, and it shall be lawful on his part, to procure Goods similar to those terminated, with such terms and conditions and in such manner as it deems fit at the "Risk and Cost" of the contractor. Such 'Risk and Cost Procurement' must be contracted within six months from the breach of Contract. The Contractor shall be liable for any loss which the Procuring Entity may sustain on that account provided the procurement, or, if there is an agreement to procure, such agreement is made. The Contractor shall not be entitled to any gain on such procurement, and the manner and method of such procurement shall be in the entire discretion of the Procuring Entity. It shall not be necessary for the Procuring Entity to notify the contractor of such procurement. It shall, however, be at the discretion of the Procuring Entity to collect or not the security deposit from the firm/ firms on whom the contract is placed at the risk and cost of the defaulted firm.

   Note: Regarding the Goods which are not readily available in the market and where procurement difficulties are experienced, the period for making risk procurement shall be nine months instead of six months provided above.

8) Initiate proceedings in a court of law for the transgression of the law, tort, and loss, not addressable by the above means.

12.1.5 Limitation of Liability

Except in cases of criminal negligence or wilful misconduct, the aggregate liability of the contractor to the Procuring Entity, whether under the contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the contractor to indemnify the Procuring Entity concerning IPR infringement.

12.2 Termination for Default/ Convenience of Procuring Entity and Frustration

12.2.1 Notice for Determination of Contract

1) The Procuring Entity reserves the right to terminate the contract, in whole or in part for its (the Procuring Entity's) convenience or frustration of contract as per sub-clause below, by serving written 'Notice for Determination of Contract' on the contractor at any time during the currency of the contract. The notice shall specify that the termination is for the convenience of the Procuring Entity or the frustration of the contract. The notice shall also indicate inter-alia, the extent to which the contractor's performance under the contract is terminated, and the date with effect from which such termination shall become effective.

2) Such termination shall not prejudice or affect the rights and remedies accrued and/ or shall accrue after that to the Parties.

3) Unless otherwise instructed by the Procuring Entity, the contractor shall continue to perform the contract to the extent not terminated.

4) All warranty obligations, if any, shall continue to survive despite the termination.

5) The Goods and incidental Works/ Services that are complete and ready in terms of the contract for delivery and performance within thirty days after the contractor's receipt of the notice of termination shall be accepted by the Procuring Entity as per the contract terms. For the remaining Goods and incidental Works/ Services, the Procuring Entity may decide:

   (a) To get any portion of the balance completed and delivered at the contract terms, conditions, and prices; and/ or
   (b) To cancel the remaining portion of the Goods and incidental Works/ Services and compensate the contractor by paying an agreed amount for the cost incurred by the contractor, if any, towards the remaining portion of the Goods and incidental Works/ Services.

12.2.2 Frustration of Contract

1) **Notice of Frustration Event:** Upon a supervening cause occurring after the effective date of the contract, including a change in law, beyond the control of either party whether as a result of the Force Majeure clause or within the scope of section 56 of the Indian Contract Act, 1872, that makes it impossible to perform the contract within a reasonable timeframe, the affected party shall give a 'Notice of Frustration Event' to the other party giving justification. The parties shall use reasonable efforts to agree to amend the contract, as may be necessary to complete its performance. However, if the parties cannot reach a mutual agreement within 60 days of the initial notice, the Procuring Entity shall issue a 'Notice for Determining the contract' and terminate the contract due to its frustration as in the sub-clause above.

2) However, the following shall not be considered as such a supervening cause.

   (a) Lack of commercial feasibility or viability or profitability or availability of funds
   (b) if caused by either party's breach of its obligations under this Contract or failure to act in good faith or use commercially reasonable due diligence to prevent such an event.

12.3 Closure of Contract

12.3.1 No Claim Certificate and Release of Contract Securities

After mutual reconciliations of outstanding payments and assets on either side, the contractor shall submit a 'No-claim certificate' to the Procuring Entity requesting the release of its contractual securities, if any. The Procuring Entity shall release the contractual securities without any interest if no outstanding obligation, asset, or payments are due from the contractor. The contractor shall not be entitled to make any claim whatsoever against the Procuring Entity under or arising out of this Contract, nor shall the Procuring Entity entertain or consider any such claim, if made by the contractor, after he shall have signed a "No Claim" Certificate in favour of the Procuring Entity. The Contractor shall be debarred from disputing the correctness of the items covered by the "No Claim" Certificate or demanding a clearance to arbitration in respect thereof.

12.3.2 Closure of Contract

The contract shall stand closed upon

1) successful performance of all obligations by both parties, including completion of warrantee obligations and final payment.

2) termination and settlements after that, if any, as per GCC-clause 12.1 or 12.2 above.

13. Code of Integrity in Public Procurement; Misdemeanours and Penalties

13.1 Code of Integrity

Procuring authorities as well as bidders, suppliers, contractors, and consultants - should observe the highest standard of ethics and should not indulge in following prohibited practices, either directly or indirectly, at any stage during the Tender Process or during the execution of resultant contracts:

1) **"Corrupt practice"** - making offer, solicitation or acceptance of a bribe, reward or gift or any material benefit, in exchange for an unfair advantage in the Tender Process or to otherwise influence the Tender Process;

2) **"Fraudulent practice"** - any omission or misrepresentation that may mislead or attempt to mislead so that financial or other benefits may be obtained or an obligation avoided. Such practices include a false declaration or false information for participation in a tender process or to secure a contract or in the execution of the contract;

3) **"Anti-competitive practice"** - any collusion, bid-rigging or anti-competitive arrangement, or any other practice coming under the purview of the Competition Act, 2002, between two or more bidders, with or without the knowledge of the Procuring Entity, that may impair the transparency, fairness, and the progress of the Tender Process or to establish bid prices at artificial, non-competitive levels;

4) **"Coercive practice"** - harming or threatening to harm persons or their property to influence their participation in the Tender Process or affect the execution of a contract;

5) **"Conflict of interest"** –participation by a bidding firm or any of its affiliates who are either involved in the Consultancy Contract to which this procurement is linked; or if they are part of more than one bid in the procurement; or if their personnel have a relationship or financial or business transactions with any official of procuring entity who are directly or indirectly related to tender or execution process of contract; or improper use of information obtained by the (prospective) bidder from the Procuring Entity with an intent to gain unfair advantage in the Tender Process or for personal gain;

6) **"Obstructive practice"** - materially impede procuring entity's investigation into allegations of one or more of the above mentioned prohibited practices either by deliberately destroying, falsifying, altering; or by concealing of evidence material to the investigation; or by making false statements to investigators and/ or by coercive practices mentioned above, to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or by impeding the Procuring Entity's rights of audit or access to information;

13.2 Obligations for Proactive Disclosures:

1) Procuring authorities, bidders, suppliers, contractors, and consultants are obliged under this Code of Integrity to *suo-moto* proactively declare any conflict of interest (coming under the definition mentioned above - pre-existing or as and as soon as these arise at any stage) in any Tender Process or execution of the contract. Failure to do so shall amount to a violation of this code of integrity.

2) Any bidder must declare, whether asked or not in a bid-document, any previous transgressions of such code of integrity during the last three years or of being under any category of debarment by the Central Government or by the Ministry/ Department of the Procuring Organisation from participation in Tender Processes. Failure to do so shall amount to a violation of this code of integrity.

13.3 Misdemeanours and Penalties

The following shall be considered misdemeanours - if a bidder/ contractor either directly or indirectly, at any stage during the Tender Process or during the execution of resultant contracts:

1) commits any of the following misdemeanours:

   (a) violates the code of Integrity mentioned in GCC-clause 13.1 or GCC-Clause 10.1.6 (Fall clause) or the Integrity Pact if included in the Tender/ Contract;
   (b) any other misdemeanour, e.g., supply of sub-standard quality of material/ services/ work or non-performance or abandonment of contract or failure to abide by 'Bid Securing Declaration'.

2) commits any of the following misdemeanours:

   (a) has been convicted of an offence:

      (i) under the Prevention of Corruption Act, 1988; or
      (ii) the Indian Penal Code or any other law for the time being in force for causing any loss of life or property or causing a threat to public health as part of the execution of a public procurement contract.

   (b) is determined by the Government of India to have doubtful loyalty to the country or national security consideration.
   (c) Employs a government servant, who has been dismissed or removed on account of corruption or employs a non-official convicted for an offence involving corruption or abetment of such an offence, in a position where he could corrupt government servants or employs a government officer within one year of his retirement, who has had business dealings with him in an official capacity before retirement.

13.4 Penalties for Misdemeanours

Without prejudice to and in addition to the rights of the Procuring Entity to other remedies as per the Tender-documents or the contract, If the Procuring Entity concludes that a (prospective) bidder/ contractor directly or through an agent has committed a misdemeanour in competing for the tender or in executing a contract, the Procuring Entity shall be entitled, and it shall be lawful on his part to take appropriate measures, including the following:

13.4.1 if his bids are under consideration in any procurement

1) Enforcement of Bid Securing Declaration in lieu of forfeiture or encashment of Bid Security.

2) calling off of any pre-contract negotiations, and;

3) rejection and exclusion of Bidder from the Tender Process

13.4.2 if a contract has already been awarded

1) Termination of Contract for Default and availing all remedies prescribed thereunder;
2) Encashment and/ or Forfeiture of any contractual security or bond relating to the procurement;
3) Recovery of payments including advance payments, if any, made by the Procuring Entity along with interest thereon at the prevailing rate (MIBID - Mumbai Interbank Bid Rate);

13.4.3 Remedies in addition to the above:

In addition to the above penalties, the Procuring Entity shall be entitled, and it shall be lawful on his part to:

1) File information against Bidder or any of its successors, with the Competition Commission of India for further processing, in case of anti-competitive practices;

2) Initiate proceedings in a court of law against Bidder or any of its successors, under the Prevention of Corruption Act, 1988 or the Indian Penal Code or any other law for transgression not addressable by other remedies listed in this sub-clause.

3) Remove Bidder or any of its successors from the list of registered suppliers for a period not exceeding two years. Suppliers removed from the list of registered vendors or their related entities may be allowed to apply afresh for registration after the expiry of the period of removal.

4) Initiation of suitable disciplinary or criminal proceedings against any individual or staff found responsible.

5) Debar, a bidder/ contractor from participation in future procurements without prejudice to Procuring Entity's legal rights and remedies. Debarment shall automatically extend to all the allied firms of the debarred firm. In the case of Joint Venture/ consortium, all its members shall also stand similarly debarred:

   (a) A Ministry/ Department (or any of its CPSUs, attached offices, autonomous bodies) may debar a bidder or any of its successors from participating in any Tender Process undertaken by all its procuring entities for a period not exceeding two years commencing from the date of debarment for misdemeanours listed in sub-clause GCC 13.3 -1) above. The Ministry/Department shall maintain such a list which shall also be displayed on their website.
   (b) Central Government (Department of Expenditure (DoE), Ministry of Finance) may debar a bidder or any of its successors from participating in any Tender Process undertaken by all its procuring entities for a period not exceeding three years commencing from the date of debarment for misdemeanours listed in sub-clause GCC 13.3 - 2) above. DoE shall maintain such a list which shall be displayed on Central Public Procurement Portal (CPPP).

Section V: Special Conditions of Contract (SCC)

Document No. NIT/CHS/PMDP/23-24; Tender Title: GOODS

Note for Bidders: Following Special Conditions of Contract (SCC) shall apply for this procurement. These Special Conditions shall modify/ substitute/ supplement the corresponding (GCC) clauses as indicated below. Whenever there is any conflict between the provision in the GCC and that in the SCC, the provision contained in the SCC shall prevail.

GCC Clause No.	Topic	Modified/ replaced by SCC Provisions
GCC 5: Contractor's Obligations and Restrictions on its Rights		
GCC 5.7	Performance Bond/ Security	10 % of the order value to be submitted by the bidder at the time of signing of contract.
GCC 5.11	Compliance with Labour Codes	Yes
GCC 6: Scope of Supply and Technical Specifications		
GCC 6.4	Country of Origin and Minimum Local Content	India and 20%
GCC 6.5	Option Quantity Clause	The Purchaser reserves the right to increase or decrease the quantity to be ordered up to 25 percent of bid quantity at the time of placement of contract. The purchaser also reserves the right to increase the ordered quantity by up to 25% of the contracted quantity during the currency of the contract at the contracted rates. Bidders are bound to accept the orders accordingly.
GCC 6.6	Spares in Supply of Equipment	To be included in the scope of supply
GCC 6.7	Warranty/ Guarantee/CMC	12 Months from the date of installation and commissioning Over and above the normal Warranty terms, the successful bidder / OEM shall have to provide Comprehensive Warranty during the entire Standard warranty period as per contract. : The comprehensive warranty shall be covering the following scope s maintenance and replacement of spare parts, components, etc. (Upload an undertaking with the bid confirming compliance by the bidder if Bidder is taking onus of this compliance. In case OEM is taking onus of this compliance, OEM

		undertaking is to be uploaded along with Bidder undertaking)
		Bidder / OEM has to give an undertaking that after expiry of warranty period, it will provide Comprehensive Maintenance Service for next 3 years for the offered products at the rate not more than 5 % of contract price per annum. Buyer reserves the right to enter into a CMC agreement with the Successful Bidder / OEM after expiry of the Warranty period at above mentioned rate and the payment for the CMC charges would be made Biannually after rendering of the CMC Services of the relevant CMC period. Performance Security of the successful bidder shall be forfeited if it fails to accept the CMC contract when called upon by the buyer. CMC would include cost of 0 (Upload the undertaking). The original Performance Security of contract will be returned only after submission and verification of AMC Performance Security for 2% of total CMC value valid up to CMC period plus 2 months (if there is no other claim).
GCC 9: Terms of Delivery and Delays		
GCC 9.12	Liquidated Damages	If the Seller/Service Provider fails to deliver any or all of the Goods/Services within the original/re-fixed delivery period(s) specified in the contract, the Buyer will be entitled to deduct/recover the Liquidated Damages for the delay, unless covered under Force Majeure conditions aforesaid, @ 0.5% of the contract value of delayed quantity per week or part of the week of delayed period as pre-estimated damages not exceeding 10% of the contract value of delayed quantity without any controversy/dispute of any sort whatsoever.
GCC 10: Prices and Payments		
GCC 10.2	Taxes and Duties	Bidders are advised to check applicable GST on their own before quoting. Buyer will not take any responsibility in this regard. GST reimbursement will be as per actuals or as per applicable rates (whichever is

		lower), subject to the maximum of quoted GST %.
GCC 10.3.3	Payment Conditions	60% of the payment will be made at the time of delivery of all equipments and items in satisfactory condition at NIT Srinagar. Balance payment of 40% will only be released after the successful completion, installation and commissioning of the entire Central Heating System at NIT Srinagar, along with skilled manpower.

Section VI: Schedule of Requirements

Note for Bidders: Regarding this Schedule, Bidders must fill Form 2: 'Schedule of Requirements - Confirmation/ Deviation' with their Technical bid.

Tender Title								
Tender Reference No			Tend No./ xxxx					
Schedule	**Item Sr**	**Minimum Local Content (%)**	**Description of Goods**	**Quantity**	**Units of Quantity**	**Delivery Requirements**	**Destination, State**	**GSTIN**
1	3	5	6	7	8	9	10	11
Schedule-1		*[Description of Schedule]*						
	1.1							
	1.2							
	1.3							
Schedule-2		*[Description of Schedule]*						
Schedule-2	2.1							
	2.2							
	2.3							

(1) General Background of requirements: *[inter-alia - Where would the Goods are going to be used]*
(2) Preferred Transportation: *[inter-alia - Transportation by Road, Rail, Sea or Air]*
(3) Required Delivery Schedule:
(4) Required Terms of Delivery: *[inter-alia - Free at Destination/ Delivered at Place DAP], Destination, Ultimate Consignee]*
(5) Scope of Supply: *[inter-alia - any Accessories, Mandatory Spares, optional spares etc.]*
(6) Incidental Works/ Services: *[Inter-alia - Installation, Commissioning, Training, or any other incidental requirements]*

Section VII: Technical Specifications and Quality Assurance

REFER ANNEXURE A

Section VIII: Qualification Criteria

1. Bidder Turnover: The minimum annual average financial turnover of the bidder during the last three years, ending on 31st March of the previous financial year, should be 5 Cr. Documentary evidence in the form of certified Audited Balance Sheets and Profit and Loss account of relevant periods indicating the turnover details for the relevant period shall be uploaded with the bid. In case the date of constitution / incorporation of the bidder is less than 3-year-old, the average turnover in respect of the completed financial years after the date of constitution shall be taken into account for this criteria.
2. OEM Turn Over Criteria: The minimum average annual financial turnover of the OEM of the offered product during the last three years, ending on 31st March of the previous financial year, should be 15 Cr. Documentary evidence in the form of certified Audited Balance Sheets and Profit and Loss account of relevant periods indicating the turnover details for the relevant period shall be uploaded with the bid. In case the date of constitution / incorporation of the OEM is less than 3 year old, the average turnover in respect of the completed financial years after the date of constitution shall be taken into account for this criteria.
3. Experience Criteria: The Bidder or its OEM {themselves or through reseller(s)} should have regularly, manufactured and supplied same or similar Category Products to any Central / State Govt Organization / PSU / Public Listed Company for number of Financial years as indicated above in the bid document before the bid opening date. Copies of relevant contracts to be submitted along with bid in support of having supplied some quantity during each of the Financial year. In case of bunch bids, the category of primary product having highest value should meet this criterion.
4. Proof for Past Experience and Project Experience clause: For fulfilling the experience criteria any one of the following documents may be considered as valid proof for meeting the experience criteria:
    i. Contract copy along with Invoice(s) with self-certification by the bidder that service/supplies against the invoices have been executed.
    ii. Execution certificate by client with contract value.
    iii. Any other document in support of contract execution like Third Party Inspection release note, etc.
5. Bidder financial standing: The bidder should not be under liquidation, court receivership or similar proceedings and should not be bankrupt. Bidder to upload undertaking to this effect with bid.

Note for Bidders: Regarding this Schedule, Bidders shall submit Form 4: 'Qualification Criteria - Compliance' with their Technical bid.

BIDDING FORMS

Form 1: Bid Form (Covering Letter)

(To be submitted as part of Technical bid, along with supporting documents, if any)

(On Bidder's Letter-head)

(Strike out alternative phrases not relevant to you)

Bidder's Name_____

[Address and Contact Details]

Bidder's Reference No._____ Date…….

To

The President of India, through

Head of Procurement

Procuring Organisation

[Complete address of the Procuring Entity]

Ref: Your Tender Document No. Tend No./ xxxx; Tender Title: GOODS

Sir/ Madam

Having examined the abovementioned Tender Document, we, the undersigned, hereby submit/ upload our Techno-commercial and Financial bid (Price Schedule) for the supply of Goods and incidental Works/ Services in conformity with the said Tender Documents.

(Please tick appropriate boxes or strike out sentences/ phrases not applicable to you)

1) **Our Credentials:**

(a) We are submitting this bid: -

☐ on our behalf, and there are no agents/ dealers involved in this tender, and hence no agency agreement or payments/ commissions/ gratuity is involved. Our company law and taxation regulatory requirements and authorization for signatories and related documents are submitted in Form 1.1 (Bidder Information).

Or

☐ as authorised dealer offering goods manufactured by our OEMs. Our OEM's law and taxation regulatory requirements and authorization for signatories and related documents are submitted in Form 1.3 (OEM's Authorization).

Or

☐ as agents/associates of our foreign principals. Our foreign principal's law and taxation regulatory requirements, as well as authorization for signatories and related documents, are submitted in Form1.4 (Declaration by Agents/ Associates of Foreign Principals/ OEMs).

(b) We…….. hereby certify that ☐ We/ ☐ our Principals/ OEM M/ s…… are proven, established, and reputed manufacturers with factories at

…… which are fitted with modern equipment and where the production methods, quality control, and testing of all materials and parts manufactured or used by us shall be open to inspection by the representative of the Procuring Entity.

2) **Our Eligibility and Qualifications to participate**

We comply with all the eligibility criteria stipulated in this Tender Document, and the relevant declarations are made along with documents in Form 1.2 of this bid-form. We fully meet the qualification criteria stipulated in this Tender Document, and the relevant details are submitted along with documents in Form 4: 'Qualification Criteria - Compliance.

3) **Our Bid to supply Goods:**

We offer to supply the subject Goods of requisite quality and within Delivery Schedules in conformity with the Tender Document. The relevant details are submitted in Form 2: 'Schedule of Requirements - Compliance and Form3: 'Technical Specifications and Quality Assurance - Compliance.'

4) **Prices:**

We hereby offer to perform the Services at our lowest prices and rates mentioned in the separately uploaded Price-Schedule. It is hereby confirmed that the prices quoted therein by us are:

(a) based on terms of delivery and delivery schedule confirmed by us; and
(b) Cost break-up of the quoted cost, showing inter-alia costs (including taxes and duties thereon) of all the included incidental Goods/ Works considered necessary to make the proposal self-contained and complete, has been indicated therein, and
(c) based on the terms and mode of payment as stipulated in the Tender Document. We have understood that if we quote any deviation to terms and mode of payment, our bid is liable to be rejected as nonresponsive, and
(d) have been arrived at independently, without restricting competition, any consultation, communication, or agreement with any other bidder or competitor relating to:

    i) those prices; or
    ii) the intention to submit an offer; or
    iii) the methods or factors used to calculate the prices offered.

(e) have neither been nor shall be knowingly disclosed by us, directly or indirectly, to any other bidder or competitor before bid opening or contract award unless otherwise required by law.

5) **Affirmation to terms and conditions of the Tender Document:**

We have understood the complete terms and conditions of the Tender Document. We accept and comply with these terms and conditions without reservations, although we are not signing and submitting some of the sections of the Tender Document. Deviations, if any, are submitted by us in Form 5: 'Terms and Conditions - Compliance'. We also explicitly confirm acceptance of the Arbitration Agreement as given in the Tender Document.

6) **Bid Securing Declaration**

We have submitted the Bid Securing Declaration (BSD, in lieu of Bid Security) in stipulated format vide Form 7: 'Documents Relating to bid security.'

7) **Abiding by the Bid Validity**

We agree to keep our bid valid for acceptance for a period upto -------, as required in the Tender Document or for a subsequently extended period, if any, agreed to by us and are aware of penalties in this regard stipulated in the Tender Document in case we fail to do so.

8) **Non-tempering of Downloaded Tender Document and Uploaded Scanned Copies**

We confirm that we have not changed/ edited the contents of the downloaded Tender Document. We realise that any such change noticed at any stage, including after the contract award, shall be liable to punitive action in this regard stipulated in the Tender Document. We also confirm that scanned copies of documents/ affidavits/ undertakings uploaded along with our Technical bid are valid, true, and correct to the best of our knowledge and belief. If any dispute arises related to the validity and truthfulness of such documents/ affidavits/ undertakings, we shall be responsible for the same. Upon accepting our Financial bid, we undertake to submit for scrutiny, on-demand by the Procuring Entity, originals, and self-certified copies of all such certificates, documents, affidavits/ undertakings.

9) **A Binding Contract:**

We further confirm that, if our bid is accepted, all such terms and conditions shall continue to be acceptable and applicable to the resultant contract, even though some of these documents may not be included in the contract Documents submitted by us. We do hereby undertake that, until a formal contract is signed or issued, this bid, together with your written Letter of Award (LoA), shall constitute a binding contract between us.

10) **Performance Guarantee and Signing the contract**

We further confirm that, if our bid is accepted, we shall provide you with performance security of the required amount stipulated in the Tender Document for the due performance of the contract. We are fully aware that in the event of our failure to deposit the required security amount and/ or failure to execute the agreement, the Procuring Entity has the right to avail any or all punitive actions laid down in this regard, stipulated in the Tender Document.

11) **Signatories:**

We confirm that we are duly authorized to submit this bid and make commitments on behalf of the Bidder. Supporting documents are submitted in Form 1.1 annexed herewith. We acknowledge that our digital/digitized signature is valid and legally binding.

12) **Rights of the Procuring Entity to Reject bid(s):**

We further understand that you are not bound to accept the lowest or any bid you may receive against your above-referred Tender Document.

……..

(Signature with date)

……..

(Name and designation)

Duly authorized to sign bid for and on behalf of

[name & address of Bidder and seal of company]

Form 1.1: Bidder Information

(To be submitted as part of Technical bid)
(On Company Letter-head)
(Along with supporting documents, if any)
Bidder's Name_____
[Address and Contact Details]
Bidder's Reference No._____ Date…….
Tender Document No. Tend No./ xxxx; Tender Title: GOODS

Note: Bidder shall fill in this Form following the instructions indicated below. No alterations to its format shall be permitted, and no substitutions shall be accepted. Bidder shall enclose certified copies of the documentary proof/ evidence to substantiate the corresponding statement wherever necessary and applicable. Bidder's wrong or misleading information shall be treated as a violation of the Code of Integrity. Such Bids shall be liable to be rejected as nonresponsive, in addition to other punitive actions provided for such misdemeanours in the Tender Document.
(Please tick appropriate boxes or strike out sentences/ phrases not applicable to you)

1) **Bidder/ Contractor particulars:**
   (a) Name of the Company:…….
   (b) Corporate Identity No. (CIN): ……..
   (c) Registration, if any, with The Procuring Entity: ……..
   (d) GeM Supplier ID (if registered with GeM, it is mandatory at the time of placement of Contract)
   (e) Place of Registration/ Principal place of business/ manufacture …….
   (f) Complete Postal Address: ……..
   (g) Pin code/ ZIP code: …….
   (h) Telephone nos. (with country/ area codes): ……
   (i) Mobile Nos.: (with country/ area codes): ……..
   (j) Contact persons/ Designation: …….
   (k) Email IDs: …….

Submit documents to demonstrate eligibility as per NIT-Clause 3 and ITB-clause 3.2 - A self-certified copy of registration certificate – in case of a partnership firm – Deed of Partnership; in case of Company – Notarized and certified copy of its Registration; and in case of Society – its Byelaws and registration certificate of the firm.

2) **Taxation Registrations:**
   (a) PAN number: …….
   (b) Type of GST Registration as per the Act (Normal Taxpayer, Composition, Casual Taxable Person, SEZ, etc.): …….
   (c) GSTIN number: ……. in Consignor and Consignee States
   (d) Registered/ Certified Works/ Factory where the Goods would be mainly manufactured and Place of Consignor for GST Purpose: ……..
   (e) Contact Names, Nos. & email IDs for GST matters (Please mention primary and secondary contacts): ……
   ☐ We solemnly declare that our GST rating on the GST portal/ Govt. official website is not negative/ blacklisted.

Documents to be submitted: Self-attested Copies of PAN card and GSTIN Registration.

3) **Authorization of Person(s) signing the bid on behalf of the Bidder**
   (a) Full Name: _____
   (b) Designation: _____
   (c) Signing as:
   ☐ A sole proprietorship firm. The person signing the bid is the sole proprietor/ constituted attorney of the sole proprietor,
   ☐ A partnership firm. The person signing the bid is duly authorised being a partner to do so, under the partnership agreement or the general power of attorney,

☐ A company. The person signing the bid is the constituted attorney by a resolution passed by the Board of Directors or in pursuance of the Authority conferred by Memorandum of Association.

Documents to be submitted: Registration Certificate/ Memorandum of Association/ Partnership Agreement/ Power of Attorney/ Board Resolution

4) **Bidder's Authorized Representative Information**
   (a) Name:
   (b) Address:
   (c) Telephone/ Mobile numbers:
   (d) Email Address:

(Signature with date)
……..
(Name and designation)
Duly authorized to sign bid for and on behalf of
[name & address of Bidder and seal of company]
DA: As above
…….

Form 1.2: Eligibility Declarations

(To be submitted as part of Technical bid)
(On Company Letter-head)
(Along with supporting documents, if any)
Tender Document No. Tend No./ xxxx; Tender Title: GOODS
Bidder's Name_____
[Address and Contact Details]
Bidder's Reference No._____ Date…….
Note: The list below is indicative only. You may attach more documents as required to confirm your eligibility criteria.

Eligibility Declarations

(Please tick appropriate boxes or cross out any declaration not applicable to the Bidder)

We hereby confirm that we are comply with all the stipulation of NIT-clause 3 and ITB-clause 3.2 and declare as under and shall provide evidence of our continued eligibility to the Procuring Entity as may be requested:

1) **Legal Entity of Bidder:** _____
2) **OEM/ Manufacturer/ Agent/ Dealership Status:** _____
3) We ☐ are/ ☐ are not a JV_____
4) We solemnly declare that we (including our affiliates or subsidiaries or constituents):
   a) are not insolvent, in receivership, bankrupt or being wound up, not have our affairs administered by a court or a judicial officer, not have our business activities suspended and are not the subject of legal proceedings for any of these reasons;
   b) (including our Contractors/ subcontractors for any part of the contract):
      (i) Do not stand declared ineligible/ blacklisted/ banned/ debarred by the Procuring Organisation or its Ministry/ Department from participation in its Tender Processes; and/ or
      (ii) Are not convicted (within three years preceding the last date of bid submission) or stand declared ineligible/ suspended/ blacklisted/ banned/ debarred by appropriate agencies of Government of India from participation in Tender Processes of all of its entities, for offences mentioned in Tender Document in this regard. We have neither changed our name nor created a new "Allied Firm", consequent to the above disqualifications.
   c) Do not have any association (as bidder/ partner/ Director/ employee in any capacity) with such retired public official or near relations of such officials of Procuring Entity, as counter-indicated, in the Tender Document.
   d) We certify that we fulfil any other additional eligibility condition if prescribed in Tender Document.
   e) We have no conflict of interest, which substantially affects fair competition. The prices quoted are competitive and without adopting any unfair/ unethical/ anti-competitive means. No attempt has been made or shall be made by us to induce any other bidder to submit or not to submit an offer to restrict competition.
5) **Restrictions on procurement from bidders from a country or countries, or a class of countries under Rule 144 (xi) of the General Financial Rules 2017:** We certify as under:

"We have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries, and solemnly certify that we fulfil all requirements in this regard and are eligible to be considered. We certify that:

(a) *we are not from such a country or, if from such a country, we are registered with the Competent Authority (copy enclosed). and;*

(b) *we shall not subcontract any work to a contractor from such countries unless such contractor is registered with the Competent Authority.*

6) **MSME Status:**

Having read and understood the Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 (as amended and revised till date), and solemnly declare the following:

a) We are - Micro/ Small/ Medium Enterprise/ SSI/ Govt. Deptt. / PSU/ Others:……

b) We attach herewith, Udhyam Registration Certificate with the Udhyam Registration Number as proof of our being MSE registered on the Udhyam Registration Portal. The certificate is the latest up to the deadline for submission of the bid.

c) Whether Proprietor/ Partner belongs to SC/ ST or Women category. (Please specify names and percentage of shares held by SC/ ST Partners):…….

7) **Start-up Status**

we confirm that we ☐ are/ ☐ are not a Start-up entity as per the definition of the Department of Promotion of Industrial and Internal Trade – DPIIT.

8) **Make in India Status:**

Having read and understood the Public Procurement (Preference to Make in India PPP - MII) Order, 2017 (as amended and revised till date) and related notifications from the relevant Nodal Ministry/ Department, and solemnly declare the following:

(a) Self-Certification for the category of suppliers:

(Provide a certificate from statutory auditors/ cost accountant in case of Tenders above Rs 10 Crore for Class-I or Class-II Local Suppliers). Details of local content and location(s) at which value addition is made are as follows:

Local Content and %age	
Location(s) of value addition	

Therefore, we certify that we qualify for the following category of the supplier (tick the appropriate category):

▫ Class-I Local Supplier/

▫ Class-II Local Supplier/

▫ Non-Local Supplier.

(b) We also declare that

▫ There is no country whose bidders have been notified as ineligible on a reciprocal basis under this order for an offered Goods, or

▫ We do not belong to any Country whose bidders are notified as ineligible on a reciprocal basis under this order for the offered Goods.

9) **Self-Declaration by Indian Agents/ Associates of Foreign Principals**

(a) Self-attested documentary evidence about their identity (PAN, Aadhar Card, GSTIN registration, proof of address, etc.), business details (ownership pattern and documents, type of firm, year of establishment, sister concerns etc.) to establish that they are a bonafide business as per Indian Laws – are submitted as part of Form 1.1 annexed herewith.

(b) Agency Agreement shall be submitted with Form 1.4. It shall cover

(i) the precise relationship, services to be rendered, mutual interests in business - generally and/ or specifically for the tender and

(ii) any payment the agent or associate receives in India or abroad from the foreign OEM/ principal, whether a commission or a general retainer fee.

(c) Our Foreign principals, explicitly authorizing us to make an offer in response to the tender, either directly or in association with them, are listed in Form 1.3 and 1.4 annexed herewith. That also indicates their name, address, nationality, status (i.e., whether manufacturer or agents of manufacturer holding the Letter of Authority of the Principal).

(d) The amount of commission/ remuneration included in the price (s) quoted by Bidder for agents or associated bidder is detailed in Form 1.4.

(e) Confirmation is given in Form 1.4 annexed herewith from the foreign principals that the commission/ remuneration, reserved for Bidder in the quoted price(s), if any, shall be paid by the Procuring Entity in India, in equivalent Indian Rupees on satisfactory completion of the Project or supplies of Goods and Spares.

10) **Penalties for false or misleading declarations:**

We hereby confirm that the particulars given above are factually correct and nothing is concealed and undertake to advise any future changes to the above details. We understand that any wrong or misleading self-declaration would violate the Code of Integrity and attract penalties as mentioned in this Tender Document.

……..
(Signature with date)
……..
(Name and designation)
Duly authorized to sign bid for and on behalf of
……..
……..
[name & address of Bidder and seal of company]
DA: As in Sr 9 to 14 above, as applicable

Form 1.3: OEM's Authorization

(On Company Letter Head)
(To be submitted as part of Technical bid)
OEM's Name_____
[Address and Contact Details]
OEM's Reference No._____ Date…….
The President of India, through
Head of Procurement
Procuring Organisation
[Complete address of the Procuring Entity]
Dear Sirs,
Ref. Your Tender Document No. Tend No./ xxxx; Tender Title: GOODS

1) We, ----------, are proven and reputable manufacturers of the Tendered Goods. We have factories at----------. We hereby authorise Messrs---------- (*name and address of the authorised dealer)* to submit a bid, process the same further and enter into a contract with you against above referred Tender Process for the supply of above Goods manufactured by us. Their registration number with us is ……., dated/ since……
2) We further confirm that no Contractor or firm or individual other than Messrs. ……... (*name and address of the above-authorised dealer*) is authorized for this purpose.
3) As principals, we commit ourselves to extend our full support for warranty obligations, as applicable as per the Tender Document, for the Goods and incidental Works/ Services offered for supply by the above firm against this Tender Document.
4) Our details are as under:
   (a) Name of the Company:…….
   (b) Complete Postal Address: …….
   (c) Pin code/ ZIP code: …….
   (d) Telephone nos. (with country/ area codes): ……
   (e) Fax No.: (with country/ area codes): ……
   (f) Mobile Nos.: (with country/ area codes): ……..
   (g) Contact persons/ Designation: …….
   (h) Email IDs: …….
5) We enclose herewith, as appropriate, *our ---------- (Bye-Laws/ Registration Certificate/ Memorandum of Association/ Partnership Agreement/ Power of Attorney/ Board Resolution*)

Yours faithfully,
…….……
[signature with date, name, and designation]
for and on behalf of Messrs……
[name & address of the OEM and seal of company]
DA: As above

Form 1.4: Declaration by Agents/ Associates of Foreign Principals

(Required only for Agents/ Associates of Foreign Principals)
(On Company Letter Head)
(Along with supporting documents, if any)
(To be submitted as part of Technical bid)
Agent's Name_____
[Address and Contact Details]
Principal's Reference No._____ Date…….
The President of India, through
Head of Procurement
Procuring Organisation
[Complete address of the Procuring Entity]
Dear Sirs,
Ref. Your Tender Document No. Tend No./ xxxx; Tender Title: GOODS

1) We, ……., are a bonafide business as per Indian Laws. We have been retained as agent/ associates by our foreign principals/ OEM, Messrs…….. (*name and address of the principal*) to associate with them for participation in this Tender Process.

2) We understand that any failure or non-disclosures, or mis-declarations by us, shall be treated as a violation of the Code of Integrity. Our Bids shall be liable to be rejected as nonresponsive, in addition to other punitive actions by the Procuring Entity as per the Tender Document.

3) The required details as per ITB-clause 3.5 are as follows.

   (a) Name of the Agent/ Associate:…….
   (b) Documents regarding ownership pattern: as appropriate – Bye Laws/ Registration Certificate/ Memorandum of Association/ Partnership Agreement/ Power of Attorney/ Board Resolution.
   (c) Year of establishment……..
   (d) Sister Concerns……..,
   (e) Corporate Identity No. (CIN): ……..
   (f) Aadhar Card of Owner/ CEO/ Partner
   (g) PAN number: …….
   (h) Complete Postal Address: ……..
   (i) Pin code/ ZIP code: …….
   (j) Telephone nos. (with country/ area codes): ……
   (k) Mobile Nos.: (with country/ area codes): ……..
   (l) Contact persons/ Designation: …….
   (m) Email IDs: …….
   (n) Type of GST Registration (Registered, Unregistered, Composition, SEZ, RCM etc.): …….
   (o) GSTIN number: ……. in Consignor and Consignee States
   (p) Registered office from where agency/ association services would be mainly provided for GST Purpose: …….
   (q) Contact Names, Nos. & email IDs for GST matters (Please mention primary and secondary contacts): ……

4) Details required under ITB-clause 3.5 regarding the foreign principal/ OEM are given below.

   (a) Name of the Company:…….
   (b) Nationality/ Country of operation/ incorporation……
   (c) Status:

(i) manufacturer or
(ii) agents of manufacturer holding the Letter of Authority of the Principal, specifically authorizing the agent to make an offer in India in response to tender either directly or through the agents/ representatives.

(d) Complete Postal Address: ……..
(e) Telephone nos. (with country/ area codes): ……
(f) Mobile Nos.: (with country/ area codes): ……..
(g) Contact persons/ Designation: …….
(h) Email IDs: …….

5) *Because of price-sensitive information*, agency/ dealership/ any other agreement with foreign principals/ OEM shall be submitted as per ITB-clause 3.5, on-demand, after the Financial bid opening. It shall contain details of payments of all commissions, gratuities, or fees concerning the tender process or execution of the contract that we have paid/ received, or shall pay/ receive, as per the following format:

Name of Recipient	Address	Services to be provided	Amount and Currency

6) Our principals have authorized us to confirm that the commission/ remuneration, if any, to us under the contract shall be paid in India, in equivalent Indian Rupees, on satisfactory completion of the Project or supplies of Goods and Spares.

7) We enclose herewith: as appropriate, our ---------- Bye-Laws/ Registration Certificate/ Memorandum of Association/ Partnership Agreement/ Power of Attorney/ Board Resolution

Yours faithfully,
……..……..
……
[signature with date, name, and designation]
for and on behalf of Messrs……
[name & address of the OEM and seal of company]
DA: 1. As above

Form 2: Schedule of Requirements - Compliance

Schedule of Requirements

(Schedule VI: Schedule of Requirements)

(To be submitted as part of Technical bid)

(on Company Letter-head)

Tender Document No. Tend No./ xxxx; Tender Title: GOODS

Bidder's Name_____

[Address and Contact Details]

Bidder's Reference No._____ Date…….

Note to Bidders: Fill up this Form regarding Section VI: Schedule of Requirements maintaining the same numbering and structure. Add additional details not covered elsewhere in your bid in this regard.

Tender Title										
Tender Reference No			Tend No./ xxxx							
Schedule	**Item Sr**	**HSN Code**	**[4]GST %**	**Local Content (%)**	**Description of Goods**	**Quantity**	**Units of Quantity**	**Delivery offered**	**Destination, State**	**Bidder's GSTIN**
1	2	3	4	5	6	7	8	9	10	11
Schedule-1	1.1									
	1.2									
	1.3									

[4] Mention total % and breakup into CGST, SGST, IGST, Cess etc.

Tender Title										
Tender Reference No			Tend No./ xxxx							
Schedule	**Item Sr**	**HSN Code**	**[4]GST %**	**Local Content (%)**	**Description of Goods**	**Quantity**	**Units of Quantity**	**Delivery offered**	**Destination, State**	**Bidder's GSTIN**
Schedule-2	2.1									
	2.2									
	2.3									

(1) Background of Goods offered:
(2) Transportation:
(3) Delivery Schedule:
(4) Terms of Delivery:
(5) Scope of Supply (Accessories, Spare Parts):
(6) Incidental Works/ Services:

Deviations from Schedule of Requirements

Note to Bidders: Highlight deviations, if any, from Section VI: Schedule of Requirements in this Form.

Sl. No.	Ref of Tender Document Section, Clause		Subject	Confirmation/ Deviation/ Exception/ reservation	Justification/ Reason
	Section	Clause/ sub-clause			

We shall comply with, abide by, and accept without variation, deviation, or reservation all requirements detailed in 1111111: Schedule of Requirements in the Tender Document, except those mentioned above. If mentioned elsewhere in our bid, contrary terms and conditions shall not be recognised and shall be null and void.

……..

(Signature with date)

……..

(Name and designation)

Duly authorized to sign bid for and on behalf of

…….

[name & address of Bidder and seal of company]

Form 3: Technical Specifications and Quality Assurance - Compliance

(Schedule VII: Technical Specifications and Quality Assurance)

(To be submitted as part of Technical bid)

(on Company Letter-head)

Tender Document No. Tend No./ xxxx; Tender Title: GOODS

Bidder's Name_____

[Address and Contact Details]

Bidder's Reference No._____ Date…….

Note to Bidders: Highlight in this form deviations, if any, from Section VII: Technical Specifications and Quality Assurance, maintaining the same numbering and structure. Submit copies of original test certificates for standards/ specification tests on the Goods and other relevant documents like technical data, literature, drawings, etc. Add additional details not covered elsewhere in your bid in this regard.

Sl. No.	**Ref of Technical Specification and Quality Assurance Clause**		**Subject**	**Confirmation/ Deviation/ Exception/ reservation**	**Justification/ Reason**
	Section	**Clause/ sub-Clause**			

We shall comply with, abide by, and accept without variation, deviation, or reservation all Technical Specifications, Quality Assurance and Warranty requirements in the Tender Document, except those mentioned above. If mentioned elsewhere in our bid, contrary terms and conditions shall not be recognised and shall be null and void.

……..

(Signature with date)

……..

(Name and designation)

Duly authorized to sign bid for and on behalf of

…….

[name & address of Bidder and seal of company]

DA: Relevant documents like technical data, literature, drawings, and other documents

Form 4: Qualification Criteria - Compliance

(Schedule VIII Qualification Criteria)

(To be submitted as part of Technical bid)

(on Company Letter-head)

Tender Document No. Tend No./ xxxx; Tender Title: GOODS

Bidder's Name_____

[Address and Contact Details]

Bidder's Reference No._____ Date…….

Note to Bidders: Furnish statements and documents to confirm conformity to Qualification Criteria may be mentioned/ attached here. The list below is indicative only. You may attach more documents as required for qualification criteria. Add additional details not covered elsewhere in your bid in this regard. Non-submission or incomplete submission of documents may lead to rejection of the bid as nonresponsive. Also highlight in this form deviations, if any, from Section VIII: Qualification Criteria.

1) Location of the manufacturing Factory
2) Details of Plant and Machinery executed and function in each department (Monographs & description pamphlets) be supplied, if available.
3) Details of arrangement for quality control of products such as laboratory etc
4) Details of Technical Supervisory staff-in-charge of production and quality control
   (a) Skilled labour employed.
   (b) Unskilled labour employed.
   (c) The maximum number of workers (skilled & unskilled) employed on any day during the 18 months preceding the date of application.
5) Installed production capacity of item(s) quoted for, with the existing plant and machinery.
   (a) The installed monthly production capacity for--------- and the type of------
   (b) What portion of the production capacity shall be reserved for this contract? Indicate reserved capacity in terms of the number of items of Goods per month.
   (c) average monthly production of ---------- during the last 5 years on a single shift basis
   (d) Existing order on hand for ----------
6) Have you supplied the Goods tendered for or other identical items in the past? If so, details of supplies in the last five years may be furnished in Form 4.1.
7) Details relating to Section VIII: Qualification Criteria……

8) Documents Attached supporting the compliance to qualification criteria:

Sr	**Document Attached, duly filled, signed, and copies self-attested**
1	
2	
3	

……..

(Signature with date)

……..

(Name and designation)

Duly authorized to sign bid for and on behalf of

……..

[name & address of Bidder and seal of company]

DA: As above, if any

Form 4.1: Performance Statement

Statement of Supplies During Last Five Years and Outstanding Current Orders
(Schedule VIII Qualification Criteria)

(To be submitted as part of Technical bid)

(on Company Letter-head)

Tender Document No. Tend No./ xxxx; Tender Title: GOODS

Bidder's Name_____

[Address and Contact Details]

Bidder's Reference No._____ Date…….

Note to Bidders: Fill up this Form your past performance highlighting their qualification to supply relevant Goods. Statements and Documents to the Performance Statement may be mentioned/ attached here. The list below is indicative only. You may attach more documents as required to showcase your past performance. Add additional details not covered elsewhere in your bid in this regard.

Order issued by	Order No. & Date	Qty ordered	Quantity supplied	Price at which supplied	The total value of the order	Status as on date----

……..

(Signature with date)

……..

(Name and designation)

Duly authorized to sign bid for and on behalf of

…….

…….

[name & address of Bidder and seal of company]

DA: Performance records/ contracts

Form 5: Terms And Conditions - Compliance

(To be submitted as part of Technical bid)
(on Company Letter-head)
Bidder's Name_____
[Address and Contact Details]
Bidder's Reference No._____ Date…….
Tender Document No. Tend No./ xxxx; Tender Title: GOODS
Note to Bidders: Fill up this Form regarding Terms and Conditions in the Tender Document, maintaining the same numbering and structure. Add additional details not covered elsewhere in your bid in this regard.

Sl. No.	**Ref of Tender Document Section, Clause**		**Subject**	**Confirmation/ Deviation/ Exception/ reservation**	**Justification/ Reason**
	Section	**Clause/ sub-Clause**			

We shall comply with, abide by, and accept without variation, deviation, or reservation all terms and conditions of the Tender Document, except those mentioned above. If mentioned elsewhere in our bid, contrary terms and conditions shall not be recognised and shall be null and void.

……..
(Signature with date)
……..
(Name and designation)
Duly authorized to sign bid for and on behalf of
……..
……..
[name & address of Bidder and seal of company]
DA: If any, at the option of the Bidder.

Form 6: Check-List for Bidders

(To be submitted as part of Technical bid)

(on Company Letter-head)

Bidder's Name_____

[Address and Contact Details]

Bidder's Reference No._____ Date…….

Tender Document No. Tend No./ xxxx; Tender Title: GOODS

Note to Bidders: This check-list is merely to help the bidders to prepare their bids, it does not over-ride or modify the requirement of the tender. Bidders must do their own due diligence also.

Sr	Documents submitted, duly filled, signed	Yes/ No/ NA
1.	Form 1.- bid Form (to serve as covering letter and declarations applicable for both the Techno-commercial bid and Financial bid)	
2.	Form 1.1: Bidder Information along with Power of attorney and Registration Certificates etc.	
2.a	Self-attested copy of Registration certificates etc. of the firm	
2.b	Self-attested copy of PAN	
2.c	Self-attested copy of GSTIN registration(s)	
2.d	Self-attested copy of Power of Attorney etc. authorizing signatories on stamp paper to sign the bid	
3.	Form 1.2: Eligibility Declarations, along with supporting documents	
3.a	Self-attested copy of Registration certificate for bidders/ subcontractors from restricted neighbouring countries	
3.b	Self-attested copy of MSME registration	
3.c	Self-attested copy of Start-up registration/ status	
3.d	Self-attested copy of the certificate of Local Supplier Status for Make in India policy, from auditors/ cost accountant in case of Tenders above Rs 10 Crore	
4.	If applicable, Form 1.3: OEM's Authorization Form duly filled up (if applicable to Bidder concerned)	
4.a	Self-attested copy of Registration certificates etc. of the OEM/ principal	
4.b	Self-attested copy of Power of Attorney etc. authorizing signatories on stamp paper to sign Form 1.3 of OEM/ Principal	
5.	If applicable, Form 1.4: Declaration by Agents/ Associates of Foreign Principals/ OEMs	

5.a	Self-attested copy of Registration certificates etc., of the agent/ dealer.	
5.b	Self-attested copy of Power of Attorney etc. authorizing signatories on stamp paper to sign Form 1.4 of Agent Dealer	
6.	Form 2: 'Schedule of Requirements - Compliance	
7.	Form 3: Technical Specifications and Quality Assurance - Compliance	
7.a	Relevant documents like technical data, literature, drawings, and other documents, at the option of Bidder	
8.	Form 4: Qualification Criteria - Compliance	
8.a	Documents Attached supporting the compliance to qualification criteria	
9.	Form 4.1: Performance Statement	
9.a	Documents/ contracts supporting the performance statement	
10.	Form 5: Terms and Conditions - Compliance	
10.a	Documents if any at the option of Bidder, supporting deviation	
11.	Form 6: This Checklist	
12.	Form 7: Documents relating to Bid Security	
13.	If applicable, Form 8: Duly signed Integrity Pact, If stipulated in AITB	
14.	Price Schedule (BOQ) Excel Sheet downloaded from the Portal filled and uploaded)	
15.	Any other requirements, if stipulated in TIS/ AITB; or if considered relevant by the Bidder	

……..
(Signature with date)
……..
(Name and designation)
Duly authorized to sign bid for and on behalf of…….

[name & address of Bidder and seal of company]

Form 7: Documents relating to Bid Security.

Note: To be submitted as part of Technical bid, along with supporting documents, if any. Submit as Form 7 as part of Technical bid, a Bid Securing Declaration In lieu of bid security in the following format. Bidders exempted from submission of bid security are also required to submit this.

Bid Securing Declaration
(on Company Letter-head)
Bidder's Name_____
[Address and Contact Details]
Bidder's Reference No._____ Date…….
To
The President of India, through
Head of Procurement
Procuring Organisation
[Complete address of the Procuring Entity]
Ref: Tender Document No. Tend No./ xxxx; Tender Title: GOODS
Sir/ Madam
We, the undersigned, solemnly declare that:
We understand that according to the conditions of this Tender Document, the bid must be supported by a Bid Securing Declaration in lieu of Bid Security.
We unconditionally accept the conditions of this Bid Securing Declaration. We understand that we shall stand automatically suspended from being eligible for bidding in any tender in Procuring Organisation for 2 years from the date of opening of this bid if we breach our obligation(s) under the tender conditions if we:
1) withdraw/ amend/ impair/ derogate, in any respect, from our bid, within the bid validity; or
2) being notified within the bid validity of the acceptance of our bid by the Procuring Entity:
(a) refused to or failed to produce the original documents for scrutiny or the required Performance Security within the stipulated time under the conditions of the Tender Document.
(b) Fail or refuse to sign the contract.

We know that this bid-Securing Declaration shall expire if the contract is not awarded to us, upon:
1) receipt by us of your notification
(a) of cancellation of the entire tender process or rejection of all bids or
(b) of the name of the successful bidder or
2) forty-five days after the expiration of the bid validity or any extension to it.
(Signature with date)
……..
(Name and designation)
Duly authorized to sign bid for and on behalf of…….
[name & address of Bidder and seal of company]
Dated on ……. day of …….. [insert date of signing]
Place……[insert place of signing]
DA:……

Form 8: Integrity Pact

(To be signed on Plain Paper)
(To be submitted as part of Technical bid)
Integrity Pact for Tender Document No. Tend No./ xxxx; Tender Title: GOODS
This Agreement (hereinafter called the Integrity Pact) is made on _____ day of the month of _____202__ at _____, India.
BETWEEN
Procuring Organis ation, ---------- through Head of the Procuring Organisation, for and on behalf of President of India (hereinafter called the "The Principal", which expression shall mean and include unless the context otherwise requires, his successors in office and assigns) of the First Part
AND
M/ s. _____ (hereinafter called the "The Bidder/ Contractor" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.
PREAMBLE
'The Principal' intends to award, under laid down organizational procedures, contract/ s for _____, 'The Principal' values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/ transparency in its relations with its Bidder(s) and/ or Contractor(s).
In order to achieve these goals, the Principal shall appoint Independent External Monitors (IEMs) who shall monitor the tender process and the execution of the contract for compliance with the principles mentioned above.
Section 1 - Commitments of the 'The Principal'

1) 'The Principal' commits itself to take all measures necessary to prevent corruption and to observe the following principles: -
   (a) No employee of the Principal, personally or through family members, shall in connection with the tender for, or the execution of a 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 shall, during the tender process, treat all Bidder(s) with equity and reason. The Principal shall in particular, before and during the tender process, provide to all Bidder(s) the same information and shall 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 shall exclude from the process all known prejudiced persons.
2) If the Principal obtains information on the conduct of any of its employees, which is a criminal offence under the IPC/ PC Act, or if there be a substantive suspicion in this regard, the Principal shall inform the Chief Vigilance Officer and, in addition, can initiate disciplinary actions.

Section 2 - Commitments of the 'Bidder/ Contractor'

1) The 'Bidder/ Contractor' commit themselves to take all measures necessary to prevent corruption. The 'Bidder/ Contractor' commit themselves to observe the following principles during participation in the tender process and during the contract execution.
   a. The 'Bidder/ Contractor' shall not, directly or through any other person or firm, offer, promise, or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he 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/ Contractor' shall not enter with other Bidders info 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 introduce cartelisation in the tender process.
c. The 'Bidder/ Contractor' shall not commit any offence under the relevant IPC/ PC Act; further, the 'Bidder/ Contractor' shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals, and business details, including information contained or transmitted electronically.
d. The 'Bidder/ Contractor' of foreign origin shall disclose the name and address of the Agents/ representatives in India if any. Similarly, the Bidder/ Contractors of Indian Nationality shall furnish the name and address of the foreign principals, if any. Further details as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers" shall be disclosed by the Bidder/ Contractor. Further, as mentioned in the Guidelines, all the payments made to the Indian agent/ representative have to be in Indian Rupees only. Copy of the "Guidelines on Indian Agents of Foreign Suppliers" is placed in Appendix to this agreement.
e. The 'Bidder/ Contractor' shall, when presenting their bid, disclose any and all payments made, is committed to, or intends to make to agents, brokers, or any other intermediaries in connection with the award of the contract.
f. Bidder/ Contractor who have signed the Integrity Pact shall not approach the Courts while representing the matter to IEMs and shall wait for their decision in the matter.

2) The 'Bidder/ Contractor' shall not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 - Disqualification from tender process and exclusion from future contracts

If the 'Bidder/ Contractor', before award or during execution, has committed a transgression through a violation of Section 2, above or in any other form such as to put their reliability or credibility in question, the Principal is entitled to disqualify the 'Bidder/ Contractor' from the tender process or take action as per the procedure mentioned in the "Guidelines on Banning of business dealings".

Section 4 - Compensation for Damages

1) If the Principal has disqualified the 'Bidder/ Contractor' from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover from 'Bidder/ Contractor' the damages equivalent to Earnest Money Deposit/ Bid Security.
2) If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the contractor liquidated damages of the contract value or the amount equivalent to Performance Bank Guarantee.

Section 5 - Previous transgression

1) Bidder declares that no previous transgressions occurred in the last three years with any other Company in any country conforming to the anti-corruption approach or with any Public Sector Enterprise in India that could justify his exclusion from the tender process.

2) If Bidder makes an incorrect statement on this subject, he can be disqualified from the tender process, or action can be taken as per the procedure mentioned in "Guidelines on Banning of business dealings".

Section 6 - Equal treatment of all Bidders/ Contractors/ Subcontractors

1) In the case of Sub-contracting, the Principal Contractor shall take responsibility for the adoption of the Integrity Pact by the Sub-contractor.
2) The Principal shall enter into agreements with identical conditions as this one with all Bidders and Contractors.
3) The Principal shall disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

Section 7 - Criminal charges against violating Bidder(s)/ Contractor(s)/ Subcontractor(s)

If the Principal obtains knowledge of the conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal shall inform the same to the Chief Vigilance Officer.

Section 8 - Independent External Monitor

1) The Principal appoints a competent and credible Independent External Monitor for this Pact after approval by Central Vigilance Commission. The task of the Monitor is to review independently and objectively whether and to what extent the parties comply with the obligations under this agreement.
2) The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. The Monitor would have access to all Contract documents whenever required. It shall be obligatory for him/ her to treat the information and documents of the Bidders/ Contractors as confidential. He/ she reports to the Head of the Procuring Organisation.
3) The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal, including that provided by the contractor. The Contractor shall also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to their project documentation. The same is applicable to Sub-contractors.
4) The Monitor is under contractual obligation to treat the information and documents of the Bidder/ Contractor(s)/ Sub-contractor(s) with confidentiality. The Monitor has also signed declarations on 'Non-Disclosure of Confidential Information and of 'Absence of Conflict of Interest'. In case of any conflict of interest arising at a later date, the IEM shall inform the Head of the Procuring Organisation and recuse himself/ herself from that case.
5) The Principal shall provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the contractor. The parties offer the Monitor the option to participate in such meetings.
6) As soon as the Monitor notices, or believes to have noticed, a violation of this agreement, he shall so inform the Management of the Principal and request the Management to discontinue or take corrective action or to take other relevant action. The monitor can, in this regard, submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action, or tolerate action.
7) The Monitor shall submit a written report to the Head of the Procuring Organisation within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.

8) If the Monitor has reported to the Head of the Procuring Organisation, a substantiated suspicion of an offence under relevant IPC/ PC Act, and Head of the Procuring Organisation has not, within the reasonable time, taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.
9) The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

This Pact begins when both parties have legally signed it. It expires for the contractor 12 months after the last payment under the contract and for all other Bidders 6 months after the contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.

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

Section 10 - Other provisions

1) This agreement is subject to Indian Law. The place of performance and jurisdiction is the Registered Office of the Principal, i.e., New Delhi.
2) Changes and supplements, as well as termination notices, need to be made in writing. Side agreements have not been made.
3) If the contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
4) Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties shall strive to come to an agreement with their original intentions.
5) Issues like Warranty/ Guarantee etc. shall be outside the purview of IEMs.
6) In the event of any contradiction between the Integrity Pact and its Appendix, the Clause in the Integrity Pact shall prevail.
7) For and on behalf of the Principal

(Name of the Officer and Designation)
(Office Seal)
For and on behalf of 'Bidder/ Contractor'

(Name of the Officer and Designation)
(Office Seal)
For and on behalf of the Principal
Place
Date
Witness 1:
(Name & Address)
Witness 2:
(Name & Address)

Appendix to Integrity Pact
Guidelines for Indian Agents of Foreign Suppliers

1.0 There shall be compulsory registration of agents for all Global (Open) Tender and Limited Tender. An agent who is not registered with 'The Principal' shall apply for registration in the registration form with the appropriate unit.

1.1 Registered agents shall file an authenticated Photostat copy duly attested by a Notary Public/ Original certificate of the Principal confirming the agency agreement. It should cover - the precise relationship, services to be rendered, mutual interests in business - generally and/ or specifically for the tender. Any commission/ remuneration/ salary/ retainership, which the agent or associate receives in India or abroad from the Principal/ OEM, whether should be brought on record in the Agreement and be made explicit.

1.2 Wherever the Indian representatives have communicated on behalf of their principals and the foreign parties have stated that they are not paying any commission to the Indian agents, and the Indian representative is working on the basis of salary, or a retainer, a written declaration to this effect should be submitted by the party (i.e., Principal) before finalizing the order.

2.0 Disclosure of particulars of agents/ representatives in India, if any.

2.1 Bidders of Foreign nationality shall furnish the following details in their offers:

2.1.1 The 'Bidder/ Contractor' of foreign origin shall disclose the name and address of the agents/ representatives in India if any and the extent of authorization and authority are given to commit the Principals. In case the agent/ representative be a foreign Company, it shall be confirmed whether it is an existing Company and details of the same shall be furnished.

2.1.2 The amount of commission/ remuneration included in the quoted price(s) for such agents/ representatives in India.

2.1.3 Confirmation of Bidder that the commission/ remuneration, if any, payable to his agents/ representatives in India, may be paid by 'The Principal' in Indian Rupees only.

2.2 Bidders of Indian Nationality shall furnish the following details in their offers:

2.2.1 The 'Bidder/ Contractor' of Indian Nationality shall furnish the name and address of the foreign principals, if any, indicating their nationality as well as their status, i.e., whether manufacturer or agents of manufacturer holding the Letter of Authority of the Principal authorizing the agent specifically to make an offer in India in response to tender either directly or through the agents/ representatives.

2.2.2 The amount of commission/ remuneration included in the price (s) quoted by Bidder for himself.

2.2.3 Confirmation of the foreign principals of Bidder that the commission/ remuneration, if any, reserved for Bidder in the quoted price(s), may be paid by 'The Principal' in India in equivalent Indian Rupees on satisfactory completion of the Project or supplies of Goods and Spares in case of operation items.

2.3 In either case, in the event of contract, materializing, the terms of payment shall provide for payment of the commission/ remuneration, if any, payable to the agents/ representatives in India in Indian Rupees on expiry of 90 days after the discharge of the obligations under the contract.

2.4 Failure to furnish correct and detailed information as called for in clauses above shall render the concerned bid liable to rejection or, in the event of a contract materializing, the same liable to termination by 'The Principal'. Besides this, there would be a penalty of banning business dealings with 'The Principal' or damage or payment of a named sum.

FORMATS

Format 1: Contract Form

The President of India, through
Head of Procurement
Procuring Organisation
[Complete address of the Procuring Entity]

Contract No…… dated…….
To
Contractor [Write Name]
Unique GeM Supplier ID:……
[Complete address of the contractor]
Subject: ----------
Ref: 1. *This office' Letter of Award (LoA) No……..…… dated ……..*
2. This office Tender Document No. Tend No./ xxxx; Tender Title: GOODS, dated…… and subsequent Amendment No……., dated…… (If any). (Hereinafter referred to as 'the Tender Document')
3. Your Tender No…… dated…….. and subsequent communication(s)/ Revised Offer No…… dated …….. (If any), exchanged between you and this office in connection with this tender. (Hereinafter referred to as 'Your Offer')

Dear Sir/ Madam,
Your bid referred above, read with subsequent letters mentioned above, for the Goods stipulated in the Schedules annexed herewith, have been accepted. Terms and conditions in this Contract and the documents listed in the clause below shall apply.
2. Terms and conditions in the documents mentioned under Reference no: 1, 2 and 3 above (including General and Special Conditions of Contract) shall also be part of this contract.
Note: The words, expressions, definitions, and abbreviations used in this contract shall have the same meanings as are respectively assigned to them in the General Condition of Contract of 'the Tender Document'.
(Signature, name and address of [Procuring Entity]'s authorized official)
For and on behalf of…….
Received and accepted this contract ……..
(Signature, name, and address of the contractor's executive duly authorized to sign on behalf of the contractor)
For and on behalf of ……
(Name and address of the contractor)
……
(Seal of the contractor)
Place:_____ Date:

Format 1.1: Bank Guarantee Format for Performance Security

To
The President of India, through
Head of Procurement
Procuring Organisation
[Complete address of the Procuring Entity]

Whereas…… (name and address of the contractor) (hereinafter called "the contractor") has undertaken, in pursuance of contract no …….. date……. to supply …… (description of goods and Works/ Services) (hereinafter called "the contract").
And Whereas you have stipulated it in the said contract that the contractor shall furnish you with a bank guarantee by a Commercial bank for the sum specified therein as security for compliance with its obligations as per the contract;
And Whereas we have agreed to give the contractor such a bank guarantee.
Now Therefore we hereby affirm that we are guarantors and responsible to you, on behalf of the contractor, up to a total of ……(amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the contractor to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.
We hereby waive the necessity of your demanding the sail debt from the contractor before presenting us with demand.
We further agree that no change or addition to or other modification of the terms of the contract to be performed thereunder or of any of the contract documents which may be made between you and the contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition, or modification.

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

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

(Signature of the authorized officer of the Bank)

…….

…….

Name and designation of the officer

……

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

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

Format 1.2: No Claim Certificate

(On company Letter-head)
Contractor's Name_____
[Address and Contact Details]
Contractor's Reference No._____ Date…….
To
The President of India, through
Head of Procurement
Procuring Organisation
[Complete address of the Procuring Entity]

No Claim Certificate

Sub: Contract Agreement no. ---------- dated ----------for the supply of ----------

We have received the sum of Rs. (Rupees _____only) as final settlement due to us for the supply of_____ under the abovementioned contract agreement.

We have received all the amounts payable to us with this payment and have no outstanding dispute of any description whatsoever regarding the amounts worked out as payable to us and received by us.

We hereby unconditionally and without any reservation whatsoever, certify that we shall have no further claim whatsoever, of any description, on any account, against the Procuring Entity, under contract above. We shall continue to be bound by the terms and conditions of the contract agreement regarding its performance.

Yours faithfully,
Signatures of contractor or
officer authorised to sign the contract documents.
on behalf of the contractor

(company Seal)

Date:_____
Place:_____

Format 1.3: Certification by Prospective Arbitrators

To
Head of the Procuring Organisation
Procuring Organisation
[Complete address of the Procuring Entity]

Certification by Prospective Arbitrators

1. Name: _____
2. Contact Details: _____
3. I hereby certify that I am retired officer of *[Name of Organisation]* retired as_____in_____grade.
4. I have no past or present relationship concerning the subject matter in dispute, whether financial, business, professional or another kind.

Or

I have past or present relationships concerning the subject matter in dispute, whether financial, business, professional or another kind. The list of such interests is as under:------

5. I have no past or present relationship/ interest financial, business, professional or other, in any of the parties, which may raise justifiable doubts about my independence or impartiality in terms of the Arbitration and Conciliation Act 1996 amended from time to time.

Or

I have past or present relationship/ interest financial, business, professional or other, in any of the parties, which may raise justifiable doubts about my independence or impartiality in terms of the Arbitration and Conciliation Act 1996 as amended from to time. The details of such relationship or interest are as under:----------

6. There are no concurrent circumstances that are likely to affect my ability to devote sufficient time to the arbitration and finish the entire arbitration within twelve months.

Or

Some circumstances are likely to affect my ability to devote sufficient time to the arbitration and finish the entire arbitration within twelve months. The list of such circumstances is as under:----------

(Signature)
(Name & Designation)

Format 2: Authorization for Attending Pre-bid Conference.

(on Company Official Letter Head)
Bidder's Name_____
[Address and Contact Details]
Bidder's Reference No._____ Date…….
To
The President of India, through
Head of Procurement
Procuring Organisation
[Complete address of the Procuring Entity]
Ref: Tender Document No. Tend No./ xxxx; Tender Title: GOODS
Subject: Authorization for attending Pre-bid Conference on _____ (date).
Following persons are hereby authorized to attend the Pre-bid Conference for the tender mentioned above on behalf of _____ (Bidder) in order of preference given below.

Sr.	**Name**	**Government Photo ID Type/ Number**
I.		
II.		
Alternate Representative		

Note:
1. Maximum of two representatives (carrying valid Government photo IDs) shall be permitted to attend the Pre-bid opening. An alternate representative shall be permitted when regular representatives are not able to attend.
2. Permission to enter the hall where the pre-bid conference is conducted may be refused if authorization as prescribed above is not submitted.

Signatures of bidder
or
Officer authorized to sign the bid.
Documents on behalf of the bidder
[name & address of Bidder and seal

Annexure A

Detailed Specs on account of SIT&C of VRF/VRV system in Accounts Section Block of NIT Srinagar.

S. No	DESCRIPTION	Unit	QTY
1	**VRF Outdoor Units** Supply, Installation, testing & commissioning of Variable refrigerant flow modular type air-conditioning system suitable to operate from 415+10% volt, 50 Hz,3 phase AC power supply for **Cooling & Heating** by using inverter driven capacity control compressors complete with individual controller and fittings with necessary wiring, connection & termination, painted MS frame for outdoor unit etc. as per quantity given below including full charging of R-410A refrigerant gas complete as per specifications. The outdoor unit shall be factory assembled, weather proof casing (Material of construction of casing shall be vendor's standard design), constructed from heavy gauge GI sheets steel panels and coated with baked enamel finish. The outdoor unit shall be completely factory wired, tested with all necessary controls & filled with first charge of refrigerant before delivering at site. The inverter technology based D.C Twin Rotary / Scroll compressor modular type VRF equipment should of designed, so that refrigerant piping between outdoor units and furthest indoor unit shall be extendable up to 225m. Allowable level difference between outdoor & indoor unit shall be 50m in case of outdoor unit on top & 40m in case of outdoor unit at bottom. Allowable level difference between two indoor units connected to same outdoor unit shall be upto 15m. All the outdoor units comprising of multiple modules should have 100% inverter type compressor in each module. The units should comply with minimum COP of 4.2 at 100% load (Heating mode) and minimum 7.1 at 50% load in cooling mode at following conditions: Outdoor Condition 35 Deg C DBT and Indoor condition: 27 deg C DBT and 19 Deg C WBT, and each module should have all inverter compressor/unit. IEER not less than 6.5 The outdoor units shall be suitable to operate within an ambient temperature range of **0 Deg C to 40 Deg C in cooling mode and -20 Deg C to 20 Deg C in heating mode.** Anti Ice Circuit/ Auto defrost kit if required to operate at this temperature in winter to be provided in ODU. It should also be provided with duty cycling for D.C inverter Twin Rotary/ Scroll compressors capable of changing the rotating speed of compressor by inverter controller to follow variation in cooling & heating loads & switching starting sequence for better stability and prolonging equipment life or similar features if available in D.C Twin Rotary / Scroll will also be accepted. The unit shall be provided with its own microprocessor control panel with provision for integration with the building management system/Centralized remote controller for Air-conditioning system. The machine must have a sub cool feature to use coil surface more effectively through proper circuit/ bridge so that it prevents the flushing of refrigerant from long piping due to this effect thereby achieving energy savings. The outdoor unit should be fitted with low noise level and should not be more than 67 db (A) at normal operation when measured at a point 1 mtr. In front of the unit at a height of 1.5 mtrs.The outdoor unit should be fitted with low noise aero spiral design fan with aero fitting grill for spiral discharge airflow to reduce pressure loss and should be fixed with DC/AC fan motor for better efficiency.	Per HP	28

	The outdoor unit shall have refrigerant cool PCB chamber for better operation at high ambient temperature.		
	The outdoor unit shall have feature to change the evaporative temperature with respect to load for better comfort and energy efficiency.		
	The systems shall have free phase technology & operation shall be continuous in case of phase reverse in supply electricity.		
	The system shall have automatic refrigerant charge function for optimal charging for additional refrigerant.		
	The fan static pressure of the outdoor unit shall be minimum 75 Pa to avoid hot air recirculation.		
	The compressor is inverter based D.C Twin Rotary / Scroll compressor system shall be highly efficient. The system should response efficiently in accordance to the variation in cooling or heating load requirement. All outdoor units shall have multiple steps of capacity control to meet load fluctuation and indoor unit individual control. All parts of compressor shall be sufficiently lubricated stock. Forced lubrication may also be employed. Oil heaters shall be provided in the compressor casing.		
	Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths. The system shall have oil recovery cycle of 8 or more hours. The system must be provided with oil balancing circuit to avoid poor lubrication.		
	Final Configuration/ selection of module for ODUs based on piping circuit to provide sufficient redundancy in system to be done by contractor as per floor & project requirement.		
2	Supply, Installation, testing & commissioning of **Hi Wall** type Unit of suitable capacity suitable to operate from 230+10% volt, 50 HZ, 1 phase power supply with cordless remote control, fittings & required cable to connect indoor unit to socket.Refrigerant Pipe size and gas quantity should suit to the copper pipe length at actual.The capacity guarantee should be ensured by the contractor/manufacturer.Each unit shall Low gas detection system.		
2.1	2TR	Nos	11
2.2	1.5TR	Nos	1
3	**Refrigerant Piping for VRF system**		
	Supply & Installation of interconnecting suitable sizes of one end expanded refrigerant copper pipe work, insulated with 13mm thick (pipe size upto 19.1mm dia) & 19mm thick (pipe size above 19.1mm dia) with XPLE Class-O tubular/ closed cell electrometric nitrile rubber tubular insulation sleeves sections of specified thickness between each set of indoor & outdoor units with outer mechanical protection of aluminum cladding for all exposed pipes as per specification. All piping inside the room shall be properly fixed/supported with suitable size of clamp/ M.S. hanger and all external piping shall run in M.S. painted cable tray etc. as reqd.		
	Piping vaccumiazation and Nitrogen testing to be done by contractor and price for the same to be included		
	Thickness of pipes should be as per VRF manufacturer's recommendation.		
3.1	28.6 mm dia with 19mm thick insulation	Mtrs.	30
3.2	22.2 mm dia with 19mm thick insulation	Mtrs.	15
3.3	19.1 mm dia with 13mm thick insulation	Mtrs.	40
3.4	15.9 mm dia with 13mm thick insulation	Mtrs.	90
3.5	12.7 mm dia with 13mm thick insulation	Mtrs.	30
3.6	9.5 mm dia with 13mm thick insulation	Mtrs.	125
3.7	6.4 mm dia with 13mm thick insulation	Mtrs.	5
3.8	Cost on account of charging of refrigerant in the piping circuit	Job	2
4	Supply, Installation, testing and commissioning of necessary fittings, **Y-joints** and headers etc.	Set	12
5	**Drain Piping for VRF IDUs**		

	Providing & fixing of heavy duty PVC Pipe complete with fittings, supports as per specifications and duly insulated with 6 mm thickness of XPLE Class-O tubular/ closed cell tubular nitrile rubber as required & as per specifications.		
5.1	20mm dia	Mtrs.	60
6	**Electric Control Panel**		
	Supplying, installation, testing & commissioning of cubical type wall mounted power distribution panels suitable for 415V, 3 Phase, 4Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having suitable capacity extensible type FP Aluminium Alloy bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 31 MV A for I Sec. with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 1.5 sq.mm.		
	Incomer		
	1No. 100 Amps Four Pole, MCCB with thermal & magnetic releases.with 3 Nos. R,Y,B Indication Lamps with 2A back up SP MCB with ON indication.MCCB shall be provided with spreader link and direct rotary handle.	Nos	1
	Busbar:		
	TPN aluminium bus bars of minimum of 100A capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc.		
	Outgoings		
	Supplying and fixing following outgoing MCCB/MCB including connection, inter-connection etc. with suitable size of wires complete as required.(Each MCCB to be provided with ON indiation with 2A backup SP MCB)		
	32 Amp 4P MCCB with ELCB- 02 No.		
	06 Amp DP MCB - 12 Nos		
7	**Centralised Remote Controller:-** Supply, installation, testing & commissioning of touch screen type centralised remote controller along with control wiring etc all complete cabable of monitoring parameters of all Indoor units and Outdoor units.	Nos	2
8	**Electric Cables:-**Providing and fixing of electric power cabling from distribution panel to floor panel and from floor panels to outdoor units suitable for 415v, 3 phase, 50 Hz and from floor panels to individual indoor units suitable for single phase supply.		
8.1	4c x 16 mm², copper	Rmt	40
8.2	3c x 1.5 mm², copper	Rmt	700
8.3	2c x 1.5 mm², copper	Rmt	180
9	**Cable Trays:-** Providing and fixing of hot dip galvanised perforated/ladder cable Trays of following sizes:		
9.1	150mm in width and 50mm depth (16SWG) perforated type	Rmt	150
10	Cost on account of providing & fixing of ACP conduit to completely conceal the refrigerant piping circuit including cable trays etc.	Sqm	50

Detailed Specs on account of SIT&C of VRF/VRV system in Library Block of NIT Srinagar

S. No	DESCRIPTION	Unit	QTY
	VRF Outdoor Units		
1	Supply, Installation, testing & commissioning of Variable refrigerant flow modular type air-conditioning system suitable to operate from 415+10% volt, 50 Hz,3 phase AC power supply for **Cooling & Heating** by using inverter driven capacity control compressors complete with individual controller and fittings with necessary wiring, connection & termination, painted MS frame for outdoor unit etc. as per quantity given below including full charging of R-410A refrigerant gas complete as per specifications. The outdoor unit shall be factory assembled, weather proof casing (Material of construction of casing shall be vendor's standard design), constructed from heavy gauge GI sheets steel panels and coated with baked enamel finish. The outdoor unit shall be completely factory wired, tested with all necessary controls & filled with first charge of refrigerant before delivering at site. The inverter technology based D.C Twin Rotary / Scroll compressor modular type VRF equipment should of designed, so that refrigerant piping between outdoor units and furthest indoor unit shall be extendable up to 225m. Allowable level difference between outdoor & indoor unit shall be 50m in case of outdoor unit on top & 40m in case of outdoor unit at bottom. Allowable level difference between two indoor units connected to same outdoor unit shall be upto 15m. All the outdoor units comprising of multiple modules should have 100% inverter type compressor in each module. The units should comply with minimum COP of 4.2 at 100% load (Heating mode) and minimum 7.1 at 50% load in cooling mode at following conditions: Outdoor Condition 35 Deg C DBT and Indoor condition: 27 deg C DBT and 19 Deg C WBT, and each module should have all inverter compressor/unit. IEER not less than 6.5 The outdoor units shall be suitable to operate within an ambient temperature range of **0 Deg C to 40 Deg C in cooling mode and -20 Deg C to 20 Deg C in heating mode.** Anti Ice Circuit/ Auto defrost kit if required to operate at this temperature in winter to be provided in ODU. It should also be provided with duty cycling for D.C inverter Twin Rotary/ Scroll compressors capable of changing the rotating speed of compressor by inverter controller to follow variation in cooling & heating loads & switching starting sequence for better stability and prolonging equipment life or similar features if available in D.C Twin Rotary / Scroll will also be accepted. The unit shall be provided with its own microprocessor control panel with provision for integration with the building management system/Centralized remote controller for Air-conditioning system. The machine must have a sub cool feature to use coil surface more effectively through proper circuit/ bridge so that it prevents the flushing of refrigerant from long piping due to this effect thereby achieving energy savings. The outdoor unit should be fitted with low noise level and should not be more than 67 db (A) at normal operation when measured at a point 1 mtr. In front of the unit at a height of 1.5 mtrs.The outdoor unit should be fitted with low noise aero spiral design fan with aero fitting grill for spiral discharge airflow to reduce pressure loss and should be fixed with DC/AC fan motor for better efficiency. The outdoor unit shall have refrigerant cool PCB chamber for better operation at high ambient temperature.	Per HP	60

	The outdoor unit shall have feature to change the evaporative temperature with respect to load for better comfort and energy efficiency.		
	The systems shall have free phase technology & operation shall be continuous in case of phase reverse in supply electricity.		
	The system shall have automatic refrigerant charge function for optimal charging for additional refrigerant.		
	The fan static pressure of the outdoor unit shall be minimum 75 Pa to avoid hot air recirculation.		
	The compressor is inverter based D.C Twin Rotary / Scroll compressor system shall be highly efficient. The system should response efficiently in accordance to the variation in cooling or heating load requirement. All outdoor units shall have multiple steps of capacity control to meet load fluctuation and indoor unit individual control. All parts of compressor shall be sufficiently lubricated stock. Forced lubrication may also be employed. Oil heaters shall be provided in the compressor casing.		
	Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths. The system shall have oil recovery cycle of 8 or more hours. The system must be provided with oil balancing circuit to avoid poor lubrication.		
	Final Configuration/ selection of module for ODUs based on piping circuit to provide sufficient redundancy in system to be done by contractor as per floor & project requirement.		
	Indoor VRF/VRV Units (Nominal Capacity) - Ceiling Mounted Round/4way flow Cassette type Unit		
2	Supply, Installation, testing & commissioning of **Ceiling Mounted Round/4way flow cassette** type Unit of suitable capacity suitable to operate from 230+10% volt, 50 HZ, 1 phase power supply with cordless remote control, fittings & required cable to connect indoor unit to socket.Refrigerant Pipe size and gas quantity should suit to the copper pipe length at actual.The capacity guarantee should be ensured by the contractor/manufacturer.Each unit shall have high lift drain pump, and Low gas detection system.		
2.1	1.5TR	Nos	18
2.2	2.0 TR	Nos	4
3	Supply, Installation, testing & commissioning of **Hi Wall** type Unit of suitable capacity suitable to operate from 230+10% volt, 50 HZ, 1 phase power supply with cordless remote control, fittings & required cable to connect indoor unit to socket.Refrigerant Pipe size and gas quantity should suit to the copper pipe length at actual.The capacity guarantee should be ensured by the contractor/manufacturer.Each unit shall have Low gas detection system.		
3.1	1.0TR	Nos	5
3.2	1.5TR	Nos	3
3.3	2TR	Nos	4
	Refrigerant Piping for VRF system		
4	Supply & Installation of interconnecting suitable sizes of one end expanded refrigerant copper pipe work, insulated with 13mm thick (pipe size upto 19.1mm dia) & 19mm thick (pipe size above 19.1mm dia) with XPLE Class-O tubular/ closed cell electrometric nitrile rubber tubular insulation sleeves sections of specified thickness between each set of indoor & outdoor units with outer mechanical protection of aluminum cladding for all exposed pipes as per specification. All piping inside the room shall be properly fixed/supported with suitable size of clamp/ M.S. hanger and all external piping shall run in M.S. painted cable tray etc. as reqd.		
	Piping vaccumiazation and Nitrogen testing to be done by contractor and price for the same to be included		

	Thickness of pipes should be as per VRF manufacturer's recommendation.		
4.1	41.3 mm dia with 19mm thick insulation	Mtrs.	25
4.2	34.9 mm dia with 19mm thick insulation	Mtrs.	20
4.3	28.6 mm dia with 19mm thick insulation	Mtrs.	45
4.4	22.2 mm dia with 19mm thick insulation	Mtrs.	40
4.5	19.1 mm dia with 13mm thick insulation	Mtrs.	120
4.6	15.9 mm dia with 13mm thick insulation	Mtrs.	115
4.7	12.7 mm dia with 13mm thick insulation	Mtrs.	110
4.8	9.5 mm dia with 13mm thick insulation	Mtrs.	200
4.9	6.4 mm dia with 13mm thick insulation	Mtrs.	110
4.1	Cost on account of charging of refrigerant in the piping circuit	Job	1
6	**Drain Piping for VRF IDUs**		
	Providing & fixing of heavy duty PVC Pipe complete with fittings, supports as per specifications and duly insulated with 6 mm thickness of XPLE Class-O tubular/ closed cell tubular nitrile rubber as required & as per specifications.		
6.1	50 mm dia with 9 mm thick insulation	Mtrs.	150
6.2	32 mm dia with 9 mm thick insulation	Mtrs.	75
6.3	20mm dia	Mtrs.	40
7	**Electric Control Panel**		
	Supplying, installation, testing & commissioning of cubical type wall mounted power distribution panels suitable for 415V, 3 Phase, 4Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having suitable capacity extensible type FP Aluminium Alloy bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 31 MV A for I Sec. with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 1.5 sq.mm.	Nos	1
	Incomer		
	1No. 200 Amps Four Pole, MCCB with thermal & magnetic releases.with 3 Nos. R,Y,B Indication Lamps with 2A back up SP MCB with ON indication.MCCB shall be provided with spreader link and direct rotary handle.		
	Busbar:		
	TPN aluminium bus bars of minimum of 250A capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc.		
	Outgoings		
	Supplying and fixing following outgoing MCCB/MCB including connection, inter-connection etc. with suitable size of wires complete as required.(Each MCCB to be provided with ON indiation with 2A backup SP MCB)		
	63 Amp 4P MCCB with ELCB- 03 No.		
	06 Amp DP MCB - 36 Nos		
8	**Centralised Remote Controller:-** Supply, installation, testing & commissioning of touch screen type centralised remote controller along with control wiring etc all complete cabable of monitoring parameters of all Indoor units and Outdoor units.	Nos	1
9	**Electric Cables:-**Providing and fixing of electric power cabling from distribution panel to floor panel and from floor panels to outdoor units suitable for 415v, 3 phase, 50 Hz and from floor panels to individual indoor units suitable for single phase supply.		
9.1	4c x 16 mm², copper	Rmt	75
9.2	3c x 1.5 mm², copper	Rmt	1500

9.3	2c x 1.5 mm², copper	Rmt	300
10	**Cable Trays:-** Providing and fixing of hot dip galvanised perforated/ladder cable Trays of following sizes:		
10.1	150mm in width and 50mm depth (16SWG) perforated type	Rmt	350
11	Cost on account of providing & fixing of ACP conduit to completely conceal the refrigerant piping circuit including cable trays etc.	Sqm	100

Detailed Specs on account of SIT&C of VRF/VRV system in Health Center of NIT Srinagar.

S. No	DESCRIPTION	Unit	QTY
	VRF Outdoor Units		
1	Supply, Installation, testing & commissioning of Variable refrigerant flow modular type air-conditioning system suitable to operate from 415+10% volt, 50 Hz,3 phase AC power supply for **Cooling & Heating** by using inverter driven capacity control compressors complete with individual controller and fittings with necessary wiring, connection & termination, painted MS frame for outdoor unit etc. as per quantity given below including full charging of R-410A refrigerant gas complete as per specifications. The outdoor unit shall be factory assembled, weather proof casing (Material of construction of casing shall be vendor's standard design), constructed from heavy gauge GI sheets steel panels and coated with baked enamel finish. The outdoor unit shall be completely factory wired, tested with all necessary controls & filled with first charge of refrigerant before delivering at site. The inverter technology based D.C Twin Rotary / Scroll compressor modular type VRF equipment should of designed, so that refrigerant piping between outdoor units and furthest indoor unit shall be extendable up to 225m. Allowable level difference between outdoor & indoor unit shall be 50m in case of outdoor unit on top & 40m in case of outdoor unit at bottom. Allowable level difference between two indoor units connected to same outdoor unit shall be upto 15m. All the outdoor units comprising of multiple modules should have 100% inverter type compressor in each module. The units should comply with minimum COP of 4.2 at 100% load (Heating mode)and minimum 7.1 at 50% load in cooling mode at following conditions: Outdoor Condition 35 Deg C DBT and Indoor condition: 27 deg C DBT and 19 Deg C WBT, and each module should have all inverter compressor/unit. IEER not less than 6.5 The outdoor units shall be suitable to operate within an ambient temperature range of **0 Deg C to 40 Deg C in cooling mode and -20 Deg C to 20 Deg C in heating mode.** Anti Ice Circuit/ Auto defrost kit if required to operate at this temperature in winter to be provided in ODU. It should also be provided with duty cycling for D.C inverter Twin Rotary/ Scroll compressors capable of changing the rotating speed of compressor by inverter controller to follow variation in cooling & heating loads & switching starting sequence for better stability and prolonging equipment life or similar features if available in D.C Twin Rotary / Scroll will also be accepted. The unit shall be provided with its own microprocessor control panel with provision for integration with the building management system/Centralized remote controller for Air-conditioning system. The machine must have a sub cool feature to use coil surface more effectively through proper circuit/ bridge so that it prevents the flushing of refrigerant from long piping due to this effect thereby achieving energy savings. The outdoor unit should be fitted with low noise level and should not be more than 67 db (A) at normal operation when measured at a point 1 mtr. In front of the unit at a height of 1.5 mtrs.The outdoor unit should be fitted with low noise aero spiral design fan with aero fitting grill for spiral discharge airflow to reduce pressure loss and should be fixed with DC/AC fan motor for better efficiency. The outdoor unit shall have refrigerant cool PCB chamber for better operation at high ambient temperature.	Per HP	24

	The outdoor unit shall have feature to change the evaporative temperature with respect to load for better comfort and energy efficiency.		
	The systems shall have free phase technology & operation shall be continuous in case of phase reverse in supply electricity.		
	The system shall have automatic refrigerant charge function for optimal charging for additional refrigerant.		
	The fan static pressure of the outdoor unit shall be minimum 75 Pa to avoid hot air recirculation.		
	The compressor is inverter based D.C Twin Rotary / Scroll compressor system shall be highly efficient. The system should response efficiently in accordance to the variation in cooling or heating load requirement. All outdoor units shall have multiple steps of capacity control to meet load fluctuation and indoor unit individual control. All parts of compressor shall be sufficiently lubricated stock. Forced lubrication may also be employed. Oil heaters shall be provided in the compressor casing.		
	Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths. The system shall have oil recovery cycle of 8 or more hours. The system must be provided with oil balancing circuit to avoid poor lubrication.		
	Final Configuration/ selection of module for ODUs based on piping circuit to provide sufficient redundancy in system to be done by contractor as per floor & project requirement.		
2	Supply, Installation, testing & commissioning of **Hi Wall** type Unit of suitable capacity suitable to operate from 230+10% volt, 50 HZ, 1 phase power supply with cordless remote control, fittings & required cable to connect indoor unit to socket.Refrigerant Pipe size and gas quantity should suit to the copper pipe length at actual.The capacity guarantee should be ensured by the contractor/manufacturer.Each unit shall have Low gas detection system.		
2.1	1.0TR	Nos	7
2.2	1.5TR	Nos	4
2.3	2TR	Nos	3
3	**Refrigerant Piping for VRF system**		
	Supply & Installation of interconnecting suitable sizes of one end expanded refrigerant copper pipe work, insulated with 13mm thick (pipe size upto 19.1mm dia) & 19mm thick (pipe size above 19.1mm dia) with XPLE Class-O tubular/ closed cell electrometric nitrile rubber tubular insulation sleeves sections of specified thickness between each set of indoor & outdoor units with outer mechanical protection of aluminum cladding for all exposed pipes as per specification. All piping inside the room shall be properly fixed/supported with suitable size of clamp/ M.S. hanger and all external piping shall run in M.S. painted cable tray etc. as reqd.		
	Piping vaccumiazation and Nitrogen testing to be done by contractor and price for the same to be included		
	Thickness of pipes should be as per VRF manufacturer's recommendation.		
3.1	28.6 mm dia with 19mm thick insulation	Mtrs.	15
3.2	22.2 mm dia with 19mm thick insulation	Mtrs.	20
3.3	19.1 mm dia with 13mm thick insulation	Mtrs.	45
3.4	15.9 mm dia with 13mm thick insulation	Mtrs.	25
3.5	12.7 mm dia with 13mm thick insulation	Mtrs.	55
3.6	9.5 mm dia with 13mm thick insulation	Mtrs.	90
3.7	6.4 mm dia with 13mm thick insulation	Mtrs.	45
3.8	Cost on account of charging of refrigerant in the piping circuit	Job	1
4	Supply, Installation, testing and commissioning of necessary fittings, **Y-joints** and headers etc.	Set	14
5	**Drain Piping for VRF IDUs**		

	Providing & fixing of heavy duty PVC Pipe complete with fittings, supports as per specifications and duly insulated with 6 mm thickness of XPLE Class-O tubular/ closed cell tubular nitrile rubber as required & as per specifications.		
5.1	20mm dia	Mtrs.	60
6	**Electric Control Panel**		
	Supplying, installation, testing & commissioning of cubical type wall mounted power distribution panels suitable for 415V, 3 Phase, 4Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having suitable capacity extensible type FP Aluminium Alloy bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 31 MV A for I Sec. with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 1.5 sq.mm.		
	Incomer		
	1No. 120 Amps Four Pole, MCCB with thermal & magnetic releases.with 3 Nos. R,Y,B Indication Lamps with 2A back up SP MCB with ON indication.MCCB shall be provided with spreader link and direct rotary handle.	Nos	1
	Busbar:		
	TPN aluminium bus bars of minimum of 150A capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc.		
	Outgoings		
	Supplying and fixing following outgoing MCCB/MCB including connection, inter-connection etc. with suitable size of wires complete as required.(Each MCCB to be provided with ON indiation with 2A backup SP MCB)		
	32 Amp 4P MCCB with ELCB- 02 No.		
	06 Amp DP MCB - 14 Nos		
7	**Centralised Remote Controller:-** Supply, installation, testing & commissioning of touch screen type centralised remote controller along with control wiring etc all complete cabable of monitoring parameters of all Indoor units and Outdoor units.	Nos	1
8	**Electric Cables:-**Providing and fixing of electric power cabling from distribution panel to floor panel and from floor panels to outdoor units suitable for 415v, 3 phase, 50 Hz and from floor panels to individual indoor units suitable for single phase supply.		
8.1	4c x 16 mm², copper	Rmt	30
8.2	3c x 1.5 mm², copper	Rmt	700
8.3	2c x 1.5 mm², copper	Rmt	130
9	**Cable Trays:-** Providing and fixing of hot dip galvanised perforated/ladder cable Trays of following sizes:		
9.1	150mm in width and 50mm depth (16SWG) perforated type	Rmt	140
10	Cost on account of providing & fixing of ACP conduit to completely conceal the refrigerant piping circuit including cable trays etc.	Sqm	70

Detailed Specs on account of SIT&C of VRF/VRV system in Building near Health Center of NIT Srinagar

S. No	DESCRIPTION	Unit	QTY
	VRF Outdoor Units		
1	Supply, Installation, testing & commissioning of Variable refrigerant flow modular type air-conditioning system suitable to operate from 415+10% volt, 50 Hz,3 phase AC power supply for **Cooling & Heating** by using inverter driven capacity control compressors complete with individual controller and fittings with necessary wiring, connection & termination, painted MS frame for outdoor unit etc. as per quantity given below including full charging of R-410A refrigerant gas complete as per specifications. The outdoor unit shall be factory assembled, weather proof casing (Material of construction of casing shall be vendor's standard design), constructed from heavy gauge GI sheets steel panels and coated with baked enamel finish. The outdoor unit shall be completely factory wired, tested with all necessary controls & filled with first charge of refrigerant before delivering at site. The inverter technology based D.C Twin Rotary / Scroll compressor modular type VRF equipment should of designed, so that refrigerant piping between outdoor units and furthest indoor unit shall be extendable up to 225m. Allowable level difference between outdoor & indoor unit shall be 50m in case of outdoor unit on top & 40m in case of outdoor unit at bottom. Allowable level difference between two indoor units connected to same outdoor unit shall be upto 15m. All the outdoor units comprising of multiple modules should have 100% inverter type compressor in each module. The units should comply with minimum COP of 4.2 at 100% load (Heating mode) and minimum 7.1 at 50% load in cooling mode at following conditions: Outdoor Condition 35 Deg C DBT and Indoor condition: 27 deg C DBT and 19 Deg C WBT, and each module should have all inverter compressor/unit. IEER not less than 6.5 The outdoor units shall be suitable to operate within an ambient temperature range of **0 Deg C to 40 Deg C in cooling mode and -20 Deg C to 20 Deg C in heating mode.** Anti Ice Circuit/ Auto defrost kit if required to operate at this temperature in winter to be provided in ODU. It should also be provided with duty cycling for D.C inverter Twin Rotary/ Scroll compressors capable of changing the rotating speed of compressor by inverter controller to follow variation in cooling & heating loads & switching starting sequence for better stability and prolonging equipment life or similar features if available in D.C Twin Rotary / Scroll will also be accepted. The unit shall be provided with its own microprocessor control panel with provision for integration with the building management system/Centralized remote controller for Air-conditioning system. The machine must have a sub cool feature to use coil surface more effectively through proper circuit/ bridge so that it prevents the flushing of refrigerant from long piping due to this effect thereby achieving energy savings. The outdoor unit should be fitted with low noise level and should not be more than 67 db (A) at normal operation when measured at a point 1 mtr. In front of the unit at a height of 1.5 mtrs.The outdoor unit should be fitted with low noise aero spiral design fan with aero fitting grill for spiral discharge airflow to reduce pressure loss and should be fixed with DC/AC fan motor for better efficiency.	Per HP	22

	The outdoor unit shall have refrigerant cool PCB chamber for better operation at high ambient temperature.		
	The outdoor unit shall have feature to change the evaporative temperature with respect to load for better comfort and energy efficiency.		
	The systems shall have free phase technology & operation shall be continuous in case of phase reverse in supply electricity.		
	The system shall have automatic refrigerant charge function for optimal charging for additional refrigerant.		
	The fan static pressure of the outdoor unit shall be minimum 75 Pa to avoid hot air recirculation.		
	The compressor is inverter based D.C Twin Rotary / Scroll compressor system shall be highly efficient. The system should response efficiently in accordance to the variation in cooling or heating load requirement. All outdoor units shall have multiple steps of capacity control to meet load fluctuation and indoor unit individual control. All parts of compressor shall be sufficiently lubricated stock. Forced lubrication may also be employed. Oil heaters shall be provided in the compressor casing.		
	Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths. The system shall have oil recovery cycle of 8 or more hours. The system must be provided with oil balancing circuit to avoid poor lubrication.		
	Final Configuration/ selection of module for ODUs based on piping circuit to provide sufficient redundancy in system to be done by contractor as per floor & project requirement.		
2	Supply, Installation, testing & commissioning of **Ceiling Mounted Round/4way flow cassette** type Unit of suitable capacity suitable to operate from 230+10% volt, 50 HZ, 1 phase power supply with cordless remote control, fittings & required cable to connect indoor unit to socket.Refrigerant Pipe size and gas quantity should suit to the copper pipe length at actual.The capacity guarantee should be ensured by the contractor/manufacturer.Each unit shall have high lift drain pump, and Low gas detection system.		
2.1	3.0 TR	Nos	6
3	**Refrigerant Piping for VRF system**		
	Supply & Installation of interconnecting suitable sizes of one end expanded refrigerant copper pipe work, insulated with 13mm thick (pipe size upto 19.1mm dia) & 19mm thick (pipe size above 19.1mm dia) with XPLE Class-O tubular/ closed cell electrometric nitrile rubber tubular insulation sleeves sections of specified thickness between each set of indoor & outdoor units with outer mechanical protection of aluminum cladding for all exposed pipes as per specification. All piping inside the room shall be properly fixed/supported with suitable size of clamp/ M.S. hanger and all external piping shall run in M.S. painted cable tray etc. as reqd.		
	Piping vaccumiazation and Nitrogen testing to be done by contractor and price for the same to be included		
	Thickness of pipes should be as per VRF manufacturer's recommendation.		
3.1	28.6 mm dia with 19mm thick insulation	Mtrs.	25
3.2	22.2 mm dia with 19mm thick insulation	Mtrs.	10
3.3	19.1 mm dia with 13mm thick insulation	Mtrs.	10
3.4	15.9 mm dia with 13mm thick insulation	Mtrs.	45
3.5	12.7 mm dia with 13mm thick insulation	Mtrs.	25
3.6	9.5 mm dia with 13mm thick insulation	Mtrs.	45
3.7	Cost on account of charging of refrigerant in the piping circuit	Job	1
4	Supply, Installation, testing and commissioning of necessary fittings, **Y-joints** and headers etc.	Set	6
5	**Drain Piping for VRF IDUs**		

	Providing & fixing of heavy duty PVC Pipe complete with fittings, supports as per specifications and duly insulated with 6 mm thickness of XPLE Class-O tubular/ closed cell tubular nitrile rubber as required & as per specifications.		
5.1	50 mm dia with 9 mm thick insulation	Mtrs.	40
5.2	32 mm dia with 9 mm thick insulation	Mtrs.	30
6	**Electric Control Panel**		
	Supplying, installation, testing & commissioning of cubical type wall mounted power distribution panels suitable for 415V, 3 Phase, 4Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having suitable capacity extensible type FP Aluminium Alloy bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 31 MV A for I Sec. with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 1.5 sq.mm.	Nos	1
	Incomer		
	1No. 120 Amps Four Pole, MCCB with thermal & magnetic releases.with 3 Nos. R,Y,B Indication Lamps with 2A back up SP MCB with ON indication.MCCB shall be provided with spreader link and direct rotary handle.		
	Busbar:		
	TPN aluminium bus bars of minimum of 150A capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc.		
	Outgoings		
	Supplying and fixing following outgoing MCCB/MCB including connection, inter-connection etc. with suitable size of wires complete as required.(Each MCCB to be provided with ON indiation with 2A backup SP MCB)		
	32 Amp 4P MCCB with ELCB- 02 No.		
	06 Amp DP MCB - 6 Nos		
7	**Centralised Remote Controller:-** Supply, installation, testing & commissioning of touch screen type centralised remote controller along with control wiring etc all complete cabable of monitoring parameters of all Indoor units and Outdoor units.	Nos	1
8	**Electric Cables:-**Providing and fixing of electric power cabling from distribution panel to floor panel and from floor panels to outdoor units suitable for 415v, 3 phase, 50 Hz and from floor panels to individual indoor units suitable for single phase supply.		
8.1	4c x 16 mm^2, copper	Rmt	30
8.2	3c x 1.5 mm^2, copper	Rmt	170
8.3	2c x 1.5 mm^2, copper	Rmt	60
9	**Cable Trays:-** Providing and fixing of hot dip galvanised perforated/ladder cable Trays of following sizes:		
9.1	150mm in width and 50mm depth (16SWG) perforated type	Rmt	70
10	Cost on account of providing & fixing of ACP conduit to completely conceal the refrigerant piping circuit including cable trays etc.	Sqm	25

Detailed Specs on account of SIT&C of VRF/VRV system in Administrative Block of NIT Srinagar.

S. No	DESCRIPTION	Unit	QTY
	VRF Outdoor Units		
1	Supply, Installation, testing & commissioning of Variable refrigerant flow modular type air-conditioning system suitable to operate from 415+10% volt, 50 Hz,3 phase AC power supply for **Cooling & Heating** by using inverter driven capacity control compressors complete with individual controller and fittings with necessary wiring, connection & termination, painted MS frame for outdoor unit etc. as per quantity given below including full charging of R-410A refrigerant gas complete as per specifications. The outdoor unit shall be factory assembled, weather proof casing (Material of construction of casing shall be vendor's standard design), constructed from heavy gauge GI sheets steel panels and coated with baked enamel finish. The outdoor unit shall be completely factory wired, tested with all necessary controls & filled with first charge of refrigerant before delivering at site. The inverter technology based D.C Twin Rotary / Scroll compressor modular type VRF equipment should of designed, so that refrigerant piping between outdoor units and furthest indoor unit shall be extendable up to 225m. Allowable level difference between outdoor & indoor unit shall be 50m in case of outdoor unit on top & 40m in case of outdoor unit at bottom. Allowable level difference between two indoor units connected to same outdoor unit shall be upto 15m. All the outdoor units comprising of multiple modules should have 100% inverter type compressor in each module. The units should comply with minimum COP of 4.2 at 100% load (Heating mode) and minimum 7.1 at 50% load in cooling mode at following conditions: Outdoor Condition 35 Deg C DBT and Indoor condition: 27 deg C DBT and 19 Deg C WBT, and each module should have all inverter compressor/unit. IEER not less than 6.5 The outdoor units shall be suitable to operate within an ambient temperature range of **0 Deg C to 40 Deg C in cooling mode and -20 Deg C to 20 Deg C in heating mode.** Anti Ice Circuit/ Auto defrost kit if required to operate at this temperature in winter to be provided in ODU. It should also be provided with duty cycling for D.C inverter Twin Rotary/ Scroll compressors capable of changing the rotating speed of compressor by inverter controller to follow variation in cooling & heating loads & switching starting sequence for better stability and prolonging equipment life or similar features if available in D.C Twin Rotary / Scroll will also be accepted. The unit shall be provided with its own microprocessor control panel with provision for integration with the building management system/Centralized remote controller for Air-conditioning system. The machine must have a sub cool feature to use coil surface more effectively through proper circuit/ bridge so that it prevents the flushing of refrigerant from long piping due to this effect thereby achieving energy savings. The outdoor unit should be fitted with low noise level and should not be more than 67 db (A) at normal operation when measured at a point 1 mtr. In front of the unit at a height of 1.5 mtrs.The outdoor unit should be fitted with low noise aero spiral design fan with aero fitting grill for spiral discharge airflow to reduce pressure loss and should be fixed with DC/AC fan motor for better efficiency. The outdoor unit shall have refrigerant cool PCB chamber for better operation at high ambient temperature.	Per HP	92

	The outdoor unit shall have feature to change the evaporative temperature with respect to load for better comfort and energy efficiency.		
	The systems shall have free phase technology & operation shall be continuous in case of phase reverse in supply electricity.		
	The system shall have automatic refrigerant charge function for optimal charging for additional refrigerant.		
	The fan static pressure of the outdoor unit shall be minimum 75 Pa to avoid hot air recirculation.		
	The compressor is inverter based D.C Twin Rotary / Scroll compressor system shall be highly efficient. The system should response efficiently in accordance to the variation in cooling or heating load requirement. All outdoor units shall have multiple steps of capacity control to meet load fluctuation and indoor unit individual control. All parts of compressor shall be sufficiently lubricated stock. Forced lubrication may also be employed. Oil heaters shall be provided in the compressor casing.		
	Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths. The system shall have oil recovery cycle of 8 or more hours. The system must be provided with oil balancing circuit to avoid poor lubrication.		
	Final Configuration/ selection of module for ODUs based on piping circuit to provide sufficient redundancy in system to be done by contractor as per floor & project requirement. Make:- Toshiba/Diakin/O-General		
2	Supply, Installation, testing & commissioning of **Hi Wall** type Unit of suitable capacity suitable to operate from 230+10% volt, 50 HZ, 1 phase power supply with cordless remote control, fittings & required cable to connect indoor unit to socket.Refrigerant Pipe size and gas quantity should suit to the copper pipe length at actual.The capacity guarantee should be ensured by the contractor/manufacturer.Each unit shall have Low gas detection system.		
2.1	1.5TR	Nos	40
2.2	2TR	Nos	4
3	**Refrigerant Piping for VRF system**		
	Supply & Installation of interconnecting suitable sizes of one end expanded refrigerant copper pipe work, insulated with 13mm thick (pipe size upto 19.1mm dia) & 19mm thick (pipe size above 19.1mm dia) with XPLE Class-O tubular/ closed cell electrometric nitrile rubber tubular insulation sleeves sections of specified thickness between each set of indoor & outdoor units with outer mechanical protection of aluminum cladding for all exposed pipes as per specification. All piping inside the room shall be properly fixed/supported with suitable size of clamp/ M.S. hanger and all external piping shall run in M.S. painted cable tray etc. as reqd.		
	Piping vaccumiazation and Nitrogen testing to be done by contractor and price for the same to be included		
	Thickness of pipes should be as per VRF manufacturer's recommendation.		
3.1	41.3 mm dia with 19mm thick insulation	Mtrs.	50
3.2	34.9 mm dia with 19mm thick insulation	Mtrs.	80
3.3	28.6 mm dia with 19mm thick insulation	Mtrs.	100
3.4	22.2 mm dia with 19mm thick insulation	Mtrs.	20
3.5	19.1 mm dia with 13mm thick insulation	Mtrs.	150
3.6	15.9 mm dia with 13mm thick insulation	Mtrs.	90
3.7	12.7 mm dia with 13mm thick insulation	Mtrs.	180
3.8	9.5 mm dia with 13mm thick insulation	Mtrs.	70
3.9	6.4 mm dia with 13mm thick insulation	Mtrs.	130
3.10	Cost on account of charging of refrigerant in the piping circuit	Job	1
4	Supply, Installation, testing and commissioning of necessary fittings, **Y-joints** and headers etc.	Set	44
5	**Drain Piping for VRF IDUs**		

	Providing & fixing of heavy duty PVC Pipe complete with fittings, supports as per specifications and duly insulated with 6 mm thickness of XPLE Class-O tubular/ closed cell tubular nitrile rubber as required & as per specifications.		
5.1	20mm dia	Mtrs.	120
6	**Electric Control Panel**		
	Supplying, installation, testing & commissioning of cubical type wall mounted power distribution panels suitable for 415V, 3 Phase, 4Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having suitable capacity extensible type FP Aluminium Alloy bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 31 MV A for I Sec. with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 1.5 sq.mm.		
	Incomer		
	1No. 250 Amps Four Pole, MCCB with thermal & magnetic releases.with 3 Nos. R,Y,B Indication Lamps with 2A back up SP MCB with ON indication.MCCB shall be provided with spreader link and direct rotary handle.	Nos	1
	Busbar:		
	TPN aluminium bus bars of minimum of 300A capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc.		
	Outgoings		
	Supplying and fixing following outgoing MCCB/MCB including connection, inter-connection etc. with suitable size of wires complete as required.(Each MCCB to be provided with ON indiation with 2A backup SP MCB)		
	32 Amp 4P MCCB with ELCB- 06 No.		
	06 Amp DP MCB - 44 Nos		
7	**Centralised Remote Controller:-** Supply, installation, testing & commissioning of touch screen type centralised remote controller along with control wiring etc all complete cabable of monitoring parameters of all Indoor units and Outdoor units.	Nos	2
8	**Electric Cables:-**Providing and fixing of electric power cabling from distribution panel to floor panel and from floor panels to outdoor units suitable for 415v, 3 phase, 50 Hz and from floor panels to individual indoor units suitable for single phase supply.		
8.1	4c x 16 mm², copper	Rmt	120
8.2	3c x 1.5 mm², copper	Rmt	3400
8.3	2c x 1.5 mm², copper	Rmt	300
9	**Cable Trays:-** Providing and fixing of hot dip galvanised perforated/ladder cable Trays of following sizes:		
9.1	150mm in width and 50mm depth (16SWG) perforated type	Rmt	350
10	Cost on account of providing & fixing of ACP conduit to completely conceal the refrigerant piping circuit including cable trays etc.	Sqm	200

Detailed Specs on account of SIT&C of VRF/VRV system in TEQUIP Lab of NIT Srinagar.

S. No	DESCRIPTION	Unit	QTY
	VRF Outdoor Units		
1	Supply, Installation, testing & commissioning of Variable refrigerant flow modular type air-conditioning system suitable to operate from 415+10% volt, 50 Hz,3 phase AC power supply for **Cooling & Heating** by using inverter driven capacity control compressors complete with individual controller and fittings with necessary wiring, connection & termination, painted MS frame for outdoor unit etc. as per quantity given below including full charging of R-410A refrigerant gas complete as per specifications. The outdoor unit shall be factory assembled, weather proof casing (Material of construction of casing shall be vendor's standard design), constructed from heavy gauge GI sheets steel panels and coated with baked enamel finish. The outdoor unit shall be completely factory wired, tested with all necessary controls & filled with first charge of refrigerant before delivering at site. The inverter technology based D.C Twin Rotary / Scroll compressor modular type VRF equipment should of designed, so that refrigerant piping between outdoor units and furthest indoor unit shall be extendable up to 225m. Allowable level difference between outdoor & indoor unit shall be 50m in case of outdoor unit on top & 40m in case of outdoor unit at bottom. Allowable level difference between two indoor units connected to same outdoor unit shall be upto 15m. All the outdoor units comprising of multiple modules should have 100% inverter type compressor in each module. The units should comply with minimum COP of 4.2 at 100% load (Heating mode) and minimum 7.1 at 50% load in cooling mode at following conditions: Outdoor Condition 35 Deg C DBT and Indoor condition: 27 deg C DBT and 19 Deg C WBT, and each module should have all inverter compressor/unit. IEER not less than 6.5 The outdoor units shall be suitable to operate within an ambient temperature range of **0 Deg C to 40 Deg C in cooling mode and -20 Deg C to 20 Deg C in heating mode.** Anti Ice Circuit/ Auto defrost kit if required to operate at this temperature in winter to be provided in ODU. It should also be provided with duty cycling for D.C inverter Twin Rotary/ Scroll compressors capable of changing the rotating speed of compressor by inverter controller to follow variation in cooling & heating loads & switching starting sequence for better stability and prolonging equipment life or similar features if available in D.C Twin Rotary / Scroll will also be accepted. The unit shall be provided with its own microprocessor control panel with provision for integration with the building management system/Centralized remote controller for Air-conditioning system. The machine must have a sub cool feature to use coil surface more effectively through proper circuit/ bridge so that it prevents the flushing of refrigerant from long piping due to this effect thereby achieving energy savings. The outdoor unit should be fitted with low noise level and should not be more than 67 db (A) at normal operation when measured at a point 1 mtr. In front of the unit at a height of 1.5 mtrs.The outdoor unit should be fitted with low noise aero spiral design fan with aero fitting grill for spiral discharge airflow to reduce pressure loss and should be fixed with DC/AC fan motor for better efficiency. The outdoor unit shall have refrigerant cool PCB chamber for better operation at high ambient temperature.	Per HP	72

	The outdoor unit shall have feature to change the evaporative temperature with respect to load for better comfort and energy efficiency.		
	The systems shall have free phase technology & operation shall be continuous in case of phase reverse in supply electricity.		
	The system shall have automatic refrigerant charge function for optimal charging for additional refrigerant.		
	The fan static pressure of the outdoor unit shall be minimum 75 Pa to avoid hot air recirculation.		
	The compressor is inverter based D.C Twin Rotary / Scroll compressor system shall be highly efficient. The system should response efficiently in accordance to the variation in cooling or heating load requirement. All outdoor units shall have multiple steps of capacity control to meet load fluctuation and indoor unit individual control. All parts of compressor shall be sufficiently lubricated stock. Forced lubrication may also be employed. Oil heaters shall be provided in the compressor casing.		
	Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths. The system shall have oil recovery cycle of 8 or more hours. The system must be provided with oil balancing circuit to avoid poor lubrication.		
	Final Configuration/ selection of module for ODUs based on piping circuit to provide sufficient redundancy in system to be done by contractor as per floor & project requirement. Make:- Toshiba/Diakin/O-General		
2	Supply, Installation, testing & commissioning of **Hi Wall** type Unit of suitable capacity suitable to operate from 230+10% volt, 50 HZ, 1 phase power supply with cordless remote control, fittings & required cable to connect indoor unit to socket.Refrigerant Pipe size and gas quantity should suit to the copper pipe length at actual.The capacity guarantee should be ensured by the contractor/manufacturer.Each unit shall have Low gas detection system.		
2.1	1.5TR	Nos	9
2.2	2TR	Nos	20
3	**Refrigerant Piping for VRF system**		
	Supply & Installation of interconnecting suitable sizes of one end expanded refrigerant copper pipe work, insulated with 13mm thick (pipe size upto 19.1mm dia) & 19mm thick (pipe size above 19.1mm dia) with XPLE Class-O tubular/ closed cell electrometric nitrile rubber tubular insulation sleeves sections of specified thickness between each set of indoor & outdoor units with outer mechanical protection of aluminum cladding for all exposed pipes as per specification. All piping inside the room shall be properly fixed/supported with suitable size of clamp/ M.S. hanger and all external piping shall run in M.S. painted cable tray etc. as reqd.		
	Piping vaccumiazation and Nitrogen testing to be done by contractor and price for the same to be included		
	Thickness of pipes should be as per VRF manufacturer's recommendation.		
3.1	41.3 mm dia with 19mm thick insulation	Mtrs.	10
3.2	34.9 mm dia with 19mm thick insulation	Mtrs.	45
3.3	28.6 mm dia with 19mm thick insulation	Mtrs.	90
3.4	22.2 mm dia with 19mm thick insulation	Mtrs.	15
3.5	19.1 mm dia with 13mm thick insulation	Mtrs.	75
3.6	15.9 mm dia with 13mm thick insulation	Mtrs.	125
3.7	12.7 mm dia with 13mm thick insulation	Mtrs.	75
3.8	9.5 mm dia with 13mm thick insulation	Mtrs.	100
3.9	6.4 mm dia with 13mm thick insulation	Mtrs.	40
3.1	Cost on account of charging of refrigerant in the piping circuit	Job	1
4	Supply, Installation, testing and commissioning of necessary fittings, **Y-joints** and headers etc.	Set	29
5	**Drain Piping for VRF IDUs**		

	Providing & fixing of heavy duty PVC Pipe complete with fittings, supports as per specifications and duly insulated with 6 mm thickness of XPLE Class-O tubular/ closed cell tubular nitrile rubber as required & as per specifications.		
5.1	20mm dia	Mtrs.	90
6	**Electric Control Panel**		
	Supplying, installation, testing & commissioning of cubical type wall mounted power distribution panels suitable for 415V, 3 Phase, 4Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having suitable capacity extensible type FP Aluminium Alloy bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 31 MV A for l Sec. with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 1.5 sq.mm.	Nos	1
	Incomer		
	1No. 160 Amps Four Pole, MCCB with thermal & magnetic releases.with 3 Nos. R,Y,B Indication Lamps with 2A back up SP MCB with ON indication.MCCB shall be provided with spreader link and direct rotary handle.		
	Busbar:		
	TPN aluminium bus bars of minimum of 200A capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc.		
	Outgoings		
	Supplying and fixing following outgoing MCCB/MCB including connection, inter-connection etc. with suitable size of wires complete as required.(Each MCCB to be provided with ON indiation with 2A backup SP MCB)		
	63 Amp 4P MCCB with ELCB- 03 No.		
	32 Amp 4P MCCB with ELCB- 01 No.		
	06 Amp DP MCB - 30 Nos		
7	**Centralised Remote Controller:-** Supply, installation, testing & commissioning of touch screen type centralised remote controller along with control wiring etc all complete cabable of monitoring parameters of all Indoor units and Outdoor units.	Nos	2
8	**Electric Cables:-**Providing and fixing of electric power cabling from distribution panel to floor panel and from floor panels to outdoor units suitable for 415v, 3 phase, 50 Hz and from floor panels to individual indoor units suitable for single phase supply.		
8.1	4c x 16 mm², copper	Rmt	40
8.2	3c x 1.5 mm², copper	Rmt	1120
8.3	2c x 1.5 mm², copper	Rmt	150
9	**Cable Trays:-** Providing and fixing of hot dip galvanised perforated/ladder cable Trays of following sizes:		
9.1	150mm in width and 50mm depth (16SWG) perforated type	Rmt	180
10	Cost on account of providing & fixing of ACP conduit to completely conceal the refrigerant piping circuit including cable trays etc.	Sqm	100

Detailed Specs on account of SIT&C of VRF/VRV system in Indus hostel of NIT Srinagar.

S. No	DESCRIPTION	Unit	QTY
1	**VRF Outdoor Units**	Per HP	32
	Supply, Installation, testing & commissioning of Variable refrigerant flow modular type air-conditioning system suitable to operate from 415+10% volt, 50 Hz,3 phase AC power supply for **Cooling & Heating** by using inverter driven capacity control compressors complete with individual controller and fittings with necessary wiring, connection & termination, painted MS frame for outdoor unit etc. as per quantity given below including full charging of R-410A refrigerant gas complete as per specifications.		
	The outdoor unit shall be factory assembled, weather proof casing (Material of construction of casing shall be vendor's standard design), constructed from heavy gauge GI sheets steel panels and coated with baked enamel finish. The outdoor unit shall be completely factory wired, tested with all necessary controls & filled with first charge of refrigerant before delivering at site.		
	The inverter technology based D.C Twin Rotary / Scroll compressor modular type VRF equipment should of designed, so that refrigerant piping between outdoor units and furthest indoor unit shall be extendable up to 225m. Allowable level difference between outdoor & indoor unit shall be 50m in case of outdoor unit on top & 40m in case of outdoor unit at bottom. Allowable level difference between two indoor units connected to same outdoor unit shall be upto 15m. All the outdoor units comprising of multiple modules should have 100% inverter type compressor in each module.		
	The units should comply with minimum COP of 4.2 at 100% load (Heating mode) and minimum 7.1 at 50% load in cooling mode at following conditions: Outdoor Condition 35 Deg C DBT and Indoor condition: 27 deg C DBT and 19 Deg C WBT, and each module should have all inverter compressor/unit. IEER not less than 6.5		
	The outdoor units shall be suitable to operate within an ambient temperature range of **0 Deg C to 40 Deg C in cooling mode and -20 Deg C to 15 Deg C in heating mode.** Anti Ice Circuit/ Auto defrost kit if required to operate at this temperature in winter to be provided in ODU.		
	It should also be provided with duty cycling for D.C inverter Twin Rotary/ Scroll compressors capable of changing the rotating speed of compressor by inverter controller to follow variation in cooling & heating loads & switching starting sequence for better stability and prolonging equipment life or similar features if available in D.C Twin Rotary / Scroll will also be accepted.		
	The unit shall be provided with its own microprocessor control panel with provision for integration with the building management system for Air-conditioning system.		
	The machine must have a sub cool feature to use coil surface more effectively through proper circuit/ bridge so that it prevents the flushing of refrigerant from long piping due to this effect thereby achieving energy savings.		
	The outdoor unit should be fitted with low noise level and should not be more than 67 db (A) at normal operation when measured at a point 1 mtr. In front of the unit at a height of 1.5 mtrs.The outdoor unit should be fitted with low noise aero spiral design fan with aero fitting grill for spiral discharge airflow to reduce pressure loss and should be fixed with DC/AC fan motor for better efficiency.		
	The outdoor unit shall have refrigerant cool PCB chamber for better operation at high ambient temperature.		
	The outdoor unit shall have feature to change the evaporative temperature with respect to load for better comfort and energy efficiency.		

	The systems shall have free phase technology & operation shall be continuous in case of phase reverse in supply electricity.		
	The system shall have automatic refrigerant charge function for optimal charging for additional refrigerant.		
	The fan static pressure of the outdoor unit shall be minimum 75 Pa to avoid hot air recirculation.		
	The compressor is inverter based D.C Twin Rotary / Scroll compressor system shall be highly efficient. The system should response efficiently in accordance to the variation in cooling or heating load requirement. All outdoor units shall have multiple steps of capacity control to meet load fluctuation and indoor unit individual control. All parts of compressor shall be sufficiently lubricated stock. Forced lubrication may also be employed. Oil heaters shall be provided in the compressor casing.		
	Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths. The system shall have oil recovery cycle of 8 or more hours. The system must be provided with oil balancing circuit to avoid poor lubrication.		
	Final Configuration/ selection of module for ODUs based on piping circuit to provide sufficient redundancy in system to be done by contractor as per floor & project requirement.		
2	Supply, installation, testing and commissioning of VRF **Floor mounted ductable** type Indoor unit equipped with washable synthetic media pre-filter, fan section with low noise fan / dynamically balanced blower, multi speed motor, coil section with DX copper coil, electronic expansion valve, corded remote control with complete wiring, fittings & required cable to connect indoor unit to socket., outer cabinet, vibration isolators, drain pan, other necessary supports, canvas connection for duct connection etc., suitable for operationon three phase AC supply complete as required. The unit shall have automatic force shut down provision in case of fire on receiveing signal from BMS System.Each unit shall have high lift drain pump.		
2.1	8 TR	Nos	3
3	Supply, installation, balancing and commissioning of fabricated at site GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports duly insulated with 19mm thick elastomeric nitrile rubber insulation (internal/external) etc. as per approved shop drawings and specifications of following sheet thickness complete as required.		
3.1	Thickness 0.80 mm sheet	Sqm	125
4	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers as per specifications.	Sqm	5
5	**<u>Refrigerant Piping for VRF system</u>**		
	Supply & Installation of interconnecting suitable sizes of one end expanded refrigerant copper pipe work, insulated with 13mm thick (pipe size upto 19.1mm dia) & 19mm thick (pipe size above 19.1mm dia) with XPLE Class-O tubular/ closed cell electrometric nitrile rubber tubular insulation sleeves sections of specified thickness between each set of indoor & outdoor units with outer mechanical protection of aluminum cladding for all exposed pipes as per specification. All piping inside the room shall be properly fixed/supported with suitable size of clamp/ M.S. hanger and all external piping shall run in M.S. painted cable tray etc. as reqd.		
	Piping vaccumiazation and Nitrogen testing to be done by contractor and price for the same to be included		
	Thickness of pipes should be as per VRF manufacturer's recommendation.		
5.1	34.9 mm dia with 19mm thick insulation	Mtrs.	20
5.2	28.6 mm dia with 19mm thick insulation	Mtrs.	20
5.3	22.2 mm dia with 19mm thick insulation	Mtrs.	9
5.4	19.1 mm dia with 13mm thick insulation	Mtrs.	30
5.5	15.9 mm dia with 13mm thick insulation	Mtrs.	15
5.6	12.7 mm dia with 13mm thick insulation	Mtrs.	15

5.7	9.5 mm dia with 13mm thick insulation	Mtrs.	10
5.8	Cost on account of charging of refrigerant in the piping circuit	Job	1
6	Supply, Installation, testing and commissioning of necessary fittings, **Y-joints** and headers etc.	Set	3
7	**Drain Piping for VRF IDUs**		
	Providing & fixing of heavy duty PVC Pipe complete with fittings, supports as per specifications and duly insulated with 6 mm thickness of XPLE Class-O tubular/ closed cell tubular nitrile rubber as required & as per specifications.		
7.1	40 mm dia with 9 mm thick insulation	Mtrs.	20
8	**Electric Control Panel**		
	Supplying, installation, testing & commissioning of cubical type wall mounted power distribution panels suitable for 415V, 3 Phase, 4Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having suitable capacity extensible type FP Aluminium Alloy bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 31 MV A for I Sec. with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 1.5 sq.mm.		
	Incomer		
	1No. 160 Amps Four Pole, MCCB with thermal & magnetic releases.with 3 Nos. R,Y,B Indication Lamps with 2A back up SP MCB with ON indication.MCCB shall be provided with spreader link and direct rotary handle.	Nos	1
	Busbar:		
	TPN aluminium bus bars of minimum of 200A capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc.		
	Outgoings		
	Supplying and fixing following outgoing MCCB/MCB including connection, inter-connection etc. with suitable size of wires complete as required.(Each MCCB to be provided with ON indiation with 2A backup SP MCB)		
	63 Amp 4P MCCB with ELCB- 01 No.		
	32 Amp 4P MCCB with ELCB- 01 No.		
	16 Amp 3P MCCB - 03 Nos		
9	**Centralised Remote Controller:-** Supply, installation, testing & commissioning of touch screen type centralised remote controller along with control wiring etc all complete cabable of monitoring parameters of all Indoor units and Outdoor units.	Nos	1
10	**Electric Cables:-**Providing and fixing of electric power cabling from distribution panel to floor panel and from floor panels to outdoor units suitable for 415v, 3 phase, 50 Hz and from floor panels to individual indoor units suitable for single phase supply.		
10.1	4c x 16 mm^2, copper	Rmt	25
10.2	4c x 4 mm^2, copper	Rmt	60
10.3	2c x 1.5 mm^2, copper	Rmt	25
11	**Cable Trays:-** Providing and fixing of hot dip galvanised perforated/ladder cable Trays of following sizes:		
11.1	150mm in width and 50mm depth (16SWG) perforated type	Rmt	35
12	Cost on account of providing & fixing of ACP conduit to completely conceal the refrigerant piping circuit including cable trays etc.	Sqm	35

Detailed Specs on account of SIT&C of VRF/VRV system in Girls hostel of NIT Srinagar.

S. No	DESCRIPTION	Unit	QTY
	VRF Outdoor Units		
1	Supply, Installation, testing & commissioning of Variable refrigerant flow modular type air-conditioning system suitable to operate from 415+10% volt, 50 Hz,3 phase AC power supply for **Cooling & Heating** by using inverter driven capacity control compressors complete with individual controller and fittings with necessary wiring, connection & termination, painted MS frame for outdoor unit etc. as per quantity given below including full charging of R-410A refrigerant gas complete as per specifications. The outdoor unit shall be factory assembled, weather proof casing (Material of construction of casing shall be vendor's standard design), constructed from heavy gauge GI sheets steel panels and coated with baked enamel finish. The outdoor unit shall be completely factory wired, tested with all necessary controls & filled with first charge of refrigerant before delivering at site. The inverter technology based D.C Twin Rotary / Scroll compressor modular type VRF equipment should of designed, so that refrigerant piping between outdoor units and furthest indoor unit shall be extendable up to 225m. Allowable level difference between outdoor & indoor unit shall be 50m in case of outdoor unit on top & 40m in case of outdoor unit at bottom. Allowable level difference between two indoor units connected to same outdoor unit shall be upto 15m. All the outdoor units comprising of multiple modules should have 100% inverter type compressor in each module. The units should comply with minimum COP of 4.2 at 100% load (Heating mode) and minimum 7.1 at 50% load in cooling mode at following conditions: Outdoor Condition 35 Deg C DBT and Indoor condition: 27 deg C DBT and 19 Deg C WBT, and each module should have all inverter compressor/unit. IEER not less than 6.5 The outdoor units shall be suitable to operate within an ambient temperature range of **0 Deg C to 40 Deg C in cooling mode and -20 Deg C to 20 Deg C in heating mode.** Anti Ice Circuit/ Auto defrost kit if required to operate at this temperature in winter to be provided in ODU. It should also be provided with duty cycling for D.C inverter Twin Rotary/ Scroll compressors capable of changing the rotating speed of compressor by inverter controller to follow variation in cooling & heating loads & switching starting sequence for better stability and prolonging equipment life or similar features if available in D.C Twin Rotary / Scroll will also be accepted. The unit shall be provided with its own microprocessor control panel with provision for integration with the building management system/Centralized remote controller for Air-conditioning system. The machine must have a sub cool feature to use coil surface more effectively through proper circuit/ bridge so that it prevents the flushing of refrigerant from long piping due to this effect thereby achieving energy savings. The outdoor unit should be fitted with low noise level and should not be more than 67 db (A) at normal operation when measured at a point 1 mtr. In front of the unit at a height of 1.5 mtrs.The outdoor unit should be fitted with low noise aero spiral design fan with aero fitting grill for spiral discharge airflow to reduce pressure loss and should be fixed with DC/AC fan motor for better efficiency.	Per HP	20

	The outdoor unit shall have refrigerant cool PCB chamber for better operation at high ambient temperature.		
	The outdoor unit shall have feature to change the evaporative temperature with respect to load for better comfort and energy efficiency.		
	The systems shall have free phase technology & operation shall be continuous in case of phase reverse in supply electricity.		
	The system shall have automatic refrigerant charge function for optimal charging for additional refrigerant.		
	The fan static pressure of the outdoor unit shall be minimum 75 Pa to avoid hot air recirculation.		
	The compressor is inverter based D.C Twin Rotary / Scroll compressor system shall be highly efficient. The system should response efficiently in accordance to the variation in cooling or heating load requirement. All outdoor units shall have multiple steps of capacity control to meet load fluctuation and indoor unit individual control. All parts of compressor shall be sufficiently lubricated stock. Forced lubrication may also be employed. Oil heaters shall be provided in the compressor casing.		
	Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths. The system shall have oil recovery cycle of 8 or more hours. The system must be provided with oil balancing circuit to avoid poor lubrication.		
	Final Configuration/ selection of module for ODUs based on piping circuit to provide sufficient redundancy in system to be done by contractor as per floor & project requirement.		
2	Supply, Installation, testing & commissioning of **Hi Wall** type Unit of suitable capacity suitable to operate from 230+10% volt, 50 HZ, 1 phase power supply with cordless remote control, fittings & required cable to connect indoor unit to socket.Refrigerant Pipe size and gas quantity should suit to the copper pipe length at actual.The capacity guarantee should be ensured by the contractor/manufacturer.Each unit shall have Low gas detection system.		
2.1	2TR	Nos	8
3	**Refrigerant Piping for VRF system**		
	Supply & Installation of interconnecting suitable sizes of one end expanded refrigerant copper pipe work, insulated with 13mm thick (pipe size upto 19.1mm dia) & 19mm thick (pipe size above 19.1mm dia) with XPLE Class-O tubular/ closed cell electrometric nitrile rubber tubular insulation sleeves sections of specified thickness between each set of indoor & outdoor units with outer mechanical protection of aluminum cladding for all exposed pipes as per specification. All piping inside the room shall be properly fixed/supported with suitable size of clamp/ M.S. hanger and all external piping shall run in M.S. painted cable tray etc. as reqd.		
	Piping vaccumiazation and Nitrogen testing to be done by contractor and price for the same to be included		
	Thickness of pipes should be as per VRF manufacturer's recommendation.		
3.1	28.6 mm dia with 19mm thick insulation	Mtrs.	20
3.2	22.2 mm dia with 19mm thick insulation	Mtrs.	25
3.3	19.1 mm dia with 13mm thick insulation	Mtrs.	10
3.4	15.9 mm dia with 13mm thick insulation	Mtrs.	35
3.5	12.7 mm dia with 13mm thick insulation	Mtrs.	5
3.6	9.5 mm dia with 13mm thick insulation	Mtrs.	45
3.7	Cost on account of charging of refrigerant in the piping circuit	Job	1
4	Supply, Installation, testing and commissioning of necessary fittings, **Y-joints** and headers etc.	Set	8

5	**Drain Piping for VRF IDUs**		
	Providing & fixing of heavy duty PVC Pipe complete with fittings, supports as per specifications and duly insulated with 6 mm thickness of XPLE Class-O tubular/ closed cell tubular nitrile rubber as required & as per specifications.		
5.1	20mm dia	Mtrs.	20
6	**Electric Control Panel**		
	Supplying, installation, testing & commissioning of cubical type wall mounted power distribution panels suitable for 415V, 3 Phase, 4Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having suitable capacity extensible type FP Aluminium Alloy bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 31 MV A for I Sec. with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 1.5 sq.mm.		
	Incomer		
	1No. 60 Amps Four Pole, MCCB with thermal & magnetic releases.with 3 Nos. R,Y,B Indication Lamps with 2A back up SP MCB with ON indication.MCCB shall be provided with spreader link and direct rotary handle.	Nos	1
	Busbar:		
	TPN aluminium bus bars of minimum of 100A capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc.		
	Outgoings		
	Supplying and fixing following outgoing MCCB/MCB including connection, inter-connection etc. with suitable size of wires complete as required.(Each MCCB to be provided with ON indiation with 2A backup SP MCB)		
	63 Amp 4P MCCB with ELCB- 01 No.		
	06 Amp DP MCB - 08 Nos		
7	**Centralised Remote Controller:-** Supply, installation, testing & commissioning of touch screen type centralised remote controller along with control wiring etc all complete cabable of monitoring parametersof all Indoor units and Outdoor units.	Nos	1
8	**Electric Cables:-**Providing and fixing of electric power cabling from distribution panel to floor panel and from floor panels to outdoor units suitable for 415v, 3 phase, 50 Hz and from floor panels to individual indoor units suitable for single phase supply.		
8.1	4c x 16 mm², copper	Rmt	20
8.2	3c x 1.5 mm², copper	Rmt	221
8.3	2c x 1.5 mm², copper	Rmt	40
9	**Cable Trays:-** Providing and fixing of hot dip galvanised perforated/ladder cable Trays of following sizes:		
9.1	150mm in width and 50mm depth (16SWG) perforated type	Rmt	50
10	Cost on account of providing & fixing of ACP conduit to completely conceal the refrigerant piping circuit including cable trays etc.	Sqm	20

Detailed Specs on account of SIT&C of VRF/VRV system in Jehlum hostel of NIT Srinagar.

S. No	DESCRIPTION	Unit	QTY
	VRF Outdoor Units		
1	Supply, Installation, testing & commissioning of Variable refrigerant flow modular type air-conditioning system suitable to operate from 415+10% volt, 50 Hz,3 phase AC power supply for **Cooling & Heating** by using inverter driven capacity control compressors complete with individual controller and fittings with necessary wiring, connection & termination, painted MS frame for outdoor unit etc. as per quantity given below including full charging of R-410A refrigerant gas complete as per specifications. The outdoor unit shall be factory assembled, weather proof casing (Material of construction of casing shall be vendor's standard design), constructed from heavy gauge GI sheets steel panels and coated with baked enamel finish. The outdoor unit shall be completely factory wired, tested with all necessary controls & filled with first charge of refrigerant before delivering at site. The inverter technology based D.C Twin Rotary / Scroll compressor modular type VRF equipment should of designed, so that refrigerant piping between outdoor units and furthest indoor unit shall be extendable up to 225m. Allowable level difference between outdoor & indoor unit shall be 50m in case of outdoor unit on top & 40m in case of outdoor unit at bottom. Allowable level difference between two indoor units connected to same outdoor unit shall be upto 15m. All the outdoor units comprising of multiple modules should have 100% inverter type compressor in each module. The units should comply with minimum COP of 4.2 at 100% load (Heating mode) and minimum 7.1 at 50% load in cooling mode at following conditions: Outdoor Condition 35 Deg C DBT and Indoor condition: 27 deg C DBT and 19 Deg C WBT, and each module should have all inverter compressor/unit. IEER not less than 6.5 The outdoor units shall be suitable to operate within an ambient temperature range of **0 Deg C to 40 Deg C in cooling mode and -20 Deg C to 20 Deg C in heating mode.** Anti Ice Circuit/ Auto defrost kit if required to operate at this temperature in winter to be provided in ODU. It should also be provided with duty cycling for D.C inverter Twin Rotary/ Scroll compressors capable of changing the rotating speed of compressor by inverter controller to follow variation in cooling & heating loads & switching starting sequence for better stability and prolonging equipment life or similar features if available in D.C Twin Rotary / Scroll will also be accepted. The unit shall be provided with its own microprocessor control panel with provision for integration with the building management system/Centralized remote controller for Air-conditioning system. The machine must have a sub cool feature to use coil surface more effectively through proper circuit/ bridge so that it prevents the flushing of refrigerant from long piping due to this effect thereby achieving energy savings. The outdoor unit should be fitted with low noise level and should not be more than 67 db (A) at normal operation when measured at a point 1 mtr. In front of the unit at a height of 1.5 mtrs.The outdoor unit should be fitted with low noise aero spiral design fan with aero fitting grill for spiral discharge airflow to reduce pressure loss and should be fixed with DC/AC fan motor for better efficiency. The outdoor unit shall have refrigerant cool PCB chamber for better operation at high ambient temperature.	Per HP	36

	The outdoor unit shall have feature to change the evaporative temperature with respect to load for better comfort and energy efficiency.		
	The systems shall have free phase technology & operation shall be continuous in case of phase reverse in supply electricity.		
	The system shall have automatic refrigerant charge function for optimal charging for additional refrigerant.		
	The fan static pressure of the outdoor unit shall be minimum 75 Pa to avoid hot air recirculation.		
	The compressor is inverter based D.C Twin Rotary / Scroll compressor system shall be highly efficient. The system should response efficiently in accordance to the variation in cooling or heating load requirement. All outdoor units shall have multiple steps of capacity control to meet load fluctuation and indoor unit individual control. All parts of compressor shall be sufficiently lubricated stock. Forced lubrication may also be employed. Oil heaters shall be provided in the compressor casing.		
	Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths. The system shall have oil recovery cycle of 8 or more hours. The system must be provided with oil balancing circuit to avoid poor lubrication.		
	Final Configuration/ selection of module for ODUs based on piping circuit to provide sufficient redundancy in system to be done by contractor as per floor & project requirement.		
2	Supply, Installation, testing & commissioning of **Ceiling Mounted Round/4way flow cassette** type Unit of suitable capacity suitable to operate from 230+10% volt, 50 HZ, 1 phase power supply with cordless remote control, fittings & required cable to connect indoor unit to socket.Refrigerant Pipe size and gas quantity should suit to the copper pipe length at actual.The capacity guarantee should be ensured by the contractor/manufacturer.Each unit shall have high lift drain pump, and Low gas detection system.		
2.2	2.0 TR	Nos	4
3	Supply, installation, testing and commissioning of VRF **Ceiling mounted ductable** type Indoor unit equipped with washable synthetic media pre-filter, fan section with low noise fan / dynamically balanced blower, multi speed motor, coil section with DX copper coil, electronic expansion valve, corded remote control with complete wiring, fittings & required cable to connect indoor unit to socket., outer cabinet, vibration isolators, drain pan, other necessary supports, canvas connection for duct connection etc., suitable for operationon single phase AC supply 230V±10%, 50Hz complete as required. The unit shall have automatic force shut down provision in case of fire on receiveing signal from BMS System.Each unit shall have high lift drain pump.		
3.1	4.5TR	Nos	4
4	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers as per specifications.	Sqm	2
5	Supplying & fixing of powder coated extruded aluminium Return Air/Exhaust Air Grills with louvers but without volume control dampers complete as required.	Sqm	2
	Refrigerant Piping for VRF system		

6	Supply & Installation of interconnecting suitable sizes of one end expanded refrigerant copper pipe work, insulated with 13mm thick (pipe size upto 19.1mm dia) & 19mm thick (pipe size above 19.1mm dia) with XPLE Class-O tubular/ closed cell electrometric nitrile rubber tubular insulation sleeves sections of specified thickness between each set of indoor & outdoor units with outer mechanical protection of aluminum cladding for all exposed pipes as per specification. All piping inside the room shall be properly fixed/supported with suitable size of clamp/ M.S. hanger and all external piping shall run in M.S. painted cable tray etc. as reqd.		
	Piping vaccumiazation and Nitrogen testing to be done by contractor and price for the same to be included		
	Thickness of pipes should be as per VRF manufacturer's recommendation.		
6.1	41.3 mm dia with 19mm thick insulation	Mtrs.	10
6.2	34.9 mm dia with 19mm thick insulation	Mtrs.	20
6.3	28.6 mm dia with 19mm thick insulation	Mtrs.	25
6.4	22.2 mm dia with 19mm thick insulation	Mtrs.	20
6.5	19.1 mm dia with 13mm thick insulation	Mtrs.	10
6.6	15.9 mm dia with 13mm thick insulation	Mtrs.	110
6.7	12.7 mm dia with 13mm thick insulation	Mtrs.	10
6.8	9.5 mm dia with 13mm thick insulation	Mtrs.	75
6.9	Cost on account of charging of refrigerant in the piping circuit	Job	1
7	Supply, Installation, testing and commissioning of necessary fittings, **Y-joints** and headers etc.	Set	8
8	**Drain Piping for VRF IDUs**		
	Providing & fixing of heavy duty PVC Pipe complete with fittings, supports as per specifications and duly insulated with 6 mm thickness of XPLE Class-O tubular/ closed cell tubular nitrile rubber as required & as per specifications.		
8.1	40 mm dia with 9 mm thick insulation	Mtrs.	30
8.2	32 mm dia with 9 mm thick insulation	Mtrs.	30
9	**Electric Control Panel**		
	Supplying, installation, testing & commissioning of cubical type wall mounted power distribution panels suitable for 415V, 3 Phase, 4Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having suitable capacity extensible type FP Aluminium Alloy bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 31 MV A for I Sec. with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 1.5 sq.mm.	Nos	1
	Incomer		
	1No. 100 Amps Four Pole, MCCB with thermal & magnetic releases.with 3 Nos. R,Y,B Indication Lamps with 2A back up SP MCB with ON indication.MCCB shall be provided with spreader link and direct rotary handle.		
	Busbar:		
	TPN aluminium bus bars of minimum of 150 A capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc.		
	Outgoings		
	Supplying and fixing following outgoing MCCB/MCB including connection, inter-connection etc. with suitable size of wires complete as required.(Each MCCB to be provided with ON indiation with 2A backup SP MCB)		

	32 Amp 4P MCCB with ELCB- 02 No.		
	16 Amp DP MCB - 08 Nos		
10	**Centralised Remote Controller:-** Supply, installation, testing & commissioning of touch screen type centralised remote controller along with control wiring etc all complete cabable of monitoring parameters of all Indoor units and Outdoor units.	Nos	1
11	**Electric Cables:-**Providing and fixing of electric power cabling from distribution panel to floor panel and from floor panels to outdoor units suitable for 415v, 3 phase, 50 Hz and from floor panels to individual indoor units suitable for single phase supply.		
11.1	4c x 16 mm², copper	Rmt	20
11.2	3c x 1.5 mm², copper	Rmt	225
11.3	2c x 1.5 mm², copper	Rmt	70
12	**Cable Trays:-** Providing and fixing of hot dip galvanised perforated/ladder cable Trays of following sizes:		
12.1	150mm in width and 50mm depth (16SWG) perforated type	Rmt	80
13	Cost on account of providing & fixing of ACP conduit to completely conceal the refrigerant piping circuit including cable trays etc.	Sqm	25

Detailed Specs on account of SIT&C of VRF/VRV system in Jehlum Extension of NIT Srinagar.

S. No	DESCRIPTION	Unit	QTY
	VRF Outdoor Units		
1	Supply, Installation, testing & commissioning of Variable refrigerant flow modular type air-conditioning system suitable to operate from 415+10% volt, 50 Hz,3 phase AC power supply for **Cooling & Heating** by using inverter driven capacity control compressors complete with individual controller and fittings with necessary wiring, connection & termination, painted MS frame for outdoor unit etc. as per quantity given below including full charging of R-410A refrigerant gas complete as per specifications. The outdoor unit shall be factory assembled, weather proof casing (Material of construction of casing shall be vendor's standard design), constructed from heavy gauge GI sheets steel panels and coated with baked enamel finish. The outdoor unit shall be completely factory wired, tested with all necessary controls & filled with first charge of refrigerant before delivering at site. The inverter technology based D.C Twin Rotary / Scroll compressor modular type VRF equipment should of designed, so that refrigerant piping between outdoor units and furthest indoor unit shall be extendable up to 225m. Allowable level difference between outdoor & indoor unit shall be 50m in case of outdoor unit on top & 40m in case of outdoor unit at bottom. Allowable level difference between two indoor units connected to same outdoor unit shall be upto 15m. All the outdoor units comprising of multiple modules should have 100% inverter type compressor in each module. The units should comply with minimum COP of 4.2 at 100% load (Heating mode) and minimum 7.1 at 50% load in cooling mode at following conditions: Outdoor Condition 35 Deg C DBT and Indoor condition: 27 deg C DBT and 19 Deg C WBT, and each module should have all inverter compressor/unit. IEER not less than 6.5 The outdoor units shall be suitable to operate within an ambient temperature range of **0 Deg C to 40 Deg C in cooling mode and -20 Deg C to 20 Deg C in heating mode.** Anti Ice Circuit/ Auto defrost kit if required to operate at this temperature in winter to be provided in ODU. It should also be provided with duty cycling for D.C inverter Twin Rotary/ Scroll compressors capable of changing the rotating speed of compressor by inverter controller to follow variation in cooling & heating loads & switching starting sequence for better stability and prolonging equipment life or similar features if available in D.C Twin Rotary / Scroll will also be accepted. The unit shall be provided with its own microprocessor control panel with provision for integration with the building management system/Centralized remote controller for Air-conditioning system. The machine must have a sub cool feature to use coil surface more effectively through proper circuit/ bridge so that it prevents the flushing of refrigerant from long piping due to this effect thereby achieving energy savings. The outdoor unit should be fitted with low noise level and should not be more than 67 db (A) at normal operation when measured at a point 1 mtr. In front of the unit at a height of 1.5 mtrs.The outdoor unit should be fitted with low noise aero spiral design fan with aero fitting grill for spiral discharge airflow to reduce pressure loss and should be fixed with DC/AC fan motor for better efficiency. The outdoor unit shall have refrigerant cool PCB chamber for better operation at high ambient temperature.	Per HP	36

	The outdoor unit shall have feature to change the evaporative temperature with respect to load for better comfort and energy efficiency.		
	The systems shall have free phase technology & operation shall be continuous in case of phase reverse in supply electricity.		
	The system shall have automatic refrigerant charge function for optimal charging for additional refrigerant.		
	The fan static pressure of the outdoor unit shall be minimum 75 Pa to avoid hot air recirculation.		
	The compressor is inverter based D.C Twin Rotary / Scroll compressor system shall be highly efficient. The system should response efficiently in accordance to the variation in cooling or heating load requirement. All outdoor units shall have multiple steps of capacity control to meet load fluctuation and indoor unit individual control. All parts of compressor shall be sufficiently lubricated stock. Forced lubrication may also be employed. Oil heaters shall be provided in the compressor casing.		
	Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths. The system shall have oil recovery cycle of 8 or more hours. The system must be provided with oil balancing circuit to avoid poor lubrication.		
	Final Configuration/ selection of module for ODUs based on piping circuit to provide sufficient redundancy in system to be done by contractor as per floor & project requirement.		
2	Supply, Installation, testing & commissioning of **Ceiling Mounted Round/4way flow cassette** type Unit of suitable capacity suitable to operate from 230+10% volt, 50 HZ, 1 phase power supply with cordless remote control, fittings & required cable to connect indoor unit to socket.Refrigerant Pipe size and gas quantity should suit to the copper pipe length at actual.The capacity guarantee should be ensured by the contractor/manufacturer.Each unit shall have high lift drain pump, and Low gas detection system.		
2.1	2.5 TR	Nos	10
3	**Refrigerant Piping for VRF system**		
	Supply & Installation of interconnecting suitable sizes of one end expanded refrigerant copper pipe work, insulated with 13mm thick (pipe size upto 19.1mm dia) & 19mm thick (pipe size above 19.1mm dia) with XPLE Class-O tubular/ closed cell electrometric nitrile rubber tubular insulation sleeves sections of specified thickness between each set of indoor & outdoor units with outer mechanical protection of aluminum cladding for all exposed pipes as per specification. All piping inside the room shall be properly fixed/supported with suitable size of clamp/ M.S. hanger and all external piping shall run in M.S. painted cable tray etc. as reqd.		
	Piping vaccumiazation and Nitrogen testing to be done by contractor and price for the same to be included		
	Thickness of pipes should be as per VRF manufacturer's recommendation.		
3.1	41.3 mm dia with 19mm thick insulation	Mtrs.	15
3.2	34.9 mm dia with 19mm thick insulation	Mtrs.	15
3.3	28.6 mm dia with 19mm thick insulation	Mtrs.	30
3.4	22.2 mm dia with 19mm thick insulation	Mtrs.	10
3.5	19.1 mm dia with 13mm thick insulation	Mtrs.	35
3.6	15.9 mm dia with 13mm thick insulation	Mtrs.	70
3.7	12.7 mm dia with 13mm thick insulation	Mtrs.	15
3.8	9.5 mm dia with 13mm thick insulation	Mtrs.	50
3.9	Cost on account of charging of refrigerant in the piping circuit	Job	1
4	Supply, Installation, testing and commissioning of necessary fittings, **Y-joints** and headers etc.	Set	10
5	**Drain Piping for VRF IDUs**		

	Providing & fixing of heavy duty PVC Pipe complete with fittings, supports as per specifications and duly insulated with 6 mm thickness of XPLE Class-O tubular/ closed cell tubular nitrile rubber as required & as per specifications.		
5.1	50 mm dia with 9 mm thick insulation	Mtrs.	40
5.3	32 mm dia with 9 mm thick insulation	Mtrs.	50
6	**Electric Control Panel**		
	Supplying, installation, testing & commissioning of cubical type wall mounted power distribution panels suitable for 415V, 3 Phase, 4Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having suitable capacity extensible type FP Aluminium Alloy bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 31 MV A for I Sec. with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 1.5 sq.mm.	Nos	1
	Incomer		
	1No. 120Amps Four Pole, MCCB with thermal & magnetic releases.with 3 Nos. R,Y,B Indication Lamps with 2A back up SP MCB with ON indication.MCCB shall be provided with spreader link and direct rotary handle.		
	Busbar:		
	TPN aluminium bus bars of minimum of 150 A capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc.		
	Outgoings		
	Supplying and fixing following outgoing MCCB/MCB including connection, inter-connection etc. with suitable size of wires complete as required.(Each MCCB to be provided with ON indiation with 2A backup SP MCB)		
	32 Amp 4P MCCB with ELCB- 02 No.		
	16 Amp DP MCB - 10 Nos		
7	**Centralised Remote Controller:-** Supply, installation, testing & commissioning of touch screen type centralised remote controller along with control wiring etc all complete cabable of monitoring parameters of all Indoor units and Outdoor units.	Nos	1
8	**Electric Cables:-**Providing and fixing of electric power cabling from distribution panel to floor panel and from floor panels to outdoor units suitable for 415v, 3 phase, 50 Hz and from floor panels to individual indoor units suitable for single phase supply.		
8.1	4c x 16 mm², copper	Rmt	30
8.2	3c x 1.5 mm², copper	Rmt	330
8.3	2c x 1.5 mm², copper	Rmt	75
9	**Cable Trays:-** Providing and fixing of hot dip galvanised perforated/ladder cable Trays of following sizes:		
9.1	150mm in width and 50mm depth (16SWG) perforated type	Rmt	85
10	Cost on account of providing & fixing of ACP conduit to completely conceal the refrigerant piping circuit including cable trays etc.	Sqm	25

Detailed Specs on account of SIT&C of VRF/VRV system in Chenab hostel of NIT Srinagar.

S. No	DESCRIPTION	Unit	QTY
	VRF Outdoor Units		
1	Supply, Installation, testing & commissioning of Variable refrigerant flow modular type air-conditioning system suitable to operate from 415+10% volt, 50 Hz,3 phase AC power supply for **Cooling & Heating** by using inverter driven capacity control compressors complete with individual controller and fittings with necessary wiring, connection & termination, painted MS frame for outdoor unit etc. as per quantity given below including full charging of R-410A refrigerant gas complete as per specifications. The outdoor unit shall be factory assembled, weather proof casing (Material of construction of casing shall be vendor's standard design), constructed from heavy gauge GI sheets steel panels and coated with baked enamel finish. The outdoor unit shall be completely factory wired, tested with all necessary controls & filled with first charge of refrigerant before delivering at site. The inverter technology based D.C Twin Rotary / Scroll compressor modular type VRF equipment should of designed, so that refrigerant piping between outdoor units and furthest indoor unit shall be extendable up to 225m. Allowable level difference between outdoor & indoor unit shall be 50m in case of outdoor unit on top & 40m in case of outdoor unit at bottom. Allowable level difference between two indoor units connected to same outdoor unit shall be upto 15m. All the outdoor units comprising of multiple modules should have 100% inverter type compressor in each module. The units should comply with minimum COP of 4.2 at 100% load (Heating mode) and minimum 7.1 at 50% load in cooling mode at following conditions: Outdoor Condition 35 Deg C DBT and Indoor condition: 27 deg C DBT and 19 Deg C WBT, and each module should have all inverter compressor/unit. IEER not less than 6.5 The outdoor units shall be suitable to operate within an ambient temperature range of **0 Deg C to 40 Deg C in cooling mode and -20 Deg C to 15 Deg C in heating mode.** Anti Ice Circuit/ Auto defrost kit if required to operate at this temperature in winter to be provided in ODU. It should also be provided with duty cycling for D.C inverter Twin Rotary/ Scroll compressors capable of changing the rotating speed of compressor by inverter controller to follow variation in cooling & heating loads & switching starting sequence for better stability and prolonging equipment life or similar features if available in D.C Twin Rotary / Scroll will also be accepted. The unit shall be provided with its own microprocessor control panel with provision for integration with the building management system for Air-conditioning system. The machine must have a sub cool feature to use coil surface more effectively through proper circuit/ bridge so that it prevents the flushing of refrigerant from long piping due to this effect thereby achieving energy savings. The outdoor unit should be fitted with low noise level and should not be more than 67 db (A) at normal operation when measured at a point 1 mtr. In front of the unit at a height of 1.5 mtrs.The outdoor unit should be fitted with low noise aero spiral design fan with aero fitting grill for spiral discharge airflow to reduce pressure loss and should be fixed with DC/AC fan motor for better efficiency. The outdoor unit shall have refrigerant cool PCB chamber for better operation at high ambient temperature. The outdoor unit shall have feature to change the evaporative temperature with respect to load for better comfort and energy efficiency. The systems shall have free phase technology & operation shall be continuous in case of phase reverse in supply electricity. The system shall have automatic refrigerant charge function for optimal charging for additional refrigerant. The fan static pressure of the outdoor unit shall be minimum 75 Pa to avoid hot air recirculation.	Per HP	32

	The compressor is inverter based D.C Twin Rotary / Scroll compressor system shall be highly efficient. The system should response efficiently in accordance to the variation in cooling or heating load requirement. All outdoor units shall have multiple steps of capacity control to meet load fluctuation and indoor unit individual control. All parts of compressor shall be sufficiently lubricated stock. Forced lubrication may also be employed. Oil heaters shall be provided in the compressor casing. Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths. The system shall have oil recovery cycle of 8 or more hours. The system must be provided with oil balancing circuit to avoid poor lubrication. **Final Configuration/ selection of module for ODUs based on piping circuit to provide sufficient redundancy in system to be done by contractor as per floor & project requirement.**		
2	Supply, installation, testing and commissioning of VRF **Floor mounted ductable** type Indoor unit equipped with washable synthetic media pre-filter, fan section with low noise fan / dynamically balanced blower, multi speed motor, coil section with DX copper coil, electronic expansion valve, corded remote control with complete wiring, fittings & required cable to connect indoor unit to socket., outer cabinet, vibration isolators, drain pan, other necessary supports, canvas connection for duct connection etc., suitable for operationon three phase AC supply complete as required. The unit shall have automatic force shut down provision in case of fire on receiveing signal from BMS System.Each unit shall have high lift drain pump.		
2.1	8 TR	Nos	3
3	Supply, installation, balancing and commissioning of fabricated at site GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports duly insulated with 19mm thick elastomeric nitrile rubber insulation (internal/external) etc. as per approved shop drawings and specifications of following sheet thickness complete as required.		
3.1	Thickness 0.80 mm sheet	Sqm	125
4	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers as per specifications.	Sqm	5
5	**Refrigerant Piping for VRF system**		
	Supply & Installation of interconnecting suitable sizes of one end expanded refrigerant copper pipe work, insulated with 13mm thick (pipe size upto 19.1mm dia) & 19mm thick (pipe size above 19.1mm dia) with XPLE Class-O tubular/ closed cell electrometric nitrile rubber tubular insulation sleeves sections of specified thickness between each set of indoor & outdoor units with outer mechanical protection of aluminum cladding for all exposed pipes as per specification. All piping inside the room shall be properly fixed/supported with suitable size of clamp/ M.S. hanger and all external piping shall run in M.S. painted cable tray etc. as reqd.		
	Piping vaccumiazation and Nitrogen testing to be done by contractor and price for the same to be included		
	Thickness of pipes should be as per VRF manufacturer's recommendation.		
5.1	34.9 mm dia with 19mm thick insulation	Mtrs.	20
5.2	28.6 mm dia with 19mm thick insulation	Mtrs.	20
5.3	22.2 mm dia with 19mm thick insulation	Mtrs.	9
5.4	19.1 mm dia with 13mm thick insulation	Mtrs.	30
5.5	15.9 mm dia with 13mm thick insulation	Mtrs.	15
5.6	12.7 mm dia with 13mm thick insulation	Mtrs.	15
5.7	9.5 mm dia with 13mm thick insulation	Mtrs.	10
5.8	Cost on account of charging of refrigerant in the piping circuit	Job	1
6	Supply, Installation, testing and commissioning of necessary fittings, **Y-joints** and headers etc.	Set	3
7	**Drain Piping for VRF IDUs**		

	Providing & fixing of heavy duty PVC Pipe complete with fittings, supports as per specifications and duly insulated with 6 mm thickness of XPLE Class-O tubular/ closed cell tubular nitrile rubber as required & as per specifications.		
7.1	40 mm dia with 9 mm thick insulation	Mtrs.	20
8	**Electric Control Panel**		
	Supplying, installation, testing & commissioning of cubical type wall mounted power distribution panels suitable for 415V, 3 Phase, 4Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having suitable capacity extensible type FP Aluminium Alloy bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 31 MV A for I Sec. with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 1.5 sq.mm.	Nos	1
	Incomer		
	1No. 160 Amps Four Pole, MCCB with thermal & magnetic releases.with 3 Nos. R,Y,B Indication Lamps with 2A back up SP MCB with ON indication.MCCB shall be provided with spreader link and direct rotary handle.		
	Busbar:		
	TPN aluminium bus bars of minimum of 200A capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc.		
	Outgoings		
	Supplying and fixing following outgoing MCCB/MCB including connection, inter-connection etc. with suitable size of wires complete as required.(Each MCCB to be provided with ON indiation with 2A backup SP MCB)		
	63 Amp 4P MCCB with ELCB- 01 No.		
	34 Amp 4P MCCB with ELCB- 01 No.		
	16 Amp 3P MCCB - 03 Nos		
9	**Centralised Remote Controller:-** Supply, installation, testing & commissioning of touch screen type centralised remote controller along with control wiring etc all complete cabable of monitoring parameters of all Indoor units and Outdoor units.	Nos	1
10	**Electric Cables:-**Providing and fixing of electric power cabling from distribution panel to floor panel and from floor panels to outdoor units suitable for 415v, 3 phase, 50 Hz and from floor panels to individual indoor units suitable for single phase supply.		
10.1	4c x 16 mm², copper	Rmt	25
10.2	4c x 4 mm², copper	Rmt	60
10.3	2c x 1.5 mm², copper	Rmt	25
11	**Cable Trays:-** Providing and fixing of hot dip galvanised perforated/ladder cable Trays of following sizes:		
11.1	150mm in width and 50mm depth (16SWG) perforated type	Rmt	35
12	Cost on account of providing & fixing of ACP conduit to completely conceal the refrigerant piping circuit including cable trays etc.	Sqm	35

Detailed Specs on account of SIT&C of VRF/VRV system in Drawing Hall No:- 1 of NIT Srinagar.

S. No	DESCRIPTION	Unit	QTY
	VRF Outdoor Units		
1	Supply, Installation, testing & commissioning of Variable refrigerant flow modular type air-conditioning system suitable to operate from 415+10% volt, 50 Hz,3 phase AC power supply for **Cooling & Heating** by using inverter driven capacity control compressors complete with individual controller and fittings with necessary wiring, connection & termination, painted MS frame for outdoor unit etc. as per quantity given below including full charging of R-410A refrigerant gas complete as per specifications. The outdoor unit shall be factory assembled, weather proof casing (Material of construction of casing shall be vendor's standard design), constructed from heavy gauge GI sheets steel panels and coated with baked enamel finish. The outdoor unit shall be completely factory wired, tested with all necessary controls & filled with first charge of refrigerant before delivering at site. The inverter technology based D.C Twin Rotary / Scroll compressor modular type VRF equipment should of designed, so that refrigerant piping between outdoor units and furthest indoor unit shall be extendable up to 225m. Allowable level difference between outdoor & indoor unit shall be 50m in case of outdoor unit on top & 40m in case of outdoor unit at bottom. Allowable level difference between two indoor units connected to same outdoor unit shall be upto 15m. All the outdoor units comprising of multiple modules should have 100% inverter type compressor in each module. The units should comply with minimum COP of 4.2 at 100% load (Heating mode)and minimum 7.1 at 50% load in cooling mode at following conditions: Outdoor Condition 35 Deg C DBT and Indoor condition: 27 deg C DBT and 19 Deg C WBT, and each module should have all inverter compressor/unit. IEER not less than 6.5 The outdoor units shall be suitable to operate within an ambient temperature range of **0 Deg C to 40 Deg C in cooling mode and -20 Deg C to 15 Deg C in heating mode.** Anti Ice Circuit/ Auto defrost kit if required to operate at this temperature in winter to be provided in ODU. It should also be provided with duty cycling for D.C inverter Twin Rotary/ Scroll compressors capable of changing the rotating speed of compressor by inverter controller to follow variation in cooling & heating loads & switching starting sequence for better stability and prolonging equipment life or similar features if available in D.C Twin Rotary / Scroll will also be accepted. The unit shall be provided with its own microprocessor control panel with provision for integration with the building management system for Air-conditioning system. The machine must have a sub cool feature to use coil surface more effectively through proper circuit/ bridge so that it prevents the flushing of refrigerant from long piping due to this effect thereby achieving energy savings.	Per HP	34

	The outdoor unit should be fitted with low noise level and should not be more than 67 db (A) at normal operation when measured at a point 1 mtr. In front of the unit at a height of 1.5 mtrs.The outdoor unit should be fitted with low noise aero spiral design fan with aero fitting grill for spiral discharge airflow to reduce pressure loss and should be fixed with DC/AC fan motor for better efficiency.		
	The outdoor unit shall have refrigerant cool PCB chamber for better operation at high ambient temperature.		
	The outdoor unit shall have feature to change the evaporative temperature with respect to load for better comfort and energy efficiency.		
	The systems shall have free phase technology & operation shall be continuous in case of phase reverse in supply electricity.		
	The system shall have automatic refrigerant charge function for optimal charging for additional refrigerant.		
	The fan static pressure of the outdoor unit shall be minimum 75 Pa to avoid hot air recirculation.		
	The compressor is inverter based D.C Twin Rotary / Scroll compressor system shall be highly efficient. The system should response efficiently in accordance to the variation in cooling or heating load requirement. All outdoor units shall have multiple steps of capacity control to meet load fluctuation and indoor unit individual control. All parts of compressor shall be sufficiently lubricated stock. Forced lubrication may also be employed. Oil heaters shall be provided in the compressor casing.		
	Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths. The system shall have oil recovery cycle of 8 or more hours. The system must be provided with oil balancing circuit to avoid poor lubrication.		
	Final Configuration/ selection of module for ODUs based on piping circuit to provide sufficient redundancy in system to be done by contractor as per floor & project requirement.		
2	Supply, installation, testing and commissioning of VRF **Floor mounted ductable** type Indoor unit equipped with washable synthetic media pre-filter, fan section with low noise fan / dynamically balanced blower, multi speed motor, coil section with DX copper coil, electronic expansion valve, corded remote control with complete wiring, fittings & required cable to connect indoor unit to socket., outer cabinet, vibration isolators, drain pan, other necessary supports, canvas connection for duct connection etc., suitable for three phase operation unit shall have automatic force shut down provision in case of fire on receiveing signal from BMS System.Each unit shall have high lift drain pump.		
2.1	12.8 TR	Nos	2
3	Supply, installation, balancing and commissioning of fabricated at site GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports , duly insulated with 19mm thick elastomeric nitrile rubber insulation (internal/external) etc. as per approved shop drawings and specifications of following sheet thickness complete as required.		
3.1	Thickness 0.80 mm sheet	Sqm	110
4	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers as per specifications.	Sqm	4
	Refrigerant Piping for VRF system		

5	Supply & Installation of interconnecting suitable sizes of one end expanded refrigerant copper pipe work, insulated with 13mm thick (pipe size upto 19.1mm dia) & 19mm thick (pipe size above 19.1mm dia) with XPLE Class-O tubular/ closed cell electrometric nitrile rubber tubular insulation sleeves sections of specified thickness between each set of indoor & outdoor units with outer mechanical protection of aluminum cladding for all exposed pipes as per specification. All piping inside the room shall be properly fixed/supported with suitable size of clamp/ M.S. hanger and all external piping shall run in M.S. painted cable tray etc. as reqd.		
	Piping vaccumiazation and Nitrogen testing to be done by contractor and price for the same to be included		
	Thickness of pipes should be as per VRF manufacturer's recommendation.		
5.1	34.9 mm dia with 19mm thick insulation	Mtrs.	10
5.2	28.6 mm dia with 19mm thick insulation	Mtrs.	30
5.3	19.1 mm dia with 13mm thick insulation	Mtrs.	15
5.4	15.9 mm dia with 13mm thick insulation	Mtrs.	25
5.5	12.7 mm dia with 13mm thick insulation	Mtrs.	10
5.6	Cost on account of charging of refrigerant in the piping circuit	Job	1
6	Supply, Installation, testing and commissioning of necessary fittings, **Y-joints** and headers etc.	Set	2
7	**Drain Piping for VRF IDUs**		
	Providing & fixing of heavy duty PVC Pipe complete with fittings, supports as per specifications and duly insulated with 6 mm thickness of XPLE Class-O tubular/ closed cell tubular nitrile rubber as required & as per specifications.		
7.1	40 mm dia with 9 mm thick insulation	Mtrs.	20
8	**Electric Control Panel**		
	Supplying, installation, testing & commissioning of cubical type wall mounted power distribution panels suitable for 415V, 3 Phase, 4Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having suitable capacity extensible type FP Aluminium Alloy bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 31 MV A for I Sec. with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 1.5 sq.mm.		
	Incomer		
	1No. 120 Amps Four Pole, MCCB with thermal & magnetic releases.with 3 Nos. R,Y,B Indication Lamps with 2A back up SP MCB with ON indication.MCCB shall be provided with spreader link and direct rotary handle.	Nos	1
	Busbar:		
	TPN aluminium bus bars of minimum of 150A capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc.		
	Outgoings		
	Supplying and fixing following outgoing MCCB/MCB including connection, inter-connection etc. with suitable size of wires complete as required.(Each MCCB to be provided with ON indiation with 2A backup SP MCB)		
	32 Amp 4P MCCB with ELCB- 02 No.		
	22 Amp 4P MCCB - 02 Nos		

9	**Centralised Remote Controller:-** Supply, installation, testing & commissioning of touch screen type centralised remote controller along with control wiring etc all complete cabable of monitoring parameters of all indoor/outdoor units.	Nos	1
10	**Electric Cables:-**Providing and fixing of electric power cabling from distribution panel to floor panel and from floor panels to outdoor units suitable for 415v, 3 phase, 50 Hz and from floor panels to individual indoor units suitable for single phase supply.		
10.1	4c x 16 mm², copper	Rmt	30
10.2	4c x 6 mm², copper	Rmt	60
10.3	2c x 1.5 mm², copper	Rmt	30
11	**Cable Trays:-** Providing and fixing of hot dip galvanised perforated/ladder cable Trays of following sizes:		
11.1	150mm in width and 50mm depth (16SWG) perforated type	Rmt	40
12	Cost on account of providing & fixing of ACP conduit to completely conceal the refrigerant piping circuit including cable trays etc.	Sqm	30

Detailed Specs on account of SIT&C of VRF/VRV system in Drawing Hall No:-2 of NIT Srinagar.

S. No	DESCRIPTION	Unit	QTY
	VRF Outdoor Units		
1	Supply, Installation, testing & commissioning of Variable refrigerant flow modular type air-conditioning system suitable to operate from 415+10% volt, 50 Hz,3 phase AC power supply for **Cooling & Heating** by using inverter driven capacity control compressors complete with individual controller and fittings with necessary wiring, connection & termination, painted MS frame for outdoor unit etc. as per quantity given below including full charging of R-410A refrigerant gas complete as per specifications. The outdoor unit shall be factory assembled, weather proof casing (Material of construction of casing shall be vendor's standard design), constructed from heavy gauge GI sheets steel panels and coated with baked enamel finish. The outdoor unit shall be completely factory wired, tested with all necessary controls & filled with first charge of refrigerant before delivering at site. The inverter technology based D.C Twin Rotary / Scroll compressor modular type VRF equipment should of designed, so that refrigerant piping between outdoor units and furthest indoor unit shall be extendable up to 225m. Allowable level difference between outdoor & indoor unit shall be 50m in case of outdoor unit on top & 40m in case of outdoor unit at bottom. Allowable level difference between two indoor units connected to same outdoor unit shall be upto 15m. All the outdoor units comprising of multiple modules should have 100% inverter type compressor in each module. The units should comply with minimum COP of 4.2 at 100% load (Heating mode)and minimum 7.1 at 50% load in cooling mode at following conditions: Outdoor Condition 35 Deg C DBT and Indoor condition: 27 deg C DBT and 19 Deg C WBT, and each module should have all inverter compressor/unit. IEER not less than 6.5 The outdoor units shall be suitable to operate within an ambient temperature range of **0 Deg C to 40 Deg C in cooling mode and -20 Deg C to 15 Deg C in heating mode.** Anti Ice Circuit/ Auto defrost kit if required to operate at this temperature in winter to be provided in ODU. It should also be provided with duty cycling for D.C inverter Twin Rotary/ Scroll compressors capable of changing the rotating speed of compressor by inverter controller to follow variation in cooling & heating loads & switching starting sequence for better stability and prolonging equipment life or similar features if available in D.C Twin Rotary / Scroll will also be accepted. The unit shall be provided with its own microprocessor control panel with provision for integration with the building management system for Air-conditioning system. The machine must have a sub cool feature to use coil surface more effectively through proper circuit/ bridge so that it prevents the flushing of refrigerant from long piping due to this effect thereby achieving energy savings.	Per HP	34

	The outdoor unit should be fitted with low noise level and should not be more than 67 db (A) at normal operation when measured at a point 1 mtr. In front of the unit at a height of 1.5 mtrs.The outdoor unit should be fitted with low noise aero spiral design fan with aero fitting grill for spiral discharge airflow to reduce pressure loss and should be fixed with DC/AC fan motor for better efficiency.		
	The outdoor unit shall have refrigerant cool PCB chamber for better operation at high ambient temperature.		
	The outdoor unit shall have feature to change the evaporative temperature with respect to load for better comfort and energy efficiency.		
	The systems shall have free phase technology & operation shall be continuous in case of phase reverse in supply electricity.		
	The system shall have automatic refrigerant charge function for optimal charging for additional refrigerant.		
	The fan static pressure of the outdoor unit shall be minimum 75 Pa to avoid hot air recirculation.		
	The compressor is inverter based D.C Twin Rotary / Scroll compressor system shall be highly efficient. The system should response efficiently in accordance to the variation in cooling or heating load requirement. All outdoor units shall have multiple steps of capacity control to meet load fluctuation and indoor unit individual control. All parts of compressor shall be sufficiently lubricated stock. Forced lubrication may also be employed. Oil heaters shall be provided in the compressor casing.		
	Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths. The system shall have oil recovery cycle of 8 or more hours. The system must be provided with oil balancing circuit to avoid poor lubrication.		
	Final Configuration/ selection of module for ODUs based on piping circuit to provide sufficient redundancy in system to be done by contractor as per floor & project requirement.		
2	Supply, installation, testing and commissioning of VRF **Floor mounted ductable** type Indoor unit equipped with washable synthetic media pre-filter, fan section with low noise fan / dynamically balanced blower, multi speed motor, coil section with DX copper coil, electronic expansion valve, corded remote control with complete wiring, fittings & required cable to connect indoor unit to socket., outer cabinet, vibration isolators, drain pan, other necessary supports, canvas connection for duct connection etc., suitable for three phase operation unit shall have automatic force shut down provision in case of fire on receiveing signal from BMS System.Each unit shall have high lift drain pump.		
2.1	12.8 TR	Nos	2
3	Supply, installation, balancing and commissioning of fabricated at site GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports , duly insulated with 19mm thick elastomeric nitrile rubber insulation (internal/external) etc. as per approved shop drawings and specifications of following sheet thickness complete as required.		
3.1	Thickness 0.80 mm sheet	Sqm	110
4	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers as per specifications.	Sqm	4

	Refrigerant Piping for VRF system		
5	Supply & Installation of interconnecting suitable sizes of one end expanded refrigerant copper pipe work, insulated with 13mm thick (pipe size upto 19.1mm dia) & 19mm thick (pipe size above 19.1mm dia) with XPLE Class-O tubular/ closed cell electrometric nitrile rubber tubular insulation sleeves sections of specified thickness between each set of indoor & outdoor units with outer mechanical protection of aluminum cladding for all exposed pipes as per specification. All piping inside the room shall be properly fixed/supported with suitable size of clamp/ M.S. hanger and all external piping shall run in M.S. painted cable tray etc. as reqd.		
	Piping vaccumiazation and Nitrogen testing to be done by contractor and price for the same to be included		
	Thickness of pipes should be as per VRF manufacturer's recommendation.		
5.1	34.9 mm dia with 19mm thick insulation	Mtrs.	10
5.2	28.6 mm dia with 19mm thick insulation	Mtrs.	30
5.3	19.1 mm dia with 13mm thick insulation	Mtrs.	15
5.4	15.9 mm dia with 13mm thick insulation	Mtrs.	25
5.5	12.7 mm dia with 13mm thick insulation	Mtrs.	10
5.6	Cost on account of charging of refrigerant in the piping circuit	Job	1
6	Supply, Installation, testing and commissioning of necessary fittings, **Y-joints** and headers etc.	Set	2
7	**Drain Piping for VRF IDUs**		
	Providing & fixing of heavy duty PVC Pipe complete with fittings, supports as per specifications and duly insulated with 6 mm thickness of XPLE Class-O tubular/ closed cell tubular nitrile rubber as required & as per specifications.		
7.1	40 mm dia with 9 mm thick insulation	Mtrs.	20
8	**Electric Control Panel**		
	Supplying, installation, testing & commissioning of cubical type wall mounted power distribution panels suitable for 415V, 3 Phase, 4Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having suitable capacity extensible type FP Aluminium Alloy bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 31 MV A for I Sec. with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 1.5 sq.mm.	Nos	1
	Incomer		
	1No. 120 Amps Four Pole, MCCB with thermal & magnetic releases.with 3 Nos. R,Y,B Indication Lamps with 2A back up SP MCB with ON indication.MCCB shall be provided with spreader link and direct rotary handle.		
	Busbar:		
	TPN aluminium bus bars of minimum of 150A capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc.		
	Outgoings		
	Supplying and fixing following outgoing MCCB/MCB including connection, inter-connection etc. with suitable size of wires complete as required.(Each MCCB to be provided with ON indiation with 2A backup SP MCB)		
	32 Amp 4P MCCB with ELCB- 02 No.		

	22 Amp 4P MCCB - 02 Nos		
9	**Centralised Remote Controller:-** Supply, installation, testing & commissioning of touch screen type centralised remote controller along with control wiring etc all complete cabable of monitoring parameters of all indoor/outdoor units.	Nos	1
10	**Electric Cables:-**Providing and fixing of electric power cabling from distribution panel to floor panel and from floor panels to outdoor units suitable for 415v, 3 phase, 50 Hz and from floor panels to individual indoor units suitable for single phase supply.		
10.1	4c x 16 mm², copper	Rmt	30
10.2	4c x 6 mm², copper	Rmt	60
10.3	2c x 1.5 mm², copper	Rmt	30
11	**Cable Trays:-** Providing and fixing of hot dip galvanised perforated/ladder cable Trays of following sizes:		
11.1	150mm in width and 50mm depth (16SWG) perforated type	Rmt	40
12	Cost on account of providing & fixing of ACP conduit to completely conceal the refrigerant piping circuit including cable trays etc.	Sqm	30

Detailed Specs on account of SIT&C of VRF/VRV system in Drawing Hall No:-3 of NIT Srinagar.

S. No	DESCRIPTION	Unit	QTY
1	**VRF Outdoor Units** Supply, Installation, testing & commissioning of Variable refrigerant flow modular type air-conditioning system suitable to operate from 415+10% volt, 50 Hz,3 phase AC power supply for **Cooling & Heating** by using inverter driven capacity control compressors complete with individual controller and fittings with necessary wiring, connection & termination, painted MS frame for outdoor unit etc. as per quantity given below including full charging of R-410A refrigerant gas complete as per specifications. The outdoor unit shall be factory assembled, weather proof casing (Material of construction of casing shall be vendor's standard design), constructed from heavy gauge GI sheets steel panels and coated with baked enamel finish. The outdoor unit shall be completely factory wired, tested with all necessary controls & filled with first charge of refrigerant before delivering at site. The inverter technology based D.C Twin Rotary / Scroll compressor modular type VRF equipment should of designed, so that refrigerant piping between outdoor units and furthest indoor unit shall be extendable up to 225m. Allowable level difference between outdoor & indoor unit shall be 50m in case of outdoor unit on top & 40m in case of outdoor unit at bottom. Allowable level difference between two indoor units connected to same outdoor unit shall be upto 15m. All the outdoor units comprising of multiple modules should have 100% inverter type compressor in each module. The units should comply with minimum COP of 4.2 at 100% load (Heating mode) and minimum 7.1 at 50% load in cooling mode at following conditions: Outdoor Condition 35 Deg C DBT and Indoor condition: 27 deg C DBT and 19 Deg C WBT, and each module should have all inverter compressor/unit. IEER not less than 6.5 The outdoor units shall be suitable to operate within an ambient temperature range of **0 Deg C to 40 Deg C in cooling mode and -20 Deg C to 15 Deg C in heating mode.** Anti Ice Circuit/ Auto defrost kit if required to operate at this temperature in winter to be provided in ODU. It should also be provided with duty cycling for D.C inverter Twin Rotary/ Scroll compressors capable of changing the rotating speed of compressor by inverter controller to follow variation in cooling & heating loads & switching starting sequence for better stability and prolonging equipment life or similar features if available in D.C Twin Rotary / Scroll will also be accepted. The unit shall be provided with its own microprocessor control panel with provision for integration with the building management system for Air-conditioning system. The machine must have a sub cool feature to use coil surface more effectively through proper circuit/ bridge so that it prevents the flushing of refrigerant from long piping due to this effect thereby achieving energy savings.	Per HP	34

	The outdoor unit should be fitted with low noise level and should not be more than 67 db (A) at normal operation when measured at a point 1 mtr. In front of the unit at a height of 1.5 mtrs.The outdoor unit should be fitted with low noise aero spiral design fan with aero fitting grill for spiral discharge airflow to reduce pressure loss and should be fixed with DC/AC fan motor for better efficiency.		
	The outdoor unit shall have refrigerant cool PCB chamber for better operation at high ambient temperature.		
	The outdoor unit shall have feature to change the evaporative temperature with respect to load for better comfort and energy efficiency.		
	The systems shall have free phase technology & operation shall be continuous in case of phase reverse in supply electricity.		
	The system shall have automatic refrigerant charge function for optimal charging for additional refrigerant.		
	The fan static pressure of the outdoor unit shall be minimum 75 Pa to avoid hot air recirculation.		
	The compressor is inverter based D.C Twin Rotary / Scroll compressor system shall be highly efficient. The system should response efficiently in accordance to the variation in cooling or heating load requirement. All outdoor units shall have multiple steps of capacity control to meet load fluctuation and indoor unit individual control. All parts of compressor shall be sufficiently lubricated stock. Forced lubrication may also be employed. Oil heaters shall be provided in the compressor casing.		
	Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths. The system shall have oil recovery cycle of 8 or more hours. The system must be provided with oil balancing circuit to avoid poor lubrication.		
	Final Configuration/ selection of module for ODUs based on piping circuit to provide sufficient redundancy in system to be done by contractor as per floor & project requirement.		
2	Supply, installation, testing and commissioning of VRF **Floor mounted ductable** type Indoor unit equipped with washable synthetic media pre-filter, fan section with low noise fan / dynamically balanced blower, multi speed motor, coil section with DX copper coil, electronic expansion valve, corded remote control with complete wiring, fittings & required cable to connect indoor unit to socket., outer cabinet, vibration isolators, drain pan, other necessary supports, canvas connection for duct connection etc., suitable for three phase operation unit shall have automatic force shut down provision in case of fire on receiveing signal from BMS System.Each unit shall have high lift drain pump.		
2.1	12.8 TR	Nos	2
3	Supply, installation, balancing and commissioning of fabricated at site GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports , duly insulated with 19mm thick elastomeric nitrile rubber insulation (internal/external) etc. as per approved shop drawings and specifications of following sheet thickness complete as required.		
3.1	Thickness 0.80 mm sheet	Sqm	110
4	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers as per specifications.	Sqm	4

5	**Refrigerant Piping for VRF system** Supply & Installation of interconnecting suitable sizes of one end expanded refrigerant copper pipe work, insulated with 13mm thick (pipe size upto 19.1mm dia) & 19mm thick (pipe size above 19.1mm dia) with XPLE Class-O tubular/ closed cell electrometric nitrile rubber tubular insulation sleeves sections of specified thickness between each set of indoor & outdoor units with outer mechanical protection of aluminum cladding for all exposed pipes as per specification. All piping inside the room shall be properly fixed/supported with suitable size of clamp/ M.S. hanger and all external piping shall run in M.S. painted cable tray etc. as reqd. Piping vaccumiazation and Nitrogen testing to be done by contractor and price for the same to be included Thickness of pipes should be as per VRF manufacturer's recommendation.		
5.1	34.9 mm dia with 19mm thick insulation	Mtrs.	10
5.2	28.6 mm dia with 19mm thick insulation	Mtrs.	30
5.3	19.1 mm dia with 13mm thick insulation	Mtrs.	15
5.4	15.9 mm dia with 13mm thick insulation	Mtrs.	25
5.5	12.7 mm dia with 13mm thick insulation	Mtrs.	10
5.6	Cost on account of charging of refrigerant in the piping circuit	Job	1
6	Supply, Installation, testing and commissioning of necessary fittings, **Y-joints** and headers etc.	Set	2
7	**Drain Piping for VRF IDUs**		
	Providing & fixing of heavy duty PVC Pipe complete with fittings, supports as per specifications and duly insulated with 6 mm thickness of XPLE Class-O tubular/ closed cell tubular nitrile rubber as required & as per specifications.		
7.1	40 mm dia with 9 mm thick insulation	Mtrs.	20
8	**Electric Control Panel**		
	Supplying, installation, testing & commissioning of cubical type wall mounted power distribution panels suitable for 415V, 3 Phase, 4Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having suitable capacity extensible type FP Aluminium Alloy bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 31 MV A for I Sec. with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 1.5 sq.mm.	Nos	1
	Incomer		
	1No. 120 Amps Four Pole, MCCB with thermal & magnetic releases.with 3 Nos. R,Y,B Indication Lamps with 2A back up SP MCB with ON indication.MCCB shall be provided with spreader link and direct rotary handle.		
	Busbar:		
	TPN aluminium bus bars of minimum of 150A capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc.		
	Outgoings		
	Supplying and fixing following outgoing MCCB/MCB including connection, inter-connection etc. with suitable size of wires complete as required.(Each MCCB to be provided with ON indiation with 2A backup SP MCB)		
	32 Amp 4P MCCB with ELCB- 02 No.		

	22 Amp 4P MCCB - 02 Nos		
9	**Centralised Remote Controller:-** Supply, installation, testing & commissioning of touch screen type centralised remote controller along with control wiring etc all complete cabable of monitoring parameters of all indoor/outdoor units.	Nos	1
10	**Electric Cables:-**Providing and fixing of electric power cabling from distribution panel to floor panel and from floor panels to outdoor units suitable for 415v, 3 phase, 50 Hz and from floor panels to individual indoor units suitable for single phase supply.		
10.1	4c x 16 mm², copper	Rmt	30
10.2	4c x 6 mm², copper	Rmt	60
10.3	2c x 1.5 mm², copper	Rmt	30
11	**Cable Trays:-** Providing and fixing of hot dip galvanised perforated/ladder cable Trays of following sizes:		
11.1	150mm in width and 50mm depth (16SWG) perforated type	Rmt	40
12	Cost on account of providing & fixing of ACP conduit to completely conceal the refrigerant piping circuit including cable trays etc.	Sqm	30

Detailed Specs on account of SIT&C of VRF/VRV system in Prefab Dinning Hall of NIT Srinagar.

S. No	DESCRIPTION	Unit	QTY
1	**VRF Outdoor Units**	Per HP	30
	Supply, Installation, testing & commissioning of Variable refrigerant flow modular type air-conditioning system suitable to operate from 415+10% volt, 50 Hz,3 phase AC power supply for **Cooling & Heating** by using inverter driven capacity control compressors complete with individual controller and fittings with necessary wiring, connection & termination, painted MS frame for outdoor unit etc. as per quantity given below including full charging of R-410A refrigerant gas complete as per specifications.		
	The outdoor unit shall be factory assembled, weather proof casing (Material of construction of casing shall be vendor's standard design), constructed from heavy gauge GI sheets steel panels and coated with baked enamel finish. The outdoor unit shall be completely factory wired, tested with all necessary controls & filled with first charge of refrigerant before delivering at site.		
	The inverter technology based D.C Twin Rotary / Scroll compressor modular type VRF equipment should of designed, so that refrigerant piping between outdoor units and furthest indoor unit shall be extendable up to 225m. Allowable level difference between outdoor & indoor unit shall be 50m in case of outdoor unit on top & 40m in case of outdoor unit at bottom. Allowable level difference between two indoor units connected to same outdoor unit shall be upto 15m. All the outdoor units comprising of multiple modules should have 100% inverter type compressor in each module.		
	The units should comply with minimum COP of 4.2 at 100% load (Heating mode) and minimum 7.1 at 50% load in cooling mode at following conditions: Outdoor Condition 35 Deg C DBT and Indoor condition: 27 deg C DBT and 19 Deg C WBT, and each module should have all inverter compressor/unit. IEER not less than 6.5		
	The outdoor units shall be suitable to operate within an ambient temperature range of **0 Deg C to 40 Deg C in cooling mode and -20 Deg C to 20 Deg C in heating mode.** Anti Ice Circuit/ Auto defrost kit if required to operate at this temperature in winter to be provided in ODU.		
	It should also be provided with duty cycling for D.C inverter Twin Rotary/ Scroll compressors capable of changing the rotating speed of compressor by inverter controller to follow variation in cooling & heating loads & switching starting sequence for better stability and prolonging equipment life or similar features if available in D.C Twin Rotary / Scroll will also be accepted.		
	The unit shall be provided with its own microprocessor control panel with provision for integration with the building management system/Centralized remote controller for Air-conditioning system.		
	The machine must have a sub cool feature to use coil surface more effectively through proper circuit/ bridge so that it prevents the flushing of refrigerant from long piping due to this effect thereby achieving energy savings.		
	The outdoor unit should be fitted with low noise level and should not be more than 67 db (A) at normal operation when measured at a point 1 mtr. In front of the unit at a height of 1.5 mtrs.The outdoor unit should be fitted with low noise aero spiral design fan with aero fitting grill for spiral discharge airflow to reduce pressure loss and should be fixed with DC/AC fan motor for better efficiency.		
	The outdoor unit shall have refrigerant cool PCB chamber for better operation at high ambient temperature.		

	The outdoor unit shall have feature to change the evaporative temperature with respect to load for better comfort and energy efficiency.		
	The systems shall have free phase technology & operation shall be continuous in case of phase reverse in supply electricity.		
	The system shall have automatic refrigerant charge function for optimal charging for additional refrigerant.		
	The fan static pressure of the outdoor unit shall be minimum 75 Pa to avoid hot air recirculation.		
	The compressor is inverter based D.C Twin Rotary / Scroll compressor system shall be highly efficient. The system should response efficiently in accordance to the variation in cooling or heating load requirement. All outdoor units shall have multiple steps of capacity control to meet load fluctuation and indoor unit individual control. All parts of compressor shall be sufficiently lubricated stock. Forced lubrication may also be employed. Oil heaters shall be provided in the compressor casing.		
	Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths. The system shall have oil recovery cycle of 8 or more hours. The system must be provided with oil balancing circuit to avoid poor lubrication.		
	Final Configuration/ selection of module for ODUs based on piping circuit to provide sufficient redundancy in system to be done by contractor as per floor & project requirement.		
2	Supply, Installation, testing & commissioning of **Ceiling Mounted Round/4way flow cassette** type Unit of suitable capacity suitable to operate from 230+10% volt, 50 HZ, 1 phase power supply with cordless remote control, fittings & required cable to connect indoor unit to socket.Refrigerant Pipe size and gas quantity should suit to the copper pipe length at actual.The capacity guarantee should be ensured by the contractor/manufacturer.Each unit shall have high lift drain pump, and Low gas detection system.		
2.1	4.0 TR	Nos	6
3	**<u>Refrigerant Piping for VRF system</u>**		
	Supply & Installation of interconnecting suitable sizes of one end expanded refrigerant copper pipe work, insulated with 13mm thick (pipe size upto 19.1mm dia) & 19mm thick (pipe size above 19.1mm dia) with XPLE Class-O tubular/ closed cell electrometric nitrile rubber tubular insulation sleeves sections of specified thickness between each set of indoor & outdoor units with outer mechanical protection of aluminum cladding for all exposed pipes as per specification. All piping inside the room shall be properly fixed/supported with suitable size of clamp/ M.S. hanger and all external piping shall run in M.S. painted cable tray etc. as reqd.		
	Piping vaccumiazation and Nitrogen testing to be done by contractor and price for the same to be included		
	Thickness of pipes should be as per VRF manufacturer's recommendation.		
3.1	34.9 mm dia with 19mm thick insulation	Mtrs.	20
3.2	28.6 mm dia with 19mm thick insulation	Mtrs.	15
3.3	22.2 mm dia with 19mm thick insulation	Mtrs.	10
3.4	19.1 mm dia with 13mm thick insulation	Mtrs.	30
3.5	15.9 mm dia with 13mm thick insulation	Mtrs.	45
3.6	12.7 mm dia with 13mm thick insulation	Mtrs.	15
3.7	9.5 mm dia with 13mm thick insulation	Mtrs.	35
3.8	Cost on account of charging of refrigerant in the piping circuit	Job	1
4	Supply, Installation, testing and commissioning of necessary fittings, **Y-joints** and headers etc.	Set	6
5	**Drain Piping for VRF IDUs**		

	Providing & fixing of heavy duty PVC Pipe complete with fittings, supports as per specifications and duly insulated with 6 mm thickness of XPLE Class-O tubular/ closed cell tubular nitrile rubber as required & as per specifications.		
5.1	50 mm dia with 9 mm thick insulation	Mtrs.	30
5.2	32 mm dia with 9 mm thick insulation	Mtrs.	30
6	**Electric Control Panel**		
	Supplying, installation, testing & commissioning of cubical type wall mounted power distribution panels suitable for 415V, 3 Phase, 4Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having suitable capacity extensible type FP Aluminium Alloy bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 31 MV A for I Sec. with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 1.5 sq.mm.	Nos	1
	Incomer		
	1No. 120Amps Four Pole, MCCB with thermal & magnetic releases.with 3 Nos. R,Y,B Indication Lamps with 2A back up SP MCB with ON indication.MCCB shall be provided with spreader link and direct rotary handle.		
	Busbar:		
	TPN aluminium bus bars of minimum of 150 A capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc.		
	Outgoings		
	Supplying and fixing following outgoing MCCB/MCB including connection, inter-connection etc. with suitable size of wires complete as required.(Each MCCB to be provided with ON indiation with 2A backup SP MCB)		
	32 Amp 4P MCCB with ELCB- 02 No.		
	16 Amp DP MCB - 6 Nos		
7	**Centralised Remote Controller:-** Supply, installation, testing & commissioning of touch screen type centralised remote controller along with control wiring etc all complete cabable of monitoring parameters of all Indoor units and Outdoor units.	Nos	1
8	**Electric Cables:-**Providing and fixing of electric power cabling from distribution panel to floor panel and from floor panels to outdoor units suitable for 415v, 3 phase, 50 Hz and from floor panels to individual indoor units suitable for single phase supply.		
8.1	4c x 16 mm², copper	Rmt	30
8.2	3c x 1.5 mm², copper	Rmt	200
8.3	2c x 1.5 mm², copper	Rmt	65
9	**Cable Trays:-** Providing and fixing of hot dip galvanised perforated/ladder cable Trays of following sizes:		
9.1	150mm in width and 50mm depth (16SWG) perforated type	Rmt	75
10	Cost on account of providing & fixing of ACP conduit to completely conceal the refrigerant piping circuit including cable trays etc.	Sqm	25

Detailed Specs on account of SIT&C of VRF/VRV system in Tawi Dinning Hall of NIT Srinagar.

S. No	DESCRIPTION	Unit	QTY
	VRF Outdoor Units		
1	Supply, Installation, testing & commissioning of Variable refrigerant flow modular type air-conditioning system suitable to operate from 415+10% volt, 50 Hz,3 phase AC power supply for **Cooling & Heating** by using inverter driven capacity control compressors complete with individual controller and fittings with necessary wiring, connection & termination, painted MS frame for outdoor unit etc. as per quantity given below including full charging of R-410A refrigerant gas complete as per specifications. The outdoor unit shall be factory assembled, weather proof casing (Material of construction of casing shall be vendor's standard design), constructed from heavy gauge GI sheets steel panels and coated with baked enamel finish. The outdoor unit shall be completely factory wired, tested with all necessary controls & filled with first charge of refrigerant before delivering at site. The inverter technology based D.C Twin Rotary / Scroll compressor modular type VRF equipment should of designed, so that refrigerant piping between outdoor units and furthest indoor unit shall be extendable up to 225m. Allowable level difference between outdoor & indoor unit shall be 50m in case of outdoor unit on top & 40m in case of outdoor unit at bottom. Allowable level difference between two indoor units connected to same outdoor unit shall be upto 15m. All the outdoor units comprising of multiple modules should have 100% inverter type compressor in each module. The units should comply with minimum COP of 4.2 at 100% load (Heating mode)and minimum 7.1 at 50% load in cooling mode at following conditions: Outdoor Condition 35 Deg C DBT and Indoor condition: 27 deg C DBT and 19 Deg C WBT, and each module should have all inverter compressor/unit. IEER not less than 6.5 The outdoor units shall be suitable to operate within an ambient temperature range of **0 Deg C to 40 Deg C in cooling mode and -20 Deg C to 15 Deg C in heating mode.** Anti Ice Circuit/ Auto defrost kit if required to operate at this temperature in winter to be provided in ODU. It should also be provided with duty cycling for D.C inverter Twin Rotary/ Scroll compressors capable of changing the rotating speed of compressor by inverter controller to follow variation in cooling & heating loads & switching starting sequence for better stability and prolonging equipment life or similar features if available in D.C Twin Rotary / Scroll will also be accepted. The unit shall be provided with its own microprocessor control panel with provision for integration with the building management system for Air-conditioning system. The machine must have a sub cool feature to use coil surface more effectively through proper circuit/ bridge so that it prevents the flushing of refrigerant from long piping due to this effect thereby achieving energy savings. The outdoor unit should be fitted with low noise level and should not be more than 67 db (A) at normal operation when measured at a point 1 mtr. In front of the unit at a height of 1.5 mtrs.The outdoor unit should be fitted with low noise aero spiral design fan with aero fitting grill for spiral discharge airflow to reduce pressure loss and should be fixed with DC/AC fan motor for better efficiency. The outdoor unit shall have refrigerant cool PCB chamber for better operation at high ambient temperature. The outdoor unit shall have feature to change the evaporative temperature with respect to load for better comfort and energy efficiency.	Per HP	32

	The systems shall have free phase technology & operation shall be continuous in case of phase reverse in supply electricity.		
	The system shall have automatic refrigerant charge function for optimal charging for additional refrigerant.		
	The fan static pressure of the outdoor unit shall be minimum 75 Pa to avoid hot air recirculation.		
	The compressor is inverter based D.C Twin Rotary / Scroll compressor system shall be highly efficient. The system should response efficiently in accordance to the variation in cooling or heating load requirement. All outdoor units shall have multiple steps of capacity control to meet load fluctuation and indoor unit individual control. All parts of compressor shall be sufficiently lubricated stock. Forced lubrication may also be employed. Oil heaters shall be provided in the compressor casing.		
	Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths. The system shall have oil recovery cycle of 8 or more hours. The system must be provided with oil balancing circuit to avoid poor lubrication.		
	Final Configuration/ selection of module for ODUs based on piping circuit to provide sufficient redundancy in system to be done by contractor as per floor & project requirement.		
2	Supply, installation, testing and commissioning of VRF **Floor mounted ductable** type Indoor unit equipped with washable synthetic media pre-filter, fan section with low noise fan / dynamically balanced blower, multi speed motor, coil section with DX copper coil, electronic expansion valve, corded remote control with complete wiring, fittings & required cable to connect indoor unit to socket., outer cabinet, vibration isolators, drain pan, other necessary supports, canvas connection for duct connection etc., suitable for operationon single phase AC supply 230V±10%, 50Hz complete as required. The unit shall have automatic force shut down provision in case of fire on receiveing signal from BMS System.Each unit shall have high lift drain pump.		
2.1	6 TR	Nos	4
3	Supply, installation, balancing and commissioning of fabricated at site GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports duly insulated with 19mm thick elastomeric nitrile rubber insulation (internal/external) etc. as per approved shop drawings and specifications of following sheet thickness complete as required.		
3.1	Thickness 0.80 mm sheet	Sqm	40
4	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers as per specifications.	Sqm	4
5	**<u>Refrigerant Piping for VRF system</u>**		
	Supply & Installation of interconnecting suitable sizes of one end expanded refrigerant copper pipe work, insulated with 13mm thick (pipe size upto 19.1mm dia) & 19mm thick (pipe size above 19.1mm dia) with XPLE Class-O tubular/ closed cell electrometric nitrile rubber tubular insulation sleeves sections of specified thickness between each set of indoor & outdoor units with outer mechanical protection of aluminum cladding for all exposed pipes as per specification. All piping inside the room shall be properly fixed/supported with suitable size of clamp/ M.S. hanger and all external piping shall run in M.S. painted cable tray etc. as reqd.		
	Piping vaccumiazation and Nitrogen testing to be done by contractor and price for the same to be included		
	Thickness of pipes should be as per VRF manufacturer's recommendation.		
5.1	34.9 mm dia with 19mm thick insulation	Mtrs.	10
5.2	28.6 mm dia with 19mm thick insulation	Mtrs.	30
5.3	19.1 mm dia with 13mm thick insulation	Mtrs.	40
5.4	15.9 mm dia with 13mm thick insulation	Mtrs.	20
5.5	12.7 mm dia with 13mm thick insulation	Mtrs.	20

5.6	9.5 mm dia with 13mm thick insulation	Mtrs.	35
5.7	Cost on account of charging of refrigerant in the piping circuit	Job	1
6	Supply, Installation, testing and commissioning of necessary fittings, **Y-joints** and headers etc.	Set	4
7	**Drain Piping for VRF IDUs**		
	Providing & fixing of heavy duty PVC Pipe complete with fittings, supports as per specifications and duly insulated with 6 mm thickness of XPLE Class-O tubular/ closed cell tubular nitrile rubber as required & as per specifications.		
7.1	40 mm dia with 9 mm thick insulation	Mtrs.	20
8	**Electric Control Panel**		
	Supplying, installation, testing & commissioning of cubical type wall mounted power distribution panels suitable for 415V, 3 Phase, 4Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2mm thick for frame work and covers, 3 mm thick for gland plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having suitable capacity extensible type FP Aluminium Alloy bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 31 MV A for I Sec. with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 1.5 sq.mm.		
	Incomer		
	1No. 120 Amps Four Pole, MCCB with thermal & magnetic releases.with 3 Nos. R,Y,B Indication Lamps with 2A back up SP MCB with ON indication.MCCB shall be provided with spreader link and direct rotary handle.	Nos	1
	Busbar:		
	TPN aluminium bus bars of minimum of 150A capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bars supports at required intervals complete for cross section, size supports & their spacing etc.		
	Outgoings		
	Supplying and fixing following outgoing MCCB/MCB including connection, inter-connection etc. with suitable size of wires complete as required.(Each MCCB to be provided with ON indiation with 2A backup SP MCB)		
	63 Amp 4P MCCB with ELCB- 01 No.		
	32 Amp 4P MCCB with ELCB- 01 No.		
	22 Amp 3P MCCB - 04 Nos		
9	**Centralised Remote Controller:-** Supply, installation, testing & commissioning of touch screen type centralised remote controller along with control wiring etc all complete cabable of monitoring parameters of all Indoor units and Outdoor units.	Nos	1
10	**Electric Cables:-**Providing and fixing of electric power cabling from distribution panel to floor panel and from floor panels to outdoor units suitable for 415v, 3 phase, 50 Hz and from floor panels to individual indoor units suitable for single phase supply.		
10.1	4c x 16 mm², copper	Rmt	30
10.2	4c x 6 mm², copper	Rmt	75
10.3	2c x 1.5 mm², copper	Rmt	50
11	**Cable Trays:-** Providing and fixing of hot dip galvanised perforated/ladder cable Trays of following sizes:		
11.1	150mm in width and 50mm depth (16SWG) perforated type	Rmt	60
12	Cost on account of providing & fixing of ACP conduit to completely conceal the refrigerant piping circuit including cable trays etc.	Sqm	75

Detailed Specifications for the Construction of 800 KVA sub station for Central heating system near Electric M&R Department at NIT Srinagar.

PART(A)

S.No.	Description of the Item	Quantity	Unit
01.	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. All kinds of soil. 2×31′.6″×3′.6″×1′.8″= 366.03 cft. 1×19′.6″×3′.6″×1′.8″=113.29 cft. 1×74′.0″×2′.6″×1′.8″ =307.10 cft. 2×36′.0″×3′.6″×1′.8″= 418.32 cft. 1×22′.6″×3′.6″×1′.8″ =200.86 cft. 2×11′.0″×3′.6″×1′.8″= 127.82 cft. =1463.28 cft or 41.43 cum. (A)	41.43	Cum
02.	Providing & laying of **Stone Soling** tightly hand packed including watering, ramming & carriage from source to site of work complete job. 100 mm nominal size. Quantity. V. No (1A) i.e 1463.28 cft÷1′.8″×0′.6″= 440.73cft. Or 12.48 cum D/d 12.50 for voids= -1.56 cum Total = 10.92 cum	10.92	Cum
03.	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) : 8 graded stone aggregate 40 mm nominal size) Including carriage. Quantity. V. No (2A) i.e 440.74 cft÷6′.4″ = 290.88 cft. or 8.23 cum.	8.23	Cum
04.	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement – All work up to plinth level. **R.C.C** 1:1.5:3 (1 cement : 1.5 coarse sand (zone-III): 3 graded stone aggregate 20 mm nominal size) Including carriage. **Strip Foundation:-** Quantity. 1×199′.0″×3′.6″×0′.10″=578.09 cft. 1×74′.0″×2′.6″×0′.10″ =153.55 cft. =731.64 cft. Or =20.71 cum.	20.71	Cum
05.	**P.C.C (1:2:4)** **Foundation Wall:-** 2×31′.6″×2′.6″×2′.6″= 393.75 cft. 1×19′.6″+2′.6″×2′.6″= 121.87 cft. 2×31′.0″+2′.0″×2′.6″ = 310.00 cft. 1×20′.0″+2′.0″×2′.6″= 100.00 cft. 2×36′.0″+2′.6″×2′.6″ = 450.00 cft. 1×22′.6″+2′.6″×2′.6″= 140.62 cft. 2×35′.6″+2′.0″×2′.6″ = 350.00 cft. 1×23′.6″+2′.0″×2′.6″= 115.00 cft. 2×11′.6″+2′.6″×2′.6″ = 143.75 cft. 2×11′.6″+2′.0″×2′.6″ = 110.00 cft.	76.30	Cum

	$\overline{1}$×74′.6″+2′.0″×2′.6″= 370.00 cft. $\overline{1}$×24′.6″+1′.6″×2′.6″= 90.00 cft. = 2694.99 cft or 76.30 cum		
06.	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement – All work up to plinth level : 1:2:4 (1 cement : 2 coarse sand (zone-III) : 4 graded stone aggregate 20 mm nominal size) R.C.C Slab:- $\overline{1}$×30′.0″×25′.0″×0′.6″=375.00 cft. $\overline{1}$×34′.6″×27′.6″×0′.6″=474.37 cft. $\overline{1}$×11′.0″×11′.0″×0′.6″=60.50 cft. = 909.87 cft or 25.76 cum	25.76	Cum
07.	Steel reinforcement for R.C.C. work including straightening, cutting ,bending, placing in position and binding all complete upto plinth level. "Cold twisted bars" Strip:-10mm $\overline{2}$×$\overline{404}$×4′.8″=3765.28 rft. $\overline{7}$×$\overline{2}$×199′.0″=2786.00 rft. Slab:- 10 mm dia M-bar 5″ c/c $\overline{2}$×$\overline{47}$×25′.0″= 3700.00 rft. 7″ c/c $\overline{2}$×$\overline{44}$×30′.0″= 2644.00 rft. $\overline{2}$×$\overline{85}$×34′.6″= 5865.00 rft. $\overline{2}$×$\overline{60}$×27′.6″= 3300.00 rft. $\overline{2}$× $\overline{2}$×$\overline{27}$×11′.0″= 2644.00 rft. =23248.28 rft. Or 7087.89 Rm@0.62 kg/Rm=4394.49 kg.	4394.49	Kg
08.	Centering and shuttering including strutting, propping etc. and removal of form for Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc. $\overline{1}$×199′.0″×0′.10″= 165.17 sft. $\overline{2}$×74′.0″×0′.10″= 122.84 sft. $\overline{1}$×990′.0″×2′.6″= 2475.00 sft. $\overline{1}$×23′.6″×30′.0″= 705.00 sft. $\overline{1}$×34′.6″×28′.0″= 966.00 sft. $\overline{1}$×9′.6″×11′.0″= 104.50 sft. $\overline{1}$×292′.0″×0′.6″= 146.00 sft. =4684.51 sft or 435.36 Sqm.	435.36	Sqm
09.	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. In stringers, treads, landings etc. of stair cases, including use of chequered plate wherever required, all complete. (chequered plate) For Duet:- $\overline{1}$×635′.0″= 193.59 Rm. (ISMC: 75)@9.14 kg/Rm=1769.41 kg 60′.0″×4′.0″= 240.00 or 22.30 sqm @ 65.91 kg/sqm = 1469.79 Kg. total =3239.20 kg	3239.20	Kg.
10.	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete. Hot finished welded type tubes. 100×100×6mm $\overline{20}$×20′.0″= 400.00 rft., 121.95 Rm.	2070.73	Kg.

	Total Quantity= 2070.73 Kg.		
11	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete. 1×37′.0″×29′.0″= 1073.00 sft. 1×47′.0″×24′.0″= 1128.00 sft. 1×14′.0″×14′.0″= 196.00 sft. = 2397.00 sft @ 5.50 kg/Sft. Subjected to complete detail in bill as per actual = 13183.50 Kg.	13183.50	Kg.
12.	Providing and Fixing of poly coated sheets corrugated 0.50 mm thick complete in all respects. 2×37′.6″×16′.6″= 1237.50 sft. 2×47′.6″×14′.9″= 1401.25 sft. 1×14′.6″×15′.9″= 228.37 sft. =2867.12 Sft. or 266.46 Sqm.+143.12 sqm For walls 1×110′×14 =1540.00 sft. or 143.12 sqm	409.58	Sqm
13.	Providing & fixing poly coated **plain sheet** 0.80 mm thick ridge. 1×37′.9″×1′.6″= 56.62 sft. 1×47′.0″×1′.6″= 71.62 sft. =128.24 sft. or 11.92 Sqm	11.92	Sqm.
14.	Providing and fixing of **Plain Eaves Boarding** complete job including two coats of painting and one coat of priming **(1st Class Budloo wood)** (i) 300 x 30 mm 2×37′.6″=75.00 Rft. 4×16′.6″=66.00 Rft. 2×47′.0″=94.00 Rft. 4×14′.9″=59.00 Rft. 2×14′.6″=29.00 Rft. =323.00 RTft. or 98.47 Rm.	98.47	Rm.

Detailed Specifications for Removing of existing Gypsum board ceiling in Library Ground and First floor hall for laying cables etc for central heating system at NIT Srinagar including provide and fixing of new Gypsum board ceiling.

PART(B)

S.No.	Description of the Item	Unit	Quantity
01.	Dismantling of Gypsum board ceiling including stacking of serviceable material and disposal of unserviceable material,complete job. $\overline{3}$×76′.0″×8′.0″=1824.00 sft $\overline{3}$×34′.0″×8′.0″=816.00 sft =2640.00 sft or 245.35 sqm.	Sqm.	245.35
02.	Providing and fixing 10mm to 12 mm thick Gypsum board ceiling (white) 2′.0″×2′.0″ of same pattern as per existing complete in all respects include cost of frame work. $\overline{3}$×76′.0″×8′.0″=1824.00 $\overline{3}$×34′.0″×8′.0″=816.00 sft =2640.00 sft or 245.35 sqm.	Sqm.	245.35

Detailed Specifications for creation of 800kVA Sub-Station along with Installation of DG Sets for Central Heating System of the Institute.

S.No	Particulars	Qty
1	**<u>800 kVA OLTC Transformer with RTCC:</u>** Supplying, Erection, Testing & Commissioning of 800kVA outdoor type ONAN cooling transformer with copper winding having OLTC with RTCC / AVR tap changing arrangement , star-delta 11 KV/433 V, 3 ph 50 Hz vector group Dyn11 , class 2 , winding designed from 6kV to 12 kV, complete with rating and diagram plate, earthing terminals 2 Nos, lifting lugs, air release hole with plug, dehydrating silica gel breather, prismatic oil level gauge, oil filling hole with plug on conservator, oil conservator with drain plug, thermometer pocket, jacking lugs, bottom drain cum filter plug, top filter valve, 4 Nos bidirectional rollers, explosion vent with diaphragm, marshalling box, 150mm OTI with alarm trip, Buchholz relay with alarm & trip, 2 Nos shut off valves for Buchholz relay, magnetic oil level gauge, Detachable radiators with terminal box on HV side suitable for termination of one No 3 x 300 sq mm HT cable and terminal box on LV side suitable for termination of (2 Nos on each phase and neutral) 1 x 300 sqmm LT cable, confirming to IS: 2026 with first filling of oil as per IS: 335 etc complete as required. (Transformers are to be installed on RCC foundation of 1.0 Mtr Height from the sub- station floor level). Transformer must be designed and tested to the standards of IS: 2026, BS: 171. The job includes all controlling wiring from transformer to VCB panel and RTCC panel. complete in all respects.Make: kirloskar & CG	1 No
i	800kVA oil type OLTC based transformer with RTCC panel.	
ii	Input operating voltage 11kV, output 415V	
iii	Breaking = 20kA RMS	
iv	Short time withstand for 3 sec= 20kA rms	
v	Insulation level = 75kV peak	
vi	Neutral point is to be double earthed.	
2	**HT PANEL**	
	Supplying, installation, testing and commissioning of indoor type, metal clad, floor mounted 11 kV VCB Panel with 1 Nos VCB, totally enclosed, horizontal drawout, horizontal / vertical isolation type breaker as pe IS 13118, IEC 62271 - 100-200 as amended upto date, having capacities as mentioned below, single break, trip free mechanism, motorized /manual charged and manually closing breaker suitable for use on 11 kV, 3 -Phase, 50 Hz, AC supply with short circuit fault level of 350 MVA, complete with self contained fully interlocked rack in and rack out mechanism, air insulated but encapsulated copper busbars of 630 A capacity,Power frequency withstand voltage: 35 kV, Impulse withstand voltage: 95 kV Peak .Breaker featured with mechanical/electrical ON/OFF indicator with hand trip device, spring release coil, shunt trip coil and auxiliary switch suitable nos of NO + 4 NC and equipped with following switchgear and accessories i/c connections suitable for 3 X 300 sq mm XLPE 11 kV cable (cable entry from bottom), as per detailed specifications complete as required.	1 No Complete job
i	Incoming - 1 No 1000 Amps VCB	
ii	11 KV/110 PT of Class 0.5 accuracy and 100 VA burden and protection fuses /MCB for HT metering upto 12 kV on incomer- 1 Set	
iii	Load Manager - 1 No	
iv	Microprocessor based numerical relay with O/L, E/F and S/C protection - 1 Set.	
v	Dual ratio Dual Core CTs with ratio of 200/100/5+5 of burden 15 VA, accuracy class 5 P 10 for protection and class 0.5 for metering, 0-200 A Digital Ammeter, selector switch for ammeter and protection fuses - 3 Set	
vi	Microprocessor based numerical relay with O/L, E/F and S/C protection - 1 Sets.	
vii	provision for connecting the alarm and trip contacts of the winding temperature relay of transformer with necessary hooters, acknowledge / reset buttons etc i/c interconnections - 1 Sets	
viii	suitable number of window annunciator	
	NOTE: The panel shall be complete with test terminal blocks, fuses, circuit labels, illuminating lamps in each panel, indicating lamps etc., wiring for interconnection with suitable size copper cable, suitable cable end box with cable entry from top for incoming and outgoing cables, HV Danger Notice board, Earth bus bars, foundation bolts and nuts etc. as required)	

3	**LT Panel**	
	Supplying, installation, testing & commissioning of cubical type LT panel suitable for 415 V, 3 Phase, 4 Wire 50 Hz AC supply system having front surface area as per the requirements and accessories fabricated in compartmentalized design from CRCA sheet steel of 2 mm thick for frame work and covers, 3 mm thick for gland, plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 1200 Amp capacity extensible type TPN aluminum alloy bus bars of high conductivity, DMC / SMC bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 31 MVA for 1 Sec., bottom base channel of MS section not less than 100 mm x 50 mm x 5 mm thick, fabrication shall be done in transportable sections, entire panel shall have a common copper earth bar of size 25 mm x 5 mm at the rear with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with suitable size of sq. mm. PVC insulated copper conductor S/C cable, cable alleys, cable gland plates in two half, i/c providing following switch gears :- Complete in all respects.	1 No Complete job
i	**<u>Incomer 1200 Amp ACB:</u>** **1 Nos. of 1200 A 4P** electrically operated **Draw-Out type ACB** with Ics=Icu=50KA having Microprocessor based releases for O/L, S/C & E/F protection. 1 No of 1200 Amps each four pole MCCB/horizontal drawout type air circuit breaker of fault breaking capacity 50 KA (Ics=Icu upto433 V manually operated, fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact, conforming to IS 1397- 2 : 1993 as amended up-to-date complete with following accessories for each ACB. (1) Independent manual spring closing mechanism- 1 No. (2) Microprocessor release (EMI & EMC certified) for over current, earth fault & short circuit protection- 1 set. (3) Analog 96 mm square flush pattern /Digital type Voltmeter (0-500 V), with selector switch & back up HRC fuses/MCBs-1 set. (4) Analog 96 mm. square fl ush pattern/Digital type Ammeter (0-1200Amp), with selector switch and one set of 3 Nos. CT'sof ratio 1000/5A Class I accuracy and 15VA burden- 1set. (5) 3 Nos. Phase indication LED lamps with 2 Amp back up HRC fuse, breaker 'ON' indicating light with 2 A HRC fuse, test terminal block set, fuses, circuits as per standard practice, auxiliary contacts for positive interlocking of the breakers as required. (f) Shunt trip coil 220 V A.C. **Make:**legrand (DMX^3) / Schneider Master pact NW) / L&T (U-Power Omega MTX3.5).	
ii	**<u>Bus Couplers :</u>** **2 Nos. 1200 Amps** horizontal/vertical four pole drawout type, Air Circuit Breakers (ACB) of fault breaking capacity 50 KA (Ics=Icu upto 433 V) manually operated, with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact conforming to IS 13947- 2 : 1993 as amended upto date complete with following accessories for each ACB: 1) Independent manual spring closing mechanism 1 No. (2) Breaker 'ON' indicating light with back up 2 A HRC fuse test terminal block, fuses, circuits contactors for positive electrical interlocking of breakers, etc. as required- 1 set. **Make:** legrand(DMX^3) / Schneider (Masterpact NW)/ L&T (U-Power Omega MTX3.5)	
iii	**<u>Automatic Transfer Switches:</u>** **1)** 1 Nos of 630 A 4 pole ATS with double break contact system offering high short-time withstand, adjustable time delay of 0.1 sec - 3 hour. **2) 2 Nos of** 400 A 4 pole ATS with double break contact system offering high short-time withstand, adjustable time delay of 0.1 sec - 3 hour.	
iv	**<u>Bus Bars :</u>**	

	1) 1 No along the panel TPN Aluminum bus bars of minimum of **1200 Amps capacity** with heat shrinkable coloured sleeves and i/c DMC/SMC bus bar cross section, size supports & their spacing etc. for withstanding fault level of 31 MVA for 1 Sec. 2) 2 No Tappings of TPN Aluminum bus bars of minimum **630 Amps capacity** from existing 1000A Bus with heat shrinkable coloured sleeves and i/c DMC/SMC bus bar cross section, size supports & their spacing etc. for withstanding fault level of 31 MVA for 1 Sec. **Interlocking :** Electrical through advance contacts in ACB's (ATS & bus couplers) and mechanical (castel key) interlocking should be provided to ensure that only one supply is available at a time on each section of bus and to eliminate any possibility of accidentally approaching two supplies at one bus section.	
v	1 Set - Digital Load Managers with RS 485 communication port with 3 suitable ratio CTs with Class-0.5 accuracy and HRC fuse protection.	
vi	Mechanical & Electrical Interlocking arrangement among Automatic Transfer Switch (ATS) and Bus couplers.	
vii	4 Nos. 4P high protection 70kA, surge protectors for the four incomer lines along with the necessary HRC fuses.	
viii	4 Sets of Red, Yellow & blue LED type 22.5mm dia. Indicating lamps with protective fuses.	
ix	1 Sets of CTs of the ratio 1000/5 A with class 1.0 Accuracy (to APFC Relay) and suitable CTs for various meters)	
x	**Outgoing:** **a) 4- pole, 250 Amp. MCCB** (Adjustable type) Easy pact CVS, lcu = 36kA Ics = 100% Icu as per IEC 60947-2 of Schneider /Legrand/L&T make including spreaders of same rating. Complete in all respects. = **4 Nos** **b) 4- pole, 160 Amp. MCCB** (Adjustable type) Easy pact CVS, lcu = 25kA with Ics = 100% Icu as per IEC 60947-2 of Schneider /Legrand/L&T make including spreaders of same rating. Complete in all respects = **3 Nos** **c) 4- pole, 125 Amp. MCCB** (Adjustable type) Easy pact CVS, lcu = 25kA with Ics = 100% Icu as per IEC 60947-2 of Schneider /Legrand/L&T make including spreaders of same rating. Complete in all respects = **3 Nos** **d) 4- pole, 100 Amp. MCCB** (Adjustable type) Easy pact CVS, lcu = 25kA with Ics = 100% Icu as per IEC 60947-2 of Schneider /Legrand/L&T make including spreaders of same rating. Complete in all respects = **3 Nos** **e)** Digital Voltmeter with selector switch and LED indication lights on each phase protected by HRC back up fuses MCBs. **f)** Digital Ampere meter Along with selector switch and suitable rating/ratio of current transformers and protected by HRC back up fuses MCBs. **NOTE:- Digital Ammeter must be fitted to individual outgoing compartments /MCCB compartments to monitor the load of each outgoing MCCB .** **INSULATION RUBBER MATING INSIDE PANEL ROOM:** High quality high resistant rubber insulation mating of **16mm size** along the whole area of panel room.	
4	**Power Pack:** Supplying, installation, testing & commissioning of power pack with 220 Volt AC input & 24 Volt DC continuous output suitable for closing/ tripping/indication of... Nos. HT panel boards with 2 Nos. 12 Volts each maintenance free batteries of 100 (suitable) AH each, charging unit, capacitor bank for emergency delivering for trip system complete with suitable capacity of Ammeter & Voltmeter i/c connections with 2.5 sq. mm FRLS insulated copper conductor cable etc. as required. complete in all respects.	1 No
5	**APFC Panel 225 kVAR :-**	

	SITC of APFC panel made out of 1.6mm thick CRCA sheet with angle iron support of suitable size, dust and vermin proof, floor mounting, front open able hinged door and powder coated painting, comprising the 4 No strip BusBar of aluminum conductor PVC sleeved 800 Amp capacity with heat shrinkable sleeve and SMC/DMC support, proper locking arrangement cable termination gland plate and providing and fixing of 'C' section MS channel 100 x 50 mm for base i/c providing and fixing of following electrical accessories/ switch gears connection interconnection as required complete in all respects with following specifications.	1No Complete Job
i	**Incomer** 4 pole 400A MCCB 36kA thermal magnetic release O/L & S/C Protection.	
ii	**Metering & Indication**	
	RYB Phase Indicating Light, 230V AC CT for Metering 400/5A, CL-1.0, 5VA Digital VAF Meter APFC Relay 12 Stage Controlling MCB, 6A, SP, 10kA Exhaust Fan With Filters.	
	OUTGOING	
iii	**5kVAR Capacitor bank 1 No**	
	MCB,16A,TP, 10kA 5kVAR Capacitor Duty Contactor 5kVAR Capacitor Bank 440V MPP HD ON Indicating Light, 230V AC A/M Selector Switch	
iv	**10 kVAR Capacitor bank 2 No**	
	MCB,32A,TP, 10kA 10 kVAR Capacitor Duty Contactor 10 kVAR Capacitor Bank 440V MPP HD ON Indicating Light, 230V AC A/M Selector Switch	
v	**15 kVAR Capacitor bank 2 No**	
	MCB,32A,TP, 10kA 15 kVAR Capacitor Duty Contactor 15 kVAR Capacitor Bank 440V MPP HD ON Indicating Light, 230V AC A/M Selector Switch	
vi	**20 kVAR Capacitor bank 1 No**	
	MCB,63A,TP, 10kA 20 kVAR Capacitor Duty Contactor 20 kVAR Capacitor Bank 440V MPP HD ON Indicating Light, 230V AC A/M Selector Switch	
vii	**25 kVAR Capacitor bank 4 No**	
	MCB,63A,TP, 10kA 25 kVAR Capacitor Duty Contactor 25 kVAR Capacitor Bank 440V MPP HD ON Indicating Light, 230V AC A/M Selector Switch	
viii	**50 kVAR Capacitor bank 1 No**	
	MCB,63A,TP, 10kA 50 kVAR Capacitor Duty Contactor 50 kVAR Capacitor Bank 440V MPP HD ON Indicating Light, 230V AC A/M Selector Switch	
6	**HT Cable**	
i	Supplying and Laying of one No. HT. cable of 11 KV grade XLPE armoured Al. Conductor earthed conforming to IS 7098 (Part II) and of size **3 X 300** sq mm in the suitable pipe /masonry open duct enclosed with iron plate etc as required.	70 Mtr

ii	Supplying and making indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs and other jointing material for 3 x 240 Sq mm. XLPE almunium conductor cable of 11 KV grade as required.	4 sets
iii	Supply, Installation, Testing & commissioning of **Trivector meter and PT of 11kV/110V** for 800kVA Transformer enclosed in cubicle panel made of 1.6mm thick CRCA sheet with angle iron support of suitable size, dust and vermin proof, floor mounting, front open able hinged door and powder coated painting, comprising of SMC/DMC support for PT of capacity of 11kV/110V , proper locking arrangement cable termination, gland plate and providing and fixing of 'C' section MS channel 100 x 50 mm for base i/c providing and fixing of following electrical accessories: 1. Trivector meter 2. PT ratio of 11kV/110V 3. CT of 100/5A or as per **Reckoner** with class 1.0 accuracy. Complete in all respects.	1 No
7	**LT Cable over Cable Tray**	
i	Supply and Laying of PVC Insulated and FRLS PVC round sheathed, armoured **solid single core copper cable of 300 sq mm** industrial cable of 1.1kv grade of following sizes in suitable size conduits. Complete in all respects including termination and fixing of Copper lugs of same ratings.	200 Mtr
ii	Supply and Laying of PVC Insulated and FR PVC round sheathed, armoured solid copper conductor industrial cable of 1.1kv grade of following sizes in suitable size conduits. Complete in all respects.	
	3 core 1.5 sq mm cable	100 Mtr
	3 core 2.5 sq mm cable	100 Mtr
	3 core 4 sq mm cable	100 Mtr
	3 core 6 sq mm cable	100 Mtr
iii	Supplying and laying of one XLPE insulated & PVC sheathed aluminum conductor armoured power cable of 1.1kv grade of following size in the existing RCC/HUME/STONEWARE/METAL or direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required. Complete in all respects.	
	3.5c × 50 sq mm	1000 mtr
	3.5c × 70 sq mm	800 mtr
	3.5c × 95 sq mm	550 mtr
	3.5c × 150 sq. mm	350 mtr
	3.5c × 185 sq. mm	1400 mtr
iv	Supplying and Laying DWC HDPE pipe as per IS14930 (Part-II) complete with fitting and accessories in ground at the depth of 75cm laying of cable including excavation and refilling the trench etc as required.	
	(OD)/ (ID) 50mm / 39mm	1800 mtr
	(OD)/ (ID) 90mm /76mm	850 mtr
	(OD)/(ID)120mm/103mm	1300 mtr
v	Supplying, installation, testing & commissioning of **OUTDOOR Panel** factory assembled Dust & Vermin Proof wall / floor mounted LT cubical type compartmentalized panel of **300 A TPN Aluminum Busbar (10mm thickness) panel** (CPRI Approved) fabricated out of 2 mm thick MS sheet, **300mm Deep** with locking arrangement, cable alleys, bus bar chamber etc powder coated self supported suitable for 3 phase 4 wire, AC supply, i/c supplying & fixing following accessories as detailed below, i/c bus bars connections / inter connections to MCCB compartments , arrangement for cable entry, supports, end terminations, 2 Nos. earthing stud inter connection with 25mm x 5mmm GI strip (externally), painting, etc. complete as required. **The compartmentalized panel consisting of various outgoing compartments for 63/125/160/ A MCCBs with a minimum space of 200 mm between each outgoing compartments. (panel should be 2.5 feet above ground including Iron Stand as per requirement & as and when required)**	3 Nos
vi	Supplying, installation, testing & commissioning of **OUTDOOR Panel** factory assembled Dust & Vermin Proof wall / floor mounted LT cubical type compartmentalized panel of **200 A TPN Aluminum Busbar (10mm thickness) panel** (CPRI Approved) fabricated out of 2 mm thick MS sheet, **300mm Deep** with locking arrangement, cable alleys, bus bar chamber etc powder coated self supported suitable for 3 phase 4 wire, AC supply, i/c supplying & fixing following accessories as detailed below, i/c bus bars connections / inter connections to MCCB compartments , arrangement for cable entry, supports, end terminations, 2 Nos. earthing stud inter connection with 25mm x 5mmm GI strip (externally), painting, etc. complete as required.	

	The compartmentalized panel consisting of various outgoing compartments for 63/125/160/ A MCCBs with a minimum space of 200 mm between each outgoing compartments. (panel should be 2.5 feet above ground including Iron Stand as per requirement & as and when required)	1 No
vii	P/F of 4- pole, 250 Amp. MCCB (Adjustable type) lcu = 36kA with Ics = 100% Icu as per IEC 60947-2 including spreaders of same rating. Complete in all respects.	4 Nos
viii	P/F of 4- pole, 100 Amp. MCCB (Adjustable type), lcu = 25kA with Ics = 100% Icu as per IEC 60947-2 including spreaders of same rating. Complete in all respects.	13 Nos
ix	P/F of 63 Amps. 4P MCCB of breaking capacity 25 KA with thermal magnetic release ICU=Ics=100%, necessary spreader terminals and phase barriers on incoming & outgoing side complete as required (for out going).	3 Nos
x	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.	10 Nos
xi	Supplying and laying 25 mm X 5 mm G.I strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with G.I. nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50mm)	50 Mtr
8	**<u>Bridge Earthing for Power station and DG Sets:</u>** P/F of Maintenance free Chemical Earthing using copper Electrode of size 76 mm dia, 03 meter long connected with 50X6 mm Copper internal strip complete with excavation, civil works, cast iron cover with back fill compound along with **60 kg bag of Back fill compound/SOR Compound (highly conductive, non corrosive moisture retaining chemical)** complete. The voltage between Neutral & Earth not to exceed 0 volts & IR value less than 1 ohm. The earth resistance shall be as per IS 3043. Copper strip of size 32 mm X 5 mm be connected to main Distribution board.	15 Nos
	Supplying and laying 25 mm X 5 mm copper strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of brass nut bolt & spring washer spaced at 50mm)	150 Mtr
9	**Supply, Installation, Testing And Commissioning of 3_Phase 320 kVA DG Set with AMF Panel (including changeover of suitable rating) :** **<u>OUTPUT CAPACITY RATING/ PHASE</u>** Nominal Rated Capacity (KVA) 320 No of Phase Three Phase **<u>ENGINE : QSL9 series</u>** Make of Engine: CUMMINS, Kirloskar or equivalent. Power Rating kVA / kWe 275/220 No. of Phases 3 Output Voltage and Frequency (V and Hz) 415 V, 50 Hz Power Factor 0.8 (lagging) Current (A) 382 approx RPM 1500 ISI Marking to IS :10001 for engine No BIS license Type of Engine cooling Liquid Cooled Type of governer Mechanical Class of governer A1 Number of cylinders (nos) 6 No of Strokes (nos) 4 Rated RPM of Engine (RPM) 1500 Overload capacity for one hour for every 11 hours continuous running at full load (%) 10 Starting voltage (volt) 12v **<u>ALTERNATOR</u>** AC GENERATOR(ALTERNATOR) Make STAMFORD AC GENERATOR(ALTERNATOR) model Number 320 KVA FRAME Rating of AC Generator (KVA) 320	1 No

	Power Factor of AC generator 0.8 Efficiency at rated Power factor at 75% of full Load91.3 Compliance of Alternator to IS:13364(part-1) Yes Type of alternator Brushless Voltage Regulation Grade VG 3 Alternator IP Rating IP 23 Class of Insulation H **CONTROL PANEL/POWER COMMAND FEATURES:** Intuitive operator interface which includes LED backlit LCD display with tactile feel soft-switches & generator set status LED lamps. Digital AVR for shunt or PMG excitation with torque matching. Digital electronic governing with temperature compensation and smart starting. SAE J1939 interface to Full Authority Electronic (FAE) engines. Remote start-stop **Engine metering**: Oil pressure, Coolant temperature, Battery voltage, Engine speed AC Alternator metering: L-L Voltage and L-N Voltage, Current (1 and 3 phase), Volt-Amperes (phase and total) and Frequency. **Engine protection:** Low lube oil pressure, High/Low coolant temperature, Over speed, Battery Over/Under/Weak Volts, Fail to crank/start, Sensor failure. **AC Alternator protection:** Over/Under voltage, Over/Under frequency, Over current, Short circuit and Loss of AC sensing. Data logging: Engine hours, Control hours, Engine starts and upto 10 recent fault codes Configurable glow plug control Confi gurable cycle cranking 12 and 24 Volt DC operation Sleep mode Programmable I/Os (4 inputs and 2 outputs), expandable with AUX101/102 modules Modbus interface (RS485 RTU) InPower compatible (PC based service tool) Control Panel Manual IP Rating of Control Panel IP 53 **ACOUSTIC ENCLOSURE** Sheet Thickness 1.6 millimeter Thickness of Foam 40 millimeter Density of Foam for sound insulation 28 Noise level at 1 meter (dB) 75 **BATTERY** Battery Type & Specification Low Maintenance free to IS: 14257 for high cranking performance Battery capacity 2*12V DC No of batteries 2 **CONSUMPTION:** Fuel consumption @75% load with radiator and fan (litre/hr)= 71 ltrs Approx **AUTOMATIC MAIN FAILURE PANEL:** Suitable rating of Automatic Main Failure panel with bypass provision/Changeover as per site requirement. **TEST REPORTS WARRANTY / INSTALLATION & COMMISSIONING:** Warranty 2 year Installation & Commissioning With Installation Agreed to STC of the Product Yes **NOTE:- The DG Set must be supplied with Separate 1000 Liters of Stainless Steel Storage Tank (MS Steel Tank). Complete in all respects.**	
10	**Supply, Installation, Testing And Commissioning of 3_Phase 250 kVA DG Set with AMF Panel (including changeover of suitable rating) :** **OUTPUT CAPACITY RATING/ PHASE** Nominal Rated Capacity (KVA) 250 No of Phase Three Phase	2 Nos

ENGINE : L8.9 series

Make of Engine: CUMMINS, kirloskar or equivalent
Power Rating kVA / kWe 250/200
No. of Phases 3
Output Voltage and Frequency (V and Hz) 415 V, 50 Hz
Power Factor 0.8 (lagging)
Current (A) 348 approx
RPM 1500
ISI Marking to IS :10001 for engine No
BIS license
Type of Engine cooling Liquid Cooled
Type of governer Mechanical
Class of governer A1
Number of cylinders (nos) 6
No of Strokes (nos) 4
Rated RPM of Engine (RPM) 1500
Overload capacity for one hour for every 11 hours
continuous running at full load (%) 10
Starting voltage (volt) 2*12v Dc

ALTERNATOR

AC GENERATOR(ALTERNATOR) Make STAMFORD
AC GENERATOR(ALTERNATOR) model Number 250 KVA
FRAME
Rating of AC Generator (KVA) 250
Power Factor of AC generator 0.8
Efficiency at rated Power factor at 75% of full Load 58
Compliance of Alternator to IS:13364(part-1) Yes
Type of alternator Brushless
Voltage Regulation Grade VG 3
Alternator IP Rating IP 23
Class of Insulation H

CONTROL PANEL/POWER COMMAND FEATURES:

Intuitive operator interface which includes LED backlit LCD display with tactile feel soft-switches & generator set status LED lamps.
Digital AVR for shunt or PMG excitation with torque matching. Digital electronic governing with temperature compensation and smart starting.
SAE J1939 interface to Full Authority Electronic (FAE) engines. Remote start-stop
Engine metering: Oil pressure, Coolant temperature, Battery voltage, Engine speed AC Alternator metering: L-L Voltage and L-N Voltage, Current (1 and 3 phase), Volt-Amperes (phase and total) and Frequency.
Engine protection: Low lube oil pressure, High/Low coolant temperature, Over speed, Battery Over/Under/Weak Volts, Fail to crank/start, Sensor failure.
AC Alternator protection: Over/Under voltage, Over/Under frequency, Over current, Short circuit and Loss of AC sensing. Data logging: Engine hours, Control hours, Engine starts and upto 10 recent fault codes Configurable glow plug control Confi gurable cycle cranking 12 and 24 Volt DC operation Sleep mode Programmable I/Os (4 inputs and 2 outputs), expandable with AUX101/102 modules Modbus interface (RS485 RTU) InPower compatible (PC based service tool)
Control Panel Manual
IP Rating of Control Panel IP 53

ACOUSTIC ENCLOSURE

Sheet Thickness 1.6 millimeter
Thickness of Foam 40 millimeter
Density of Foam for sound insulation 28
Noise level at 1 meter (dB) 75

BATTERY

Battery Type & Specification Low Maintenance free to
IS: 14257 for high cranking performance
Battery capacity 2*12V DC

	No of batteries 2 **CONSUMPTION:** Fuel consumption @75% load with radiator and fan (litre/hr)= 42 ltrs Approx **AUTOMATIC MAIN FAILURE PANEL:** Suitable rating of Automatic Main Failure panel with bypass provision/Changeover as per site requirement. **TEST REPORTS WARRANTY / INSTALLATION & COMMISSIONING:** Warranty 2 year Installation & Commissioning With Installation Agreed to STC of the Product Yes **NOTE:- The DG Set must be supplied with Separate 1000 Liters of Stainless Steel Storage Tank (MS Steel Tank). Complete in all respects.**	
11	Supply, Installation, Testing, Commissioning of factory fabricated high quality steel Diesel storage tank above the ground modular ISO containerised self bunded fuel storage tank design and constructed to AS1940,AS1692,AS1657,UL142 and ULC-s601-14 compliance as standard. the following specifications are listed below: • Double walled construction consists of • 6 mm inner primary steel tank • 6mm outer secondary steel tank • Lockable self contained pump bay and dispensing area to the front of the tank. • Curved roof feature for curved water drasinage to the top of the tank. • Extra paint thickness based on 250-300 microns for extra protection during harsh climate. • Supplied with all statutory signage. • In built tank access ladder and platform • Dual 2" manway tank access points • Updraft vent pipe • Audible overfill protection alarm • 6" & 4" sockets for installation of submersible pumps • Dual hose high mast retractable units • Suitable for fuel farm configuration(Master & Slave) **Incoming Fuel:** • 80 nb Tanker fill pipe work. • Camlock adaptor & Cap • Non Return valve • Hydraulic overfill valve with optional unload pump. • High level alarm: hazardous rated & Battery powered. **Outgoing Fuel:** • Anti siphon valve (foot valve) • Pipe work terminates under walkway with ANSI flanges • 6"&4" sockets in both manholes for the mounting of submersible pumps. **PUMP BAY:** • Pumpbay complete with water/product drain valves • Internal access for hoses from pylon kits • Lockable bund doors with rubber dust seal. • Access ladder to work platform mounted on left & right side • Dual 50mm side wall cavity sockets.	1 No

	Warranty: 12 Month manufacturer warranty 12 Month Paint warranty 7 year structural warranty	
12	**Internal Electrification of Panel Room**	
i	P/F of 1600 VA square wave Inverter of Luminous/Amaron/Exide with all accessories including battery rack.	1 No
ii	**P/F of Tall Tubular 200Ah Battery, 12V** Tubular battery of Exide/Amaron, or equivalent make Battery including suitable plastic trolley along with brass terminals in all respects. **3 Years warranty**	2 Nos
iii	P/F of 1200 mm sweep Metallic ceiling fan with 300 watt 5 step regulator of and hook for fan. The job includes providing of fan hook in wooden/concrete ceiling wherever needed. Complete in all respects.	5 Nos
iv	P/F of 300 mm Sweep Heavy Duty Crompton Greaves Exhaust Fan (metal type) in existing opening, including making good the damage, connection, testing, commissioning etc. as required. Complete in all respects.	6 Nos
v	P/F of 2 ft*2ft LED luminaries with URG <19 recess mounted with high lumen output with durable housing with Al heat sink with Diffuser to give glare free light with removable driver. **Make Phillips** TYPE RC380B LED 36 S -6500G4 L60 W60 PSD OD WH OC	12 Nos
vi	Supplying & Fixing of Charging Point of following **modular switch of 16 Amp**, **2 No of Socket outlet of universal type 3-pin 6 Amp, Indicator** and GI metal box along with modular base & cover plate of 6 module for modular switches in recess including connections etc as required. Complete the job in all respects.	4 Nos
vii	Supplying & fixing following **modular switch of 25 Amp**, Socket outlet of **3 pin 25 Amp** and GI metal box along with modular base & cover plate of 3 module (100mm × 75mm) for modular switches in recess including connections etc as required. complete the job in all respects.	5 Nos
viii	Wiring for light point / fan point /exhaust point / call bell point with 1.5 sq. mm FRLS PVC insulated Copper Conductor Single Core Cable in surface / recessed medium class PVC Conduit with Modular Switch, Modular Plate, Suitable GI box & earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc as required.	20 Nos
ix	Supplying and fixing 5A to 32 A rating, 240/415 V, 10 kA, "C"curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.	
	a) Single Pole.	15 Nos
	b) Double pole.	2 Nos
x	Supplying and fixing 63 A rating, 240/415 V, 16kA "C"curve, Double Pole miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc.	2 Nos
xi	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)	
	a) 16 way Double Door	1 Nos
13	Supply, Installation, Testing and Commissioning of 7/8 mtrs long octagonal pole galvanized continuously tapered (bolt fixing type) in single section made out of 3mm thick sheet having top dia 70mm and bottom dia 130mm with 4 nos hot dip galvanized foundation bolts of size 20mm dia × 700 long with integral junction box/base plate (200×220×16mm) along with suitable size of GI single arm bracket 1500mm long i/c providing and fixing bakelite sheet of size 25cm×10cm×6cm thick, connector, 2nos al busbar of suitable size and SP MCB of 6 amp rating inside the pole atleast 1.25 mtrs above from bottom of pole complete with door and locking arrangements etc as required. Complete in all respects.	5 Nos
14	Supply , installation ,Testing and commissioning of 100W , 10000 lm Smart Bright LED Flood Light (White Light) Input Volt (AC 90-300V) **> 120 lumens per watt** with Aluminum and thermoplastic glass housing and having long life span of upto 50,000 hrs. complete in all respects.	10 Nos
15	Supply and fixing of ABC powder based type fire extinguishers confirming to IS 2878 - 1976 and cylinders fully charged of 9 KG capacity hanged on wall with bracket complete as required.	5 Nos
16	Supply and Testing of all safety equipment and necessary power station equipment tools of bosh make or equivalent. the following items are listed below: 1) Hammer drill 1 No 2) Portable screw drill 1 No 3) Krost Bosch 46pcs Screwdriver Bit Set, Socket Set, Torx Bit Set. 1 No 4) Safety Helmet 5 Nos	

	5) Reflective Safety Jackets Mesh Type 5 Nos 6) Safety Harness Belt 5 Nos 7) High beam patrolling Torch 3 Nos 8) HT /LT gloves 3 Set each 9) Danger Boards marked 11kV safety Signs 5 Nos 10) Heat Gun 1 No 11) Portable Crimping tool upto 70 sq mm size 1 No 12) Crimping tool 70 sq mm to 400 sqmm size 1 No 13) Cutter Machine 1 No 14) Voltmeter/ Clamp-meter 1 No each 15)Portable Ladder platform type 8 ft 1 No 16 Extendable / Adjustable Ladder 10 Mtr 1 No Note: All the items needs a high quality display rack to display all the safety items as per safety norms.	1 No

BOQ

S.No	DESCRIPTION	Total		Accounts Block	Library Block	Health Centre	Building Near Health Centre	Administrative Block	TEQUIP Lab	Indus Hostel	Girls Hostel	Jehlum Hostel	Jehlum Extension	Chenab Hostel	Drawing Hall 1	Drawing Hall 2	Drawing Hall 3	Pre Fab Dining Hall	Tawi Dining Hall
		Unit	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY
1	VRF Outdoor Units 28 HP	Nos	1	1															
2	VRF Outdoor Units 60 HP	Nos	1		1														
3	VRF Outdoor Units 24 HP	Nos	1			1													
4	VRF Outdoor Units 22 HP	Nos	1				1												
5	VRF Outdoor Units 92 HP	Nos	1					1											
6	VRF Outdoor Units 72 HP	Nos	1						1										
7	VRF Outdoor Units 32 HP	Nos	3							1				1					1
8	VRF Outdoor Units 20 HP	Nos	1								1								
9	VRF Outdoor Units 36 HP	Nos	2									1	1						
10	VRF Outdoor Units 34 HP	Nos	3												1	1	1		
11	VRF Outdoor Units 30 HP	Nos	1															1	
12	VRF Floor Mounted 8TR	Nos	3							3									
13	VRF Floor mounted ductable type Indoor 6 TR	Nos	4																4
14	VRF Floor mounted ductable type Indoor Unit 8 TR	Nos	3											3					
15	VRF Floor mounted 12.8 TR	Nos	6												2	2	2		
16	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers as per specifications.	sqm	28							5		2		5	4	4	4		4
17	Supplying & fixing of powder coated extruded aluminium Return Air/Exhaust Air Grills with louvers but without volume control dampers complete as required.	sqm	2									2							

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S.No	DESCRIPTION	Total		Accounts Block	Library Block	Health Centre	Building Near Health Centre	Administrative Block	TEQUIP Lab	Indus Hostel	Girls Hostel	Jehlum Hostel	Jehlum Extension	Chenab Hostel	Drawing Hall 1	Drawing Hall 2	Drawing Hall 3	Pre Fab Dining Hall	Tawi Dining Hall
		Unit	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY
18	Supply, installation, balancing and commissioning of fabricated at site GSS sheet as required of Thickness 0.80 mm Sheet	sqm	620							125				125	110	110	110		40
19	Ceiling Mounted Round/4way flow Cassette type Unit of 4 TR	Nos	6															6	
20	Ceiling Mounted Round/4way flow Cassette type Unit of 3.0 TR	Nos	6				6												
21	Ceiling Mounted Round/4way flow Cassette type Unit of 2.5 TR	Nos	10										10						
22	Ceiling Mounted Round/4way flow Cassette type Unit of 2.0 TR	Nos	4									4							
23	Ceiling Mounted Round/4way flow Cassette type Unit of 1.5 TR	Nos	18		18														
24	VRF Ceiling mounted ductable type Indoor unit of 4.5 TR	Nos	4									4							
25	Indoor VRF/VRV Units (Nominal Capacity) - Ceiling Mounted Round/4way flow Cassette type Unit of 2.0 TR	Nos	4		4														
26	Hi Wall type Unit 1.0 TR	Nos	12		5	7													
27	Hi Wall type Unit 2 TR	Nos	50	11	4	3		4	20		8								
28	Hi Wall type Unit 1.5 TR	Nos	57	1	3	4		40	9										
29	Refrigerant Piping for VRF system (41.3 mm dia with 19mm thick insulation)	Mtrs.	110		25			50	10			10	15						
30	Refrigerant Piping for VRF system (34.9 mm	Mtrs.	280		20			80	45	20		20	15	20	10	10	10	20	10

S.No	DESCRIPTION	Total		Accounts Block	Library Block	Health Centre	Building Near Health Centre	Administrative Block	TEQUIP Lab	Indus Hostel	Girls Hostel	Jehlum Hostel	Jehlum Extension	Chenab Hostel	Drawing Hall 1	Drawing Hall 2	Drawing Hall 3	Pre Fab Dining Hall	Tawi Dining Hall
		Unit	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY
	dia with 19mm thick insulation)																		
31	Refrigerant Piping for VRF system (28.6 mm dia with 19mm thick insulation)	Mtrs.	555	30	45	15	25	100	90	20	20	25	30	20	30	30	30	15	30
32	Refrigerant Piping for VRF system (22.2 mm dia with 19mm thick insulation)	Mtrs.	203	15	40	20	10	20	15	9	25	20	10	9				10	
33	Refrigerant Piping for VRF system (19.1 mm dia with 13mm thick insulation)	Mtrs.	670	40	120	45	10	150	75	30	10	10	35	30	15	15	15	30	40
34	Refrigerant Piping for VRF system (15.9 mm dia with 13mm thick insulation)	Mtrs.	875	90	115	25	45	90	125	15	35	110	70	15	25	25	25	45	20
35	Refrigerant Piping for VRF system (12.7 mm dia with 13mm thick insulation)	Mtrs.	600	30	110	55	25	180	75	15	5	10	15	15	10	10	10	15	20
36	Refrigerant Piping for VRF system 9.5 mm dia with 13mm thick insulation)	Mtrs.	890	125	200	90	45	70	100	10	45	75	50	10				35	35
37	Refrigerant Piping for VRF system (6.4 mm dia with 13mm thick insulation)	Mtrs.	330	5	110	45		130	40										
38	Cost on account of charging of refrigerant in the piping circuit	Job	17	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
39	Supply, Installation, testing and commissioning of necessary fittings, Y-joints and headers etc.	Set	153	12		14	6	44	29	3	8	8	10	3	2	2	2	6	4
40	Drain Piping for VRF IDUs 50 mm dia with 9 mm thick insulation	Mtrs.	260		150		40						40					30	
41	Drain Piping for VRF IDUs 40mm dia with 9 mm thick insulaton	Mtrs.	150							20		30		20	20	20	20		20

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S.No	DESCRIPTION	Total		Accounts Block	Library Block	Health Centre	Building Near Health Centre	Administrative Block	TEQUIP Lab	Indus Hostel	Girls Hostel	Jehlum Hostel	Jehlum Extension	Chenab Hostel	Drawing Hall 1	Drawing Hall 2	Drawing Hall 3	Pre Fab Dining Hall	Tawi Dining Hall
		Unit	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY
42	Drain Piping for VRF IDUs 32 mm dia with 9 mm thick insulation	Mtrs.	215		75		30					30	50					30	
43	Drain Piping for VRF IDUs 20mm dia with 9 mm thick insulation	Mtrs.	390	60	40	60		120	90		20								
44	Electric Control Panels	Nos	16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
45	Centralised Remote Controller	Nos	19	2	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1
46	4c x 16 mm², copper Electric cables	Rmt	605	40	75	30	30	120	40	25	20	20	30	25	30	30	30	30	30
47	4c x 4 mm², copper Electric cables	Rmt												60					
48	4c x 6 mm², copper Electric cables	Rmt	255												60	60	60		75
49	3c x 1.5 mm², copper Electric cables	Rmt	8626	700	1500	700	170	3400	1120	60	221	225	330					200	
50	2c x 1.5 mm², copper Electric cables	Rmt	1560	180	300	130	60	300	150	25	40	70	75	25	30	30	30	65	50
51	Cable Trays:- Providing and fixing of hot dip galvanised perforated/ladder cable Trays of 150mm in width and 50mm depth (16SWG) perforated type	Rmt	1780	150	350	140	70	350	180	35	50	80	85	35	40	40	40	75	60
52	Cost on account of providing & fixing of ACP conduit to completely conceal the refrigerant piping circuit including cable trays etc.	Sqm	875	50	100	70	25	200	100	35	20	25	25	35	30	30	30	25	75

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S.No	DESCRIPTION	Total	
		Unit	**QTY**
53	Earth work in excavation by mechanical means (Hydraulic excavator)	CUM	41
54	Providing & laying of Stone Soling tightly hand packed including watering, ramming & carriage from source to site of work complete job. 100 mm nominal size.	Cum	11
55	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering –	Cum	8
56	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement – All work up to plinth level.	Cum	21
57	P.C.C (1:2:4) Foundation Wall	Cum	76
58	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement	Cum	26
59	Steel reinforcement for R.C.C. work including straightening, cutting ,bending, placing in position and binding all complete upto plinth level. “Cold twisted bars”	Kg	4395
60	Centering and shuttering including strutting, propping etc. and removal of form for Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	Sqm	435
61	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.	Kg.	3239
62	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc.	Kg.	2071
63	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, all complete.	Kg.	13184
64	Providing and Fixing of poly coated sheets corrugated 0.50 mm thick complete in all respects.	Sqm	410
65	Providing & fixing poly coated plain sheet 0.80 mm thick ridge.	Sqm.	12
66	Providing and fixing of Plain Eaves Boarding complete job including two coats of painting and one coat of priming (1st Class Budloo wood)	Rm.	98
67	Dismantling of Gypsum board ceiling including stacking of serviceable material and disposal of unserviceable material,complete job.	Sqm	245
68	Providing and fixing 10mm to 12 mm thick Gypsum board ceiling (white) 2′.0″×2′.0″ of same pattern as per existing complete in all respects include cost of frame work.	Sqm	245
69	800kVA OLTC Transformer with RTCC	Nos	1
70	HT PANEL (Complete Job)	Nos	1
71	LT Panel (Complete Job)	Nos	1
72	Power Pack	Nos	1
73	APFC Panel 225 kVAR (Complete Job)	Nos	1
74	HT Cable (Supplying and Laying of one No. HT. cable of 11 KV grade XLPE armoured Al.	Mtrs	70
75	HT Cable (Supplying and making indoor cable end termination with heat shrinkable jointing kit complete with all accessories.)	Set	4
76	HT Cable (Supply, Installation, Testing & commissioning of Trivector meter and PT of 11kV/110V for 800kVA Transformer enclosed in cubicle panel made of 1.6mm thick CRCA sheet	Nos	1
77	LT Cable (Supply and Laying of PVC Insulated and FRLS PVC round sheathed, armoured solid single core copper cable of 300 sq mm industrial cable of 1.1kv grade)	Mtrs	200
78	3 core 1.5 sq mm cable (LT Cable)	Mtrs	100
79	3 core 2.5 sq mm cable(LT Cable)	Mtrs	100
80	3 core 4 sq mm cable(LT Cable)	Mtrs	100
81	3 core 6 sq mm cable (LT Cable)	Mtrs	100

82	3.5c × 50 sq mm (LT Cable)	Mtrs	1000
83	3.5c × 70 sq mm (LT Cable)	Mtrs	800
84	3.5c × 95 sq mm (LT Cable)	Mtrs	550
85	3.5c × 150 sq. mm (LT Cable)	Mtrs	350
86	3.5c × 185 sq. mm (LT Cable)	Mtrs	1400
87	(OD)/ (ID) 50mm / 39mm	Mtrs	1800
88	(OD)/ (ID) 90mm /76mm	Mtrs	850
89	(OD)/(ID)120mm/103mm	Mtrs	1300
90	Supplying, installation, testing & commissioning of OUTDOOR Panel factory assembled Dust & Vermin Proof wall / floor mounted LT cubical type compartmentalized panel inclu	Nos	3
91	Supplying, installation, testing & commissioning of OUTDOOR Panel factory assembled Dust & Vermin Proof wall / floor mounted LT cubical type compartmentalized panel complete as required.	Nos	1
92	P/F of 4- pole, 250 Amp. MCCB (Adjustable type) lcu = 36kA with Ics = 100% Icu as per IEC 60947-2 including spreaders of same rating. Complete in all respects.	Nos	4
93	P/F of 4- pole, 100 Amp. MCCB (Adjustable type), lcu = 25kA with Ics = 100% Icu as per IEC 60947-2 including spreaders of same rating. Complete in all respects.	Nos	13
94	P/F of 63 Amps. 4P MCCB of breaking capacity 25 KA with thermal magnetic release ICU=Ics=100%	Nos	3
95	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure	Nos	10
96	Supplying and laying 25 mm X 5 mm G.I strip at 0.50 metre below ground as strip earth electrode	Mtrs	50
97	Bridge Earthing for Power station and DG Sets: P/F of Maintenance free Chemical Earthing using copper Electrode	Nos	15
98	Supplying and laying 25 mm X 5 mm copper strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating	Mtrs	150
99	Supply, Installation, Testing And Commissioning of 3_Phase 320 kVA DG Set with AMF Panel	Nos	1
100	Supply, Installation, Testing And Commissioning of 3_Phase 250 kVA DG Set with AMF Panel	Nos	2
101	Supply, Installation, Testing, Commissioning of factory fabricated high quality steel Diesel storage tank above the ground modular	Nos	1
102	P/F of 1600 VA square wave Inverter of Luminous/Amaron/Exide with all accessories including battery rack	Nos	1
103	P/F of Tall Tubular 200Ah Battery, 12V Tubular battery of Exide/Amaron, or equivalent make Battery including suitable plastic trolley along with brass terminals in all respects. 3 Years warranty	Nos	2
104	P/F of 1200 mm sweep Metallic ceiling fan with 300 watt 5 step regulator of and hook for fan.	Nos	5
105	P/F of 300 mm Sweep Heavy Duty Crompton Greaves Exhaust Fan (metal type) Complete in all respects.	Nos	6
106	P/F of 2 ft*2ft LED luminaries with URG <19 recess mounted with high lumen output with durable housing with Al heat sink with Diffuser to give glare free light with removable driver.	Nos	12
107	Supplying & Fixing of Charging Point of modular switch. Complete the job in all respects.	Nos	4
108	Supplying & fixing following modular switch of 25 Amp, Socket outlet complete the job in all respects.	Nos	5
109	Wiring for light point / fan point /exhaust point / call bell point with 1.5 sq. mm FRLS PVC insulated Copper as required.	Nos	20
110	Supplying and fixing 5A to 32 A rating, 240/415 V, 10 kA, “C”curve (Single Pole)	Nos	15
111	Supplying and fixing 5A to 32 A rating, 240/415 V, 10 kA, “C”curve, . (Double Pole)	Nos	2

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112	Supplying and fixing 63 A rating, 240/415 V, 16kA “C”curve, complete	Nos	2
113	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board,complete in all respects	Nos	1
114	Supply, Installation, Testing and Commissioning of 7/8 mtrs long octagonal pole Complete in all respects.	Nos	5
115	Supply , installation ,Testing and commissioning of 100W , 10000 lm Smart Bright LED Flood Light complete in all respects.	Nos	10
116	Supply and fixing of ABC powder based type fire extinguishers complete as required	Nos	5
117	Supply and Testing of all safety equipment and necessary power station equipment tools	Nos	1