

**University Works Division  
Guru Gobind Singh Indraprastha University  
Sector 16 C, Dwarka**

**Press Notice for Publishing Newspaper**

**NOTICE INVITING TENDER**

The Executive Engineer, University Works Division, GGSIPU on behalf of the GGSIPU invites Sealed Item rate tenders from eligible specialized firms doing work of VRV/VRF air conditioning system.

Name of work : A/A GGSIP University, Dwarka Campus, New Delhi  
Sub Head : Providing VRV/VRF air conditioning system in Student Canteen at GGSIPU, Dwarka, New Delhi.

NIT No : 7/EE/UWD/Elect/2014-2015

Estimated Cost : Rs. **1917026/-**, Time of completion : 45 days  
EMD : Rs **38345/-**

The tender forms and other details can be obtained from the O/o EE, UWD, GGSIPU on payment of Rs 500/- The last date upto which tender documents can be submitted is 20/08/2014 up to 1500 Hrs. Tenders can be downloaded from website [www.ipu.ac.in](http://www.ipu.ac.in).

Other detail / information can be seen on website [www.ipu.ac.in](http://www.ipu.ac.in).

**EE/UWD**

**Press Notice for website**  
**NOTICE INVITING TENDER**

F.No.GGSIPU/UWD/2014/1001-1003

Dated: 07 /08/2014

The Executive Engineer, University Works Division, on behalf of the GGSIPU invites sealed item rate tenders from eligible specialized firms doing work of VRV/VRF air conditioning system.

S. No.	NIT No.	Name of work & Location	Estimated cost put to tender	Earnest money	Time of completion	Last date & Time	Time & date of submission of tender documents & opening of Eligibility
						Issue of tender documents	
1	2	3	4	5	6	7	8
1	07 /EE/UWD/Elect/2014-2015	Name of Work: A/A GGSIP University, Dwarka Campus, New Delhi <b>SH: Providing VRV/VRF air conditioning system in Student Canteen at GGSIPU, Dwarka, New Delhi.</b>	Rs. 1917026/-	Rs. . 38345/-	45 days	13/ 08 / 2014 4:00 PM	20 /08/ 2014 upto 3:00PM 20/ 08/ 2014 , 3:30 PM

The tender forms can be obtained from Office of Executive Engineer, UWD on payment of tender processing fee of Rs. 500/- in form of Demand Draft in favour of Registrar GGSIPU. Tender can also be down loaded form website [www.ipu.ac.in](http://www.ipu.ac.in). In case of down loaded tender, tender processing fee shall be paid along with the bid.

Eligibility documents i.e. Earnest Money, copy of completion certificates of similar nature of work, copy of pan number, copy of valid TIN No., consent letter from OEM for having back up in procurement, execution, testing and commissioning of VRV/VRF airconditioning system, tender cost in case of downloaded documents, should be deposited in separate envelope, marked "Eligibility documents". Duly filled schedule of quantity with rate and amount and signed tender documents shall be placed in other separate envelopes marked "Financial bid". Earnest money shall be in shape of Fixed Deposit receipt of a Scheduled Bank or Demand Draft of a scheduled Bank issued in favour of Registrar, GGSIPU. A part of earnest money is acceptable in the form of bank guarantee also. In such case, 50% of earnest money or Rs.20 lacs, whichever is less, will have to be deposited in shape prescribed above, and balance in shape of Bank Guarantee.

All the sealed envelopes i.e "Eligibility documents" , and "Financial bid" shall be submitted together in another sealed envelope superscripted with name of work and due date of opening. The envelope marked "Eligibility documents" shall be opened first and eligibility of only those bidders will be evaluated whose EMD and tender fee is found to be in order and the second envelope marked "Financial bid" shall be opened only of those firms whose "Eligibility documents" are found to be in order. **The date and time of opening of envelopes marked "Financial bid" shall be subsequently intimated to all eligible agencies.**

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**Executive Engineer**  
**University Works Division**

**Copy to:**

- 1) Div Accountant, GGSIPU
- 2) Notice Board
- 3) Server In charge, GGSIPU – With a request to upload on website.

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**Executive Engineer**  
**University Works Division**



# **GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY**

## **Tender Document**

**Name of Work:** A/A GGSIP University, Dwarka Campus,  
New Delhi

**Sub Head:** **Providing VRV/VRF airconditioning  
system in Student Canteen at GGSIPU,  
Dwarka, New Delhi.**

**Executive Engineer  
University Works Division  
Ground Floor, Library Block,  
GGSIPU, Sector- 16C, Dwarka,  
New Delhi – 110075  
Contact : 25302291**

Document Fee : Rs 500.00 (Non-refundable)

**Volume - I**  
**General Conditions**  
**Special Conditions**  
**Particular Specification**

## INDEX

Name of Work: A/A GGSIP University, Dwarka Campus, New Delhi

**Sub Head: Providing VRV/VRF air conditioning system in Student Canteen at GGSIPU, Dwarka, New Delhi.**

<b>S.No.</b>	<b>Description</b>	<b>Page Nos.</b>
1	Press Notice for News Paper	1
2	Notice Inviting Tender website	2
3	Notice Inviting Tender	6-9
4	Integrity Pact	10-16
5	Letter of submission	17-18
7	General Rules and Directions	19-21
8	Conditions of Contract	22-24
9	Form of Performance Security and Earnest Money Deposit– Bank Guarantee Bond	25-28
10	Performa of Schedules A to F	29-32
11	Special Conditions & Technical Specifications	33-45
12	List of approved makes	46
13	Schedule of Quantities	47-49

## ***NOTICE INVITING TENDER***

The Executive Engineer, University Works Division, on behalf of the GGSIPU invites Sealed item rate tenders from eligible specialized firms doing **work of VRV/VRF airconditioning system** for the work :-

Name of Work: A/A GGSIP University, Dwarka Campus, New Delhi

**Sub Head: Providing VRV/VRF air conditioning system in Student Canteen at GGSIPU, Dwarka, New Delhi.**

The work is estimated to cost **Rs.1917026/-**This estimate, however, is given merely as a rough guide.

### **ELEGIBILITY CRITERIA:-**

The firms who fulfill the following criteria shall be eligible to apply.

a) Should have satisfactorily completed the works as mentioned below during last 7 years ending last date of submission of tender.

i) Three similar nature completed works each of value not less than Rs. 7,67,000.00

OR

ii) Two similar nature completed works each of value not less than Rs. 11,55,000.00only.

OR

iii) one similar nature completed work of value not less than Rs. 15,34,000.00 only

Similar nature work means “Supply, Installation, Testing and Commissioning of VRV/VRF airconditioning system in buildings in Central Govt. Department / State Govt. Department / Central Autonomous Bodies / State Autonomous Bodies / Central Public Sector Undertaking / State Public Sector Undertaking / Private Sector Units.”

In case of completed work in private sector, copy of Form 26A / TDS Certificate issued by the client for the same work shall also be submitted.

b) i) Consent letter from OEM for having back up in procurement within the frame schedule of work, execution, testing and commissioning of VRV/VRF airconditioning system including in DLP & maintenance.

2. Agreement shall be drawn with the successful tenderer on prescribed Form No. C.P.W.D. 8 which is available as a Govt. of India Publication. Tenderer shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.

3. Tender documents consisting of plans, specifications, the schedule of quantities of the various classes of work to be done and the set of terms & conditions of contract to be complied with by the contractor whose tender may be accepted and other necessary documents can be seen in the office of the EE/UWD between hours of 11:00 AM & 4:00 PM from **07/08/2014 to 12/08/2014** everyday except on Sundays and Public Holidays. Tender is also available on website [www.ipu.ac.in](http://www.ipu.ac.in).

5. Desirous agencies may obtain tender document on request in writing from University Works Division, Ground Floor, Library Block, GGSIPU, Dwarka, New Delhi – 110075 on any

working day between 1000 Hrs. (IST) to 1500 Hrs. (IST) up to **13/08/14** on payment of non-refundable fee of **Rs.500/- (Rupees Five Hundred Only)** in the form of crossed Demand Draft drawn in favour of Registrar, GGSIPU payable at New Delhi. Tenders can also be downloaded from the website [www.ipu.ac.in](http://www.ipu.ac.in). In case of downloaded tenders, demand draft of **Rs. 500/-** shall also be enclosed with the bid toward tender document cost in form of Demand Draft in favour of Registrar, GGSIPU payable at New Delhi.

Applications for issue of forms shall be received **by 13/08/2014 (3:00 PM)** and tender documents shall be issued by **13/08/2014 (4:00 PM)**.

6. Pre bid conference shall be held on **14/08/2014** at 11:00 AM in office of EE, where intending bidder can ask their queries with respect to this tender.
7. Agencies fulfilling the above criteria mentioned at Sl. 1 may submit the tender documents along with Earnest Money **Rs.38345/- (Rupees thirty eight thousand three hundred forty five only)** in the shape of fixed deposit receipt of a scheduled bank or demand draft of a scheduled bank issued in favour of Registrar, GGSIPU. **50%** of earnest money or **Rs.20,00,000/-**, whichever is less, will have to be deposited in the shape prescribed above and balance amount of the earnest money can be accepted in the form of Bank Guarantee issued by scheduled bank having validity of 6 months or more from the last date of receipt of tenders.
8. The tender shall be submitted as under.

1.) **Envelop-1** (Superscribed as “Eligibility documents” on the envelop) :- This will consist of following documents.

- a) EMD
- b) Tender fee, if tender documents are downloaded from website.
- c) Consent letter from OEM for having back up in procurement within the frame schedule of work, execution, testing and commissioning of VRV/VRF airconditioning system including in DLP & maintenance.
- d) Self attested copy of PAN card.
- e) Self attested copy of valid VAT registration along with copy of VAT return, filed up to last quarter of current financial year.
- f) Self attested copy of completion certificate of similar nature of work issued by the officer of the rank of Project Manager/Executive Engineer. In case of completed work in private sector, copy of Form 26A / TDS Certificate issued by the client for the same work shall also be submitted.

2.) **Envelop – 2** (Superscribed as “Financial bid” on the envelop) :- This will consist of tender documents with Financial bid i.e. duly filled rate and amount in schedule of quantity.

All the envelopes shall be submitted together in another sealed envelope with the name of work and due date of opening written on envelope, which will be received by the EE/UWD upto 3:00 PM on **20/08/2014** and **Envelop-1** containing **Eligibility documents** will be opened by him or his authorized representative in his office on the same day at 3:30 PM. Subsequently, the date of opening of **Financial bid** shall be intimated to all eligible agencies. **Envelop-2** containing financial bid shall be opened of only those agencies, whose eligibility documents in **Envelop-1** are found in order.

9. The time allowed for carrying out the work will be **45 days** from the date of start as defined in Schedule ‘F’ or from the first date of handing over of site, whichever is later, in accordance with phasing, if any, indicated in the tender documents.

10. The site of work is available.
11. Last date for submission of tender document is 20/08/2014 **upto 15.00 Hrs.**
12. The Contractor whose tender is accepted, will be required to furnish performance guarantee of 5% (Five Percent) of the tendered amount within the period specified in Schedule F. This guarantee shall be in the form of Banker's Cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay order of any scheduled bank (in case guarantee amount is less than **Rs.1,00,000/-**) or Fixed Deposit Receipts of any Schedule Bank or in the form of an irrevocable bank guarantee bond of any scheduled nationalized bank in accordance with the form prescribed.
13. The description of the work is as follows:

Name of work: A/A GGSIP University, Dwarka Campus, New Delhi

**Sub Head:** Providing VRV/VRF airconditioning system in Student Canteen at GGSIPU, Dwarka, New Delhi.
14. Copies of other drawings and documents pertaining to the works will be open for inspection by the tenderers at the office of Executive Engineer, UWD. Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves the form and nature of the site, the means of access to the site, the accommodation they may require and before submitting their tenders and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. The tenderer shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity, access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract document. Submission of a tender by tenderer implies that he has read this letter and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the GGSIPU and local conditions and other factors having a bearing on the execution of the work.
15. The competent authority on behalf of the GGSIPU does not bind itself to accept the lowest or any other tender and reserves to itself the authority to reject any or all the tenders received without assigning any reason. All tenders in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the tenderer shall be summarily rejected.
16. Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.
17. The competent authority on behalf of GGSIPU reserves to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.



18. The Contractor shall not permitted to tender for works in the UWD responsible for award and execution of contracts, in which his near relative is posted as Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any officer in the GGSIPU. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
19. The tender for the works shall remain open for acceptance for a period of (90) Ninety days from the date of opening of tenders/ninety days from the date of opening of financial bid in case tenders are invited on 2/3 envelope system. If any tenderer withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to the GGSIPU, then the GGSIPU shall, without prejudice to any other right or remedy, be at liberty to forfeit **50%** of the said earnest money as aforesaid. Further, the tenderer shall not be allowed to participate in the re tendering process of the work.
20. This notice inviting Tender shall form a part of the contract document. The successful tenderer/contractor, on issue of letter of Commencement of work by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of:
  - a) Notice inviting tender, Tender document including Schedule of Quantities, Contract clauses, Special conditions, particular specifications and drawings, if any, forming part of the tender document as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
  - b) Standard Contract form 8 of 2014.

The terms and conditions of this tender document shall have precedence over the corresponding provisions of GCC 2014.

21. The GGSIPU reserve the right to reject any or all prospective applications without assigning any reason and to restrict the list of contractors to any number deemed suitable by it.

**Executive Engineer**  
**University Works Division**

## **INTEGRITY PACT**

To

Executive Engineer,  
GGSIPU, Sector-16C,  
Dwarka Campus, New Delhi.

Sub: NIT No. 7/EE/UWD/Elect./2014-15 for the work “ A/A GGSIP University, Dwarka Campus, New Delhi. SH:- **Providing VRV/VRF airconditioning system in Student Canteen at GGSIPU, Dwarka, New Delhi.**

Dear Sir,

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

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

This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall be deemed as acceptance and signing of the Integrity Agreement on behalf of the GGSIPU.

Yours faithfully

Executive Engineer  
(University Works Division)

## **INTEGRITY PACT**

To,

Executive Engineer,  
GGSIPU, Sector-16C,  
Dwarka Campus, New Delhi.

Sub: Submission of Tender for the work of “ A/A GGSIP University, Dwarka Campus, New Delhi.  
SH:- Providing VRV/VRF air conditioning system in Student Canteen at GGSIPU, Dwarka, New Delhi.”

Dear Sir,

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

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

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

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

Yours Faithfully

(Duly authorized signatory of the Bidder)

## INTEGRITY PACT

### INTEGRITY AGREEMENT

THIS Integrity Agreement is made at \_\_\_\_\_ on this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_

#### BETWEEN

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

#### AND

through \_\_\_\_\_ (Hereinafter referred as the "**Bidder/Contractor**" and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

#### **Preamble**

WHEREAS the Principal/Owner has floated the Tender (NIT No. 7/EE/UWD/Elect/2014-15) (hereinafter referred to as "**Tender/Bid**") and intends to award, under laid down organizational procedure, contract for " A/A GGSIP University, Dwarka Campus, New Delhi. SH:- **Providing VRV/VRF airconditioning system in Student Canteen at GGSIPU, Dwarka, New Delhi.** (Name of Work) hereinafter referred to as the "**Contract**".

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

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

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

#### **Article 1: Commitment of the Principal/Owner**

- 1) The Principle/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:
  - a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
  - b) The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any

Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.

- c) The Principal/Owner shall endeavour to exclude from the Tender process any person, whose conduct in the past has been of biased nature.
- 2) If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

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

- 1) It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Government/Department all suspected acts of **fraud or corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
- 2) The binder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:
  - a) The bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.
  - b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
  - c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/Contractor(s) will; not use improperly;, ( for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
  - d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/representatives in India, if any. Similarly Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participate in a tender on behalf of one manufacturer, he shall not be allowed to

quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.

- e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.
- 3) The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- 4) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice **means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of other and/or to influence the procurement process to the detriment of the Government interests.**
- 5) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/her reputation or property to influence their participation in the tendering process).

### **Article 3: Consequences of Breach**

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

- 1) If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. **Such exclusion may be forever or for a limited period as decided by the Principal/Owner.**
- 2) **Forfeiture of EMD/Performance Guarantee/Security Deposit:** If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1) the principal/owner apart from exercising any legal right that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder/Contractor.
- 3) **Criminal Liability:** If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor

which constitutes corruption within the meaning of IPC Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

#### **Article 4: Previous Transgression**

- 1) The bidder declares that no previous transgressions occurred in the last 5 year with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.
- 2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/holiday listing of the Bidder/Contractor as deemed fit by the Principal/Owner.
- 3) If the Bidder/Contractor can prove that he has resorted/recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

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

- 1) The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation (s) of the principles laid down in this agreement/Pact by any of its Sub-contractor/Sub-vendors.
- 2) The Principal/Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.
- 3) The Principal/Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

#### **Article 6: Duration of the Pact**

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

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

#### **Article 7: Other Provisions**

- 1) This pact is subject to Indian Law, place of performance and jurisdiction is the **Head quarters of the Division** of the Principal/Owner, who has floated the Tender.
- 2) Changes and supplements need to be made in writing. Side agreements have not been made.
- 3) If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium

members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.

- 4) Should one or several provisions of this pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 5) It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement/Pact or any action taken by the Owner/Principal in accordance with this **Integrity agreement /pact interpretation thereof shall not be subject to arbitration.**

**Article 8: Legal and Prior Rights**

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

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

\_\_\_\_\_  
(For and on behalf of Principal/Owner)

\_\_\_\_\_  
(For and on behalf of Bidder/Contractor)

WITNESSES:

1. \_\_\_\_\_
2. \_\_\_\_\_

Place:  
Dated:



**Letter of Submission  
Item Rate Tender**

(A) Tender for work of A/A GGSIP University, Dwarka Campus, New Delhi

**Sub Head:** Providing VRV/VRF airconditioning system in Student Canteen at GGSIPU, Dwarka, New Delhi.

- i) To be submitted by **15.00 HRS hours up to 20/08/2014** to Executive Engineer. UWD, Ground Floor, Library Block, GGSIPU, Sector-16C, Dwarka, New Delhi-110075
- ii) To be opened in presence of tenderers who may be present at **15.30 hours on 20/08/2013** in the office of **Ex Engr**, UWD, Ground Floor, Library Block, GGSIPU, Sector-16C, Dwarka, New Delhi-110075

Issued to -----

Signature of officer issuing the documents -----

Designation -----

Date of Issue -----

**T E N D E R**

I/ We have read and examined the Notice inviting tender, specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, special condition, particular Specification, Schedule of Quantities & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the GGSIPU within the time specified in Schedule 'F', viz., schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of contract and with such materials as are provided for, by, and in respects in accordance with, such conditions so far as applicable.

We agree to keep the tender open for Ninety (90) days from the due date of opening of tender/ninety days from the date of opening of financial bid in case tenders are invited on 2/3 envelop system and not to make any modifications in its terms and conditions.

The earnest money of **Rs. 38345/-** has been deposited in the shape of fixed deposit receipt of a scheduled bank/ demand draft of a scheduled bank/bank guarantee of scheduled bank issued in favour of Registrar, GGSIPU. If I/we, fail to furnish the prescribed performance guarantee within prescribed period, I/We agree that the said GGSIPU or his successors in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/we fail to commence work as specified, I/we agree that GGSIPU or his successors in office shall without prejudice to any other right or remedy

available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely, otherwise the said earnest money shall be retained by him towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered, upto maximum of the percentage mentioned in Schedule 'F' and those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the clauses of contract. Further, I/We agree that in case of forfeiture of earnest money or both Earnest Money & Performance Guarantee as aforesaid, I/We shall be debarred for participation in the retendering process of the work.

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

Date -----

Signature of Contractor  
Postal Address

Witness :  
Address :  
Occupation :

### A C C E P T A N C E

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the GGSIPU for a sum of Rs.----- (Rupees -----  
-----)

The letters referred to below shall form part of the Agreement :

- a)
- b)
- c)

Executive Engineer,  
University Works Department

**GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY  
SECTOR-16C, DWARKA, NEW DELHI-110078**

1. Notice Inviting Tender will state the work to be carried out, as well as the date for submission and opening of tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited at the time of purchase of tender. The performance Guarantee to be deposited by the successful tenderer and the amount of security deposit to be deducted from bills. Copies of the specifications, designs and drawings and any other documents required in connection with the work signed for the purpose of identification by the officer inviting tender shall also be open for inspection by the contractor at the office of officer inviting tender during office hours.
2. In the event of the tender being submitted by a firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power of attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act, 1952.
3. Receipts for payment made on account of work, when executed by a firm, must also be signed by all the partners, except where contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm.
4. Any person who submits a tender shall fill up the Schedule of Quantity (Vol.II) form, stating at what rate he is willing to undertake each item of the work. Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort, including conditional rebates, will be summarily rejected. No single tender shall include more than one work, but contractors who wish to tender for two or more works shall submit separate tenders for each. Tender shall have the name and number of the works to which they refer, written on the envelopes.
5. The officer inviting tender or his duly authorized representatives, will open tenders in the presence of any intending contractors who may be present at the time, and will enter the amounts of the several tenders in a comparative statement in a suitable form. In the event of a tender being accepted, a receipt for the earnest money forwarded at the time of purchase of tender shall thereupon be given to the contractor who shall thereupon for the purpose of identification sign copies of the specifications and other documents mentioned in Rule-I. In the event of a tender being rejected, the earnest money of unaccepted tenders shall thereupon be returned to the contractor, without any interest.
6. The officer inviting tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest or any other tender.

7. The receipt of an accountant or clerk for any money paid by the contractor will not be considered as any acknowledgement or payment to the officer inviting tender and the contractor shall be responsible for seeing that he procures a receipt signed by the officer inviting tender or a duly authorized Cashier.
8. The memorandum of work tendered for and the schedule of materials to be supplied by the department and their issue rates, shall be filled and completed in the office of the officer inviting tender before the tender form is issued. If a form is issued to an intending tenderer without having been so filled in and incomplete, he shall request the officer to have this done before he completes and delivers his tender.
9. The tenderers shall sign a declaration under the officials Secret Act 1923, for maintaining secrecy of the tender documents drawings or other records connected with the work given to them. Use of correction fluid, anywhere in tender document is not permitted. Such tender is liable for rejection.
10. Only rates quoted shall be considered. Any tender containing percentage below/ above the rates quoted is liable to be rejected. Rates quoted by the contractor in item rate tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates written in figures and words. However, if a discrepancy is found, the rates which correspond with the amount worked out by the contractor shall unless otherwise proved be taken as correct. If the contractor does not work out the amount of an item or it does not correspond with the rates written either in figures or in words, then the rates quoted by the contractor in words shall be taken as correct. Where the rates quoted by the contractor in figures and in words tally but the amount is not worked out correctly, the rates quoted by the contractor will unless otherwise proved be taken as correct and not the amount. In event no rate has been quoted for any item(s), leaving space both in figure(s), word(s), and amount blank, it will be presumed that the contractor has included the cost of this/these item(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly.
11. In the case of any tender where unit rate of any item/ items appear unrealistic, such tender will be considered as unbalanced and in case the tenderer is unable to provide satisfactory explanation, such a tender is liable to be disqualified and rejected.
12. All rates shall be quoted on the tender form (i.e. Schedule of Quantities Vol. II). The amount for each item should be worked out and requisite totals given. Special care should be taken to write the rates in figures as well as in words and the amount in figures only, in such a way that interpolation is not possible. The total amount should be written both in figures and in words. In case of figures, the word 'Rs.' should be written before the figure of rupees and word 'P' after the decimal figures, e.g. 'Rs.2.15 P' and in case of words, the word, 'Rupees' should precede and the word 'Paise' should be written at the end. Unless the rate is in whole rupees and followed by the word 'only' it should invariably be upto two decimal places. While quoting the rate in schedule of quantities, the word 'only' should be written closely following the amount and it should not be written in the next line.

13.
  - i) The contractor whose tender is accepted shall be required to deposit an amount equal to 5% of the tendered value of the work as performance guarantee within the period as specified in schedule-'F' in the form of an irrevocable bank guarantee bond of any scheduled bank in accordance with the form prescribed, fixed deposit receipt or demand draft in favour of Registrar, GGSIPU.
  - ii) The contractor whose tender is accepted, will also be required to furnish by way of Security Deposit for the fulfillment of his contract, an amount equal to 5% of the tendered value of the work. The Security deposit will be collected by deductions from the running bills of the contractor at the rate of 5% and the earnest money deposited at the time of tenders, will be treated as a part of the Security Deposit. The Security amount will also be accepted in the shape of Fixed Deposit Receipt of a Scheduled Nationalized Bank or State Bank of India will also be accepted for this purpose provided confirmatory advice is enclosed. The security deposit as deducted above can be released against bank guarantee issued by a scheduled bank, on its accumulations to a minimum of Rs. 5 lakh subject to the condition that amount of such bank guarantee, except last one, shall not be less than Rs. 5 lakh.
14. On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Engineer-in-Charge shall be communicated in writing to the Engineer-in-Charge.
15. Sales Tax/VAT, purchase tax, turnover tax or any other tax on material in respect of this contract shall be payable by the Contractor and GGSIPU will not entertain any claim whatsoever in respect of the same.
16. The contractor shall give a list of both gazetted and non-gazetted GGSIPU employees related to him.
17. The tender for the work shall not be witnessed by a contractor or contractors who himself/themselves has/have tendered or who may and has/have tendered for the same work. Failure to observe this condition would render, tenders of the contractors tendering, as well as witnessing the tender, liable to summary rejection.
18. The tender for composite work includes, in addition to building work, all other works such sanitary and water supply installations drainage installation, electrical work, horticulture work, roads and paths etc. The tenderer apart from being a registered contractor (B&R) of appropriate class, must associate himself with agencies of appropriate class which are eligible to tender for sanitary and water supply drainage, electrical land horticulture works in the composite tender.
19. The contractor shall comply with the provisions of the Apprentices Act 1961, and the rules and orders issued there under from time to time. If he fails to do so, his failure will be a breach of the contract and the GGSIPU may in his discretion, without prejudice to any other right or remedy available in law, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.

**CONDITIONS OF CONTRACT****Definitions**

1. The Contract means the documents forming the tender and acceptance thereof and the formal agreement executed between the competent authority on behalf of the GGSIPU and the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in-Charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.
2. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:
  - i) The expression works or work shall, unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional.
  - ii) The Site shall mean the land/ or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work, is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.
  - iii) The Agency / Contractor / Tenderer shall mean the individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the permitted assigns of such individual, firm or company.
  - iv) The GGSIPU means the Guru Gobind Singh Indraprastha University and his successors.
  - v) The Engineer-in-Charge means the Executive Engineer UWD
  - vi) Accepting Authority shall mean the authority mentioned in Schedule 'F'.
  - vii) Excepted Risk are risks due to riots (other than those on account of contractor's employees), war (whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, military or usurped power, any acts of Government, damages from aircraft, acts of God, such as earthquake, lightening and unprecedented floods, and other causes over which the contractor has no control and accepted as such by the

Accepting Authority or causes solely due to use or occupation by Government of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to Government's faulty design of works.

- viii) Market Rate shall be the rate as decided by the Engineer-in-Charge on the basis of the cost of materials and labour at the site where the work is to be executed plus the percentage mentioned in Schedule 'F' to cover, all overheads and profits.
- ix) Schedule(s) referred to in these conditions shall mean the relevant schedule(s) annexed to the tender papers or the standard Schedule of Rates of the government mentioned in Schedule 'F' hereunder, with the amendments thereto issued upto the date of receipt of the tender.
- x) Department means Guru Gobind Singh Indraprastha University or authorized by GGSIPU to work on their behalf.
- xi) District Specifications means the specifications followed by the State Government in the area where the work is to be executed.
- xii) Tendered value means the value of the entire work as stipulated in the letter of award.

### **Scope and Performance**

- 3. Where the context so requires, words imparting the singular only also include the plural and vice versa. Any reference to masculine gender shall whenever required include feminine gender and vice versa.
- 4. Headings and Marginal notes to these General Conditions of Contract shall not be deemed to form part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.
- 5. The contractor shall be furnished, free of cost one certified copy of the contract documents except standard specifications, Schedule of Rates and such other printed and published documents, together with drawings as may be forming part of the tender papers. None of these documents shall be used for any purpose other than that of this contract.

### **Works to be carried out**

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

execution and completion of the work as aforesaid in accordance with good practice and recognized principles.

### **Sufficiency of Tender**

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

### **Discrepancies and Adjustment of Errors**

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

8.1 In the case of discrepancy between the schedule of Quantities, the Specifications and/or the Drawings, the following order of preference shall be observed:

- i) Description of items given in Schedule of Quantities.
- ii) Technical Specification and Special Conditions.
- iii) Drawings.
- iv) C.P.W.D. Specifications.
- v) Indian Standard Specifications of B.I.S.
- vi) Decision of Engineer-in-Charge.

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

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



## **Form of Performance Security (Guarantee) Bank Guarantee Bond**

1. In consideration of the Guru Gobind Singh Indraprastha University (hereinafter called “The University”) having offered to accept the terms and conditions of the proposed agreement between ----- and ----- (hereinafter called “the said Contractor(s)”) for the work ----- (hereinafter called “the said agreement”) having agreed to production of a irrevocable Bank Guarantee for Rs.----- (Rupees ----- only) as a security/guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and condition in the said agreement.

We, ----- (hereinafter referred as “the Bank”) hereby undertake to  
(indicate the name of the Bank)  
pay to the University an amount not exceeding Rs.----- (Rupees -----  
----- only) on demand by the University.

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

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

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

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

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

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

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).
7. We, ----- lastly undertake not to revoke this guarantee except  
(indicate the name of the Bank)  
with the previous consent of the University in writing.
8. This guarantee shall be valid upto ----- unless extended on demand by the University. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs.----- (Rupees ----- only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

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

Signature & Seal of Bank

## FORM OF EARNEST MONEY (BANK GUARANTEE)

WHEREAS, contractor ..... (Name of contractor) hereinafter called “the contractor”) has submitted his tender dated.....(date) for the construction of ..... (name of work) (hereinafter called “ the Tender”)

KNOW ALL PEOPLE by these presents that we ..... (name of bank) having our registered office at ..... (hereinafter called “the Bank”) are bound unto ..... (Name and division of Executive Engineer) (hereinafter called “the Engineer-in-Charge”) in the sum of Rs..... (Rs. In words.....) for which payment well and truly to be made to the said Engineer-in-Charge the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this..... day of .....20...

THE CONDITIONS of this obligation are:

- (1) If after tender opening the Contractor withdraws his tender during the period of validity of tender (including extended validity of tender) specified in the Form of tender;
- (2) If the contractor having been notified of the acceptance of his tender by the Engineer-in-Charge:
  - a) fails or refuses to execute the Form of agreement in accordance with the instructions to contractor, if required; OR
  - b) fails or refuses to furnish the Performance Guarantee, in accordance with the provisions of tender document and instructions to contractor, OR
  - c) fails or refuses to start the work, in accordance with the provisions of the contract and instructions to contractor, OR
  - d) fails or refuses to submit fresh Bank Guarantee of an equal amount of this Bank Guarantee, against Security Deposit after award of contract.

We undertake to pay to the Engineer-in-Charge up to the above amount upon receipt of his first written demand, without the Engineer-in-Charge having to substantiate his demand, provided that in his demand the Engineer-in-Charge will note that the amount claimed by him is due to him owing to the occurrence of one or any of the above conditions, specifying the occurred condition or conditions.

The Guarantee will remain in force up to and including the date\*..... after the deadline for submission of tender as such deadline is stated in the instructions to contractor or as it may be extended by the Engineer-in-Charge, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

**DATE.....**

**SIGNATURE OF THE**

**SEAL**

**BANK**

**WITNESS.....**

**(SIGNATURE, NAME AND ADDRESS**

\* Date to be worked out on the basis of validity period of 6 months from last date of receipt of tender.

## PROFORMA OF SCHEDULES

(Operative Schedules to be supplied separately to each intending tenderer)

### SCHEDULE 'A'

Schedule of quantities - As per Vol-II (Page 46 to 49)

### SCHEDULE 'B'

Schedule of materials to be issued to the contractor. NIL

### SCHEDULE 'C'

Tools and plants to be hired to the contractor : NIL

### SCHEDULE 'D'

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

### SCHEDULE 'E'

Reference to General Conditions of contract.

Name of Work: A/A GGSIP University, Dwarka Campus, New Delhi

**Sub Head:** Providing VRV/VRF air conditioning system in Student Canteen at GGSIPU, Dwarka, New Delhi.

Estimated cost of work : **Rs. 19,17,026/-**

- i) Earnest money : **Rs. 38345/- (To be returned after receiving performance guarantee)**
- ii) Performance Guarantee : **5% of tendered value.**
- iii) Security Deposit : **2.5% of tendered value.**

### SCHEDULE 'F'

General Rules & Directions:

Officer Inviting Tender : Ex Engineer, UWD, GGSIPU

#### Definitions:

2(v) Engineer-in-Charge Ex Engineer, UWD, GGSIPU

2(viii) Accepting Authority Ex Engineer, UWD, GGSIPU

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

2(xi) Standard Schedule of Rates Market Prevailing Rates

2(xii) Department GGSIPU

9(ii) Contract Form CPWD Form 8

**Clause 1**

- i) Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance, in days **4 days**
- ii) Maximum allowable extension **with late fee @ 0.1 % per day Of Performance Guarantee amount** beyond the period provided in (i) above **3 days**

**Clause 2**

Authority for levy compensation  
Under clause 2.

**Superintending Engineer,  
GGSIPU**

**Clause 2A**

Whether Clause 2A shall be applicable **Yes**

**Clause 5**

Number of days from the date of issue of letter of acceptance for reckoning date of start **7 days**

<b>Table of Milestones</b>			
S.No.	Description of Milestone (physical)	Time Allowed in days from date of start	Amount to be withheld in case of non achievement of milestone
1	Delivery of material for low side work.	10 days	1.00% of tendered amount.
2	Complete execution of low side work and delivery of indoor Units.	20 days	1.00% of tendered amount
2	Supply of outdoor Units.	35 days	1.00% of tendered amount.
4	All work complete including clearing site, testing commissioning and handing over	45 days	1.00% of tendered amount.

Time allowed for execution of work. **45 days.**

Authority to give fair and reasonable extension of time for completion of work **Executive Engineer**

**Clause 6 or 6 A**

Clause Applicable **6**

**Clause 7**

Gross work to be done together with net payment/ Adjustment of advances for material collected, if any Since the last such payment for being eligible to Interim payment **Rs. 5.00 lakh**

**Clause 10 A**

List of testing equipment to be provided at site	Magger, Crimping Tool, Hammer Drill Machine, Tong Tester, Wet/Dry bulb Thermometer
<b>Clause 10 B(ii)</b> Whether clause 10B(ii) is applicable	<b>No</b>
<b>Clause 10 C</b> Component of labour expressed as percent of value of work	<b>Not Applicable</b>
<b>Clause 10 CA</b>	<b>Not Applicable</b>
<b>Clause 10 CC</b> Clause 10CC to be applicable in contracts with Stipulated period of completion exceeding the Period shown in next column Schedule of component of other materials, labour, POL etc for price escalation	<b>Not Applicable</b>
Component of Civil (except for materials covered under clause 10CA) / Electrical construction materials expressed as percent of total value of work	_____
Component of labour expressed as percent of total value of work	_____
Component of POL expressed as percent Of total value of work	_____
<b>Clause 11</b> Specifications to be followed for execution of work	CPWD specification for HVAC with upto date amendments & additional Technical Specifications.
<b>Clause 12</b> 12.2 & 12.3      Deviation limit beyond which clauses 12.2 & 12.3	30%
12.5                Deviation limit beyond which clauses 12.2 & 12.3 shall apply for foundation Work	Not Applicable
Type of work	Original
<b>Clause 16</b> Competent Authority for deciding reduced rates	<b>Superintending Engineer, GGSIPU</b>
<b>Clause 18</b> List of mandatory machinery tools& plants To be deployed by the contractor at site	<b>As required for completion within time period</b>

**Clause 25**

Constitution of Dispute Redressal committee

Chairman- Registrar, GGSIPU

Member- SE, UWD

Member- Technical Expert appointed by

Hon'ble VC

**Clause 36(i)**Requirement of Technical representative(s)  
and recovery rate

S.No	Requirement	Nos.	Qualification	Rate of Recovery
1.	Technical Representative	1	Graduate Engineer in Electrical/ Mechanical OR Diploma Engineer in Electrical/Mechanical with 5 years experience.	Rs. 25,000/- per month

**Clause 42****Not Applicable**



# **Special Conditions & Technical Specifications**

### **Commercial & additional Conditions**

- 1.0 “CPWD Specifications” wherever appearing in this document would mean Latest edition of CPWD specifications with correction slips issued upto the last date of receipt of tender.
- 2.0 GCC 2014 referred in this document is Govt of India Publication and is available in the market.
  - a) In CPWD Form 8, General Rules and Directions and Conditions of Contract forming part of ‘GCC 2014’ shall be superceeded by this document.
  - b) Wherever “President of India” is appearing in the GCC 2014 same shall be read as GGSIPU.
  - c) Wherever Superintending Engineer or Chief Engineer is appearing in GCC 2014, it may be read as Superintending Engineer, GGSIPU or Chief Engineer, GGSIPU.
  - d) Wherever CPWD or PWD is appearing in GCC 2014, it may be read as GGSIPU.
- 3.0 Unless otherwise provided in the schedule of quantities the rates tendered by the contractor shall be all-inclusive and shall apply to all heights, levels, depths, leads, lifts including shafts, machine room & stair cases. The rates for all items of work, unless clearly specified otherwise, shall include the cost of all labour, materials, and other inputs involved in the execution of the items.
- 4.0 No foreign exchange shall be made available by the department for the purpose of procurement of equipment, plants, machinery, materials of any kind or any other items required to be carried out in execution of work.
- 5.0 The contractor or his authorized representative should always be available at the site of work to take instructions from Engineer in charge, and ensure proper execution of work.
- 6.0 No work shall commence in the absence of contractor’s engineers and they shall certify in writing about the correctness of layout alignment and shall ensure stability of all structural work such as partition panel and other related items.
- 7.0 The tenderer shall quote only makes for which he has satisfactorily executed the job and shall also furnish certificate from OEM to the effect that the such equipment has performed satisfactorily under Indian weather conditions.
- 8.0 All work and materials brought and left upon the ground by the contractor or by his orders for the purpose of forming part of the works, are to be considered to be the property of the GGSIPU and the same are not to be removed or taken away by the contractor or any other person without consent in writing of the Engineer-in-charge but the GGSIPU is not to be in any way responsible for any loss or damage which may happen to or in respect of any such work or materials either by the same being lost or damaged by weather or otherwise.

- 9.0 The contractor shall execute the different items simultaneously, as far as possible, so that minimum breakage and repairs are involved.
- 10.0 The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants of adjacent properties and to the public in general and to prevent any damage to such properties and any pollution of environment and waterways. He shall make good at his own cost and to the satisfaction of the Engineer-in-Charge, any damage to public or private property whatsoever caused by the execution of the work or by traffic brought thereon by the contractor. Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants/users of adjoining buildings.
- 11.0 The contractor shall be responsible for watch and ward of all the works, equipment and various materials till complete handing over of works.
- 12.0 Wherever any reference to any Indian Standards Specification occurs in the documents relating to this contract the same shall be inclusive of all amendments issued their to or revisions there of if any, upto the date of receipt of tenders.
- 13.0 Cess @ 1% of gross value of work done shall be deducted from the payment as per Delhi Building & other Construction Workers Welfare Cess Act 1996 besides other statutory deduction like income tax, VAT etc.
- 14.0 The rates quoted by the contractor shall be all inclusive keeping in mind the specifications, special conditions and technical specifications and nothing extra shall be payable whatsoever, unless otherwise specified.
- 15.0 If the work is carried out in more than one shifts or during night to meet the time period of completion, nothing extra shall be paid on this account.
- 16.0 The contractor shall be bound to follow the instruction and restrictions imposed by the Administration / Police authorities on the working and movement of labour / material / vehicles etc and nothing extra shall be paid on this account.
- 17.0 All the materials are to be got approved from the Engineer-in-Charge before using the same in the work.
- 18.0 The electrical work will be carried out in accordance with the General Specifications 2013 for electrical works in (part I) internal, CPWD specifications 1994 (part II) external, except as otherwise specified in the description of items given in the Schedule of Quantities or in the attached Technical Specification while complying in all respects with the requirements of the latest Indian Electricity Rules in force at the time of execution.
- 19.0 The electrical work shall be carried out simultaneously with the civil and interior works.

- 20.0 If any minor alterations are found necessary, the contractor shall do the same within tendered rates.
- 21.0 The contractor shall employ adequate labour to complete the work within the stipulated time and make his own arrangements for storage of materials etc.
- 22.0 All tender rates will include the cost of materials, erection, connections, labour, supervision, tools, plant, transport, all taxes, duties, contingencies, breakage, wastage, sundries, i.e. should be for an item complete in all respects.
- 23.0 The tenderer should in his own interest visit the site and familiarizes himself with the site conditions before tendering.
- 24.0 The tenderers are advised not to deviate from the technical specification/ items, & Conditions of NIT.
- 25.0 GGSIP University being the Govt. educational Institute, Service Tax shall not be applicable.
- 26.0 Necessary clarification required by the department shall have to be furnished by the tenderer within the time given by the department for the same. The tenderer will have to depute his representative to discuss with the officer(s) of the department as and when so desired. In case, in the opinion of the department a tenderer is taking undue long time in furnishing the desired clarifications, his bid will be rejected without making any reference.
- 27.0 The department reserves the right to reject the tender and call for fresh tenders as the case may be without assigning any reason.
- 28.0 Unless and otherwise specified in the tender documents, the following works shall be arranged by the department.
- i) Space for accommodating all the equipments and components involved in the work, but watch & ward will be done by the firm till final handover.
  - ii) Power supply, Water supply and drain points at existing point only free of charges.
- 29.0 The successful tenderer shall submit with in 3 days from the date of award, his programme for submission of drawings, supply of equipment, installation, testing, commissioning and handing over of the installation.
- 30.0 The contractor shall submit the shop drawing for approval before start of work.
- 31.0 Copies of all documents of routine and type test certificates of the equipment, carried out at the manufacturers premises shall be furnished to the Engineer-in-charge and consignee.
- 32.0 Outdoor and indoor units shall be of the same make.
- 33.0 The Firm shall ensure adequate and prompt after sales service in the form of maintenance, spares and personnel during the guarantee period of 12 months which shall be treated from the date of completion of work and as well as during the

maintenance period to minimize the breakdown period. The firm shall also ensure that in the event of any breakdown of AC system, that area is made operational within 24 hrs. otherwise a penalty as deemed reasonable by Engineer-in-charge shall be recovered from the firm.

- 34.0 Contractor shall have to submit the manufacturers catalogues of indoor and out door units along with the operation and maintenance manuals of all major equipments.
- 35.0 The firm shall have to carry out the low side work within three weeks from the date of award of work to facilitate other agencies to carry out their respective works.

### **Comprehensive maintenance**

- 1.0 A separate supplementary agreement for the comprehensive maintenance shall be formed, for which the necessary performance guarantee @ 5% of quoted amount of Sub head-II shall be got adjusted from the security deposit of the original work ( sub head – I) and the balance amount of security deposit shall be released accordingly after successful completion of guarantee period.
- 2.0 After successful installation, testing and commissioning , agency shall immediately handover the entire installation along with documents to department.
- 3.0 The equipments or components, or any part thereof, so found defective during this maintenance period shall be forthwith repaired or replaced with genuine spare of OEM free of cost, to the satisfaction of the Engineer-in-charge. The contractor shall be fully responsible for rectifying the defect, which may happen during the use in maintenance. The decision of Engineer-in-Charge in this regard shall be final & binding.
- 4.0 During this period of comprehensive maintenance, the service / repair calls are to be attended within 24 hrs hours from the time of calls. The defective item / equipment shall be repaired /replaced on priority basis including all required consumables, refrigerant etc. to maintain the desire temprature.
- 5.0 A log book of defects rectified during the maintenance period shall be maintained by the agency and shall be available at site of work for inspection by the engineer-in-charge or his representative.
- 6.0 Payment for maintenance shall be made on quarterly basis.

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## **ADDITIONAL TECHNICAL SPECIFICATION**

### **1. General**

- 1.1 The scope of this work comprises the supply, erection, testing and commissioning of inverter technology based/ Digital Scroll VRV/ VRF type system of air conditioning conforming to these specification/ Explanatory Note and in accordance with the Schedule of Quantities, makes & models and all relevant conditions of the NIT. The prices quoted shall include all the equipment ancillary material as specified and all such items whatsoever and which may be required to fulfil the intent and purpose as laid down in the specifications. The contractor shall calculate all the quantities and sizes of refrigerant pipe, fitting, cables, control cable, drain pipes, insulation, etc. before installation to avoid any shortfall or surplus. The tenderer shall also include all necessary civil work/ MS frame work for installation of outdoor and indoor units in VRV/ VRF based air condition system. The cost quoted by tenderer shall also include the refrigerant gas R-410A & its charging for proper & specified functioning of air conditioning system.

Civil work/ MS frame work such as making holes, sleeves, foundations for indoor and outdoor units related to VRV/ VRF equipments, all cuttings should be properly finished as existing surrounding. The installation of outdoor units on the terrace of building/Ground should be checked structurally for safe installation.

- 1.2 The scope of the tender is based on inverter technology based/ Digital Scroll VRV/ VRF air conditioner with air cooled outdoor units system capable of cooling and heating (reverse cycle) as per season requirement suitable for operation on 415 V, 3 Phase, 50 Hz AC electric supply.

The outdoor units shall have both cooling & heat pump mode, consisting of two outdoor units and multiple in door units of ceiling type. Each indoor unit should have capability to cool or heat as per seasonal weather changes.

Proper care should be taken for disposal of condensate drain water so that there is no leakage of condensate water inside the room as well in the route of condensate water pipe line. The layout of refrigerant piping is to be designed in such a way so that it should not disturb the aesthetic of the building/ room, inadvertent damage in the route of pipe should not occur in future & optimum length of pipe line for efficient air conditioning. After completion of the work three sets of 'as erected/ commissioned drawing' of activities listed above shall be submitted.

### **Design Data**

The work of air-conditioning (36 HP outdoor with R-410A based refrigerant) and indoor units as specified in schedule of work is required to be carried out in Cafeteria of GGSIP University. This is a double story building. The VRV/VRF system has to be installed with 2 nos of refrigerant pipe circuits from two separate outdoor units. Following design parameters have been considered, all efforts shall be made by the agency in execution of low side and high side works to achieve the following specified design parameters.

	Out side Summer condition	:	45° CDB; 23.9° CWB
	Monsoon	:	35.0° CDB' 28.3° CWB
	Winter	:	7.2° CDB' 5.0° CWB
Inside conditions (Desired)	Summer	:	23.8°C ± 1°C
	&		
	Monsoon	:	RH not exceeding 55% ± 5%
	Winter	:	21°C ± 1°C

- 1.3 The equipments involved in air-conditioning are complex in nature comprising of instrumentation control etc. The job, therefore calls for highest order of technical expertise and also requirement of experience of air-conditioning installation with proven performance. The tenderer, shall, therefore obtain, before quoting/ the consent of OEM and furnish the same alongwith the bid document in respect of execution, testing, commissioning and completion of the installation.

### **2. Outdoor Unit**

The outdoor unit shall be factory assembled, weather proof casing (Material of construction of casing shall be OEM's standard design), constructed from heavy gauge GI sheets/rust proof mild steel in duly enamel/powder coated paint finished 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.

- 2.1 The inverter technology based/ Digital Scroll VRV/ VRF equipment should be capable so that refrigerant piping between indoor units and outdoor unit shall be Extendable upto 50m with maximum height difference between outdoor & indoor unit of 10m & level difference between two indoor units shall be maximum upto 5m.

- 2.2 The outdoor unit shall have multiple scroll compressors and be able to operate even in case of breakdown of one of compressors.
- 2.3 Out of the multiple compressors in outdoor unit, at least 30% shall be with Inverter Driven / Digital scroll VRV/VRF air conditioning system.
- 2.4 The outdoor unit shall be modular in design and shall be allowed for side by side installation.
- 2.5 The outdoor unit shall be factory tested and filled with first charge of refrigerant R-410A before delivering at site.
- 2.6 The outdoor units should have anti corrosion paint free plate for easy mounting of unit.
- 2.7 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.
- 2.8 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 1.5m distance from ground level.
- 2.9 In case of trouble occurs in an indoor units (s), the continuous operation of system should be possible.
- 2.10 The body of indoor unit shall be as per manufacturers standard specifications.
3. **Compressor**
- 3.1 The compressor shall be of Inverter type capable of modulating capacity by frequency variation / highly efficient hermetic Digital Scroll capable of capacity modulation by time averaging method Technology.
- 3.2 All outdoor units shall have multiple steps of capacity control to meet load fluctuation and indoor unit individual control. There should be a suitable arrangement in the oil accumulator to carry out the sufficient lubrication in all parts of compressor.



3.3 Oil heater shall be provided in the compressor casing or as per manufacturer standard equipments.

4. **Heat Exchanger**

4.1 The heat exchanger shall be constructed with copper tubes mechanically bonded to aluminum fins to form a cross fin coil. The aluminum fins shall be covered by anti-corrosion resin film. The System must have sub-cooling heat exchanger further to Condenser to increase refrigerating effect in Indoor units.

4.2 The unit shall be provided with necessary number of direct driven low noise level propeller type fans. Each fan shall have a safety guard.

5. **Refrigerant Circuit**

5.1 The refrigerant circuit shall include an accumulator, liquid and gas shut off valves and a solenoid valves or pulse with modulation valve.

5.2 All necessary safety devices shall be provided to ensure the safety operation of the system.

6. **Safety Devices**

The following safety devices shall be part of the outdoor unit; High Pressure Switch, Low Pressure Switch, Fan Motor Safety Thermostat, Over Current Relay, Fusible Plugs, Fuses.

7. **Oil Recovery System**

7.1 Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths.

7.2 The system must be provided with oil balancing circuit to avoid poor lubrication.

**Indoor Unit**

8.1 Indoor units shall be ceiling mounted cassette type, as specified in BOQ. Each unit shall have electronic control valve to control refrigerant flow rate respond to load variations of the room.

8.2 The unit shall be ceiling mounted type. The unit shall include pre-filter, fan Part

and DX- coil Part. The housing of the unit shall be powder coated galvanized steel. The body shall be light in weight and shall be able to suspend from four corners. The fan shall be aerodynamically designed diffuser turbo fan type.

- 8.3 Unit shall have an external attractive panel for supply and return air. Unit shall have four way supply air grilles on sides and return air grille in center.
- 8.4 Each unit shall have high lift drain pump, fresh air intake provision, Low gas detection system and very low operating sound.
- 8.5 All the indoor units regardless of their difference in capacity should have same decorative panel size for harmonious aesthetic point of view.

**Remote control complete** – The remote should be corded with wide screen display and able to show the Outdoor Status at any given point of time .Also it shall have different modes like Fan Mode , Heat Mode ,Cooling Mode etc.

## 9. **Pipe Work**

### **General :**

All piping work shall conform to quality standards and shall be carried out as per specifications and details given hereunder :-

- 9.1 The drain piping shall be PVC .
- 9.2 Pipe crosses shall be provided at bends, to permit easy cleaning of drain line.
- 9.3 The drain line shall be provided upto the nearest drain trap and pitched towards the trap.
- 9.4 Drain lines shall be provided at all the lowest points in the system, as well as at equipment, where leakage of water is likely to occur, or to remove condensate and water from pump glands.
- 9.5 The drain pipe shall be insulated as per specification in Part ‘Insulation’.

## 10. **Copper Piping :**

10.1 Seamless soft copper tubing, type L shall be used to make connections to equipment, wherever required or specified.

10.2 The Flare nuts shall be of brass and the tees, elbows, reducers etc. shall all be of copper.

10.3 Refrigerant Piping :

All refrigerant piping for the air conditioning system shall be constructed from soft seamless copper pipe with copper fittings and silver-soldered joints. The refrigerant piping arrangements shall be in accordance with good practice and within the air conditioning industry, and are to include charging connections, suction line insulation and all other items normally forming part of proper refrigerant circuits.

All joints in copper piping shall be sweat joints using low temperature brazing and or silver solder. Before jointing any copper pipe or fittings, its interiors shall be thoroughly cleaned by passing a clean cloth via wire or cable through its entire length. The piping shall be continuously kept clean of dirt etc. while constructing the joints. Subsequently, it shall be thoroughly blown out using nitrogen.

After the refrigerant piping installation has been completed, the refrigerant piping system shall be pressure tested using nitrogen at pressure of 5Kg per sq.cm for both high and low side. Pressure shall be maintained in the system for 24 hours. The system shall then be evacuated to minimum vacuum of 700mm hg and held for 24 hours.

The air-conditioning system supplier shall design sizes and erect proper interconnections of the complete refrigerant circuit.

The thickness of copper piping shall not be less than mentioned below:

<u>Pipe Size in mm( OD)</u>	<u>Wall Thickness in mm</u>
a) 28.58	1.2
b) 25.00	1.2
c) 19.1	1.0
d) 15.86	1.0
e) 12.7	0.8
f) 9.53	0.8

The suction line pipe size and the liquid line pipe size shall be selected according to the manufacturers specified outside diameter. All refrigerant pipes shall be properly laid in the cable tray supported and anchored to the building structure using steel hangers, anchors, brackets and supports which shall be fixed to the building structure by means of inserts or expansion shields of adequate size and number to support the load imposed thereon.

11. **Insulation**

**General :**

The Insulation of copper refrigerant and drain piping, etc., shall be carried out as per specifications given below :

**Materials :**

The materials to be used for insulation shall be as follows, unless some other material is specifically mentioned elsewhere.

**Insulation Material for Piping System:**

11.1 The insulation for copper refrigerant, drain piping, etc. shall be carried out from closed cell, electrometric nitrile rubber tubular insulation.

11.2 Thermal conductivity of the material shall not exceed **0.035w/mk** at an average temperature of 40°C. The density of material shall be 33+/-3 kg/m<sup>3</sup> or 0.033 GM/CC. The material should be fire proof.

**Application :**

11.3 The pipe surfaces will be thoroughly cleaned prior to applying the insulation. To avoid application of adhesive in the field the insulation shall be provided with self adhesive. Otherwise the adhesive of suitable grade shall be uniformly applied on the duct/pipe surface and the insulation and cured, before sticking to the pipe. The insulation can be wrapped around the pipe as one piece where size does not permit. The same be cut to exact width/height of pipe.

11.4 The pipe insulation joints will be overlapped with a self adhesive tape of the same

material. The tape shall be minimum 2.5mm thick and 50mm wide.

- 11.5 For pipe insulation the material should be cut in such a way that the joining/overlapping of the insulation does not cause any bulging or stretching.

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## LIST OF APPROVED MATERIALS

1. The Contractor shall obtain prior approval from the Engineer-in-charge before placing order for any specific material.
2. Wherever applicable, the Engineer-in-charge may approve any material equivalent to that specified in the tender subject to proof being offered by the Contractor for equivalence to his satisfaction.

In case on non availability of the brand specified in the contract, the Contractor shall submit the documentary evidence of non availability of approved brand and suggest the alternate brand of equivalent quality for the approval of the competent authority. It will be at the discretion of the Engineer-in-Charge to approve or reject the brand suggested by the contractor and approve the name of any other equivalent brand.

3. Unless otherwise specified, the brand/make of the material as specified in the item nomenclature, in the particular specifications and in the list of approved materials attached in the tender, shall be used in the work.

<b>S. No.</b>	<b>Description of Items</b>	<b>Approved Makes &amp; Models</b>
<b>1.</b>	<b>Out door Units for VRV/VRF System</b>	<b>Blue Star DVRF18TH/ Daikin RXYQ18PRY6/Mitsubishi Heavy FDC504KXE6 .</b>
<b>2.</b>	<b>Indoor Units 3 TR for VRV/VRF System</b>	<b>Blue Star DLC-34/ / Daikin FXFQ100LUV1 / Mitsubishi Heavy FDT112KXE6F</b>
<b>3.</b>	<b>Indoor Units 1.5 TR for VRV/VRF System</b>	<b>Blue Star DLC-18 / Daikin FXFQ50LUV1/ Mitsubishi Heavy FDT56KXE6F</b>
<b>4.</b>	<b>Y joints/Ref nut</b>	<b>Y joints/Ref nut shall be of same make that of indoor unit.</b>
<b>5.</b>	<b>PVC Conduit</b>	<b>BEC/AKG/Kalinga</b>
<b>6.</b>	<b>Terminal Blocks</b>	<b>Elmex/Siemens/Molex</b>
<b>7.</b>	<b>Nitrile rubber</b>	<b>Insyflex/ Aeroflex/ Armaflex/ Eurobatex</b>
<b>8.</b>	<b>Copper Refrigerant Pipe</b>	<b>Mandav/Pallavi/Maxflow</b>

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Volume II  
Schedule of Quantities

## Schedule of Quantities

Name of Work: A/A GGSIP University, Dwarka Campus, New Delhi

**Sub Head:** Providing VRV/VRF airconditioning system in Student Canteen at GGSIPU, Dwarka, New Delhi.

S.No.	Description of Items.	Qty.	Rate	Unit	Amount
<b>Part - I</b>					
<b>1</b>	Supply, Installation, Testing and Commissioning of Variable refrigerant volume/ Variable refrigerant flow modular type air- conditioning system suitable for cooling and heating by using inverter Driven/ digital scroll compressors complete with indoor and outdoor units with individual controller and with fittings etc., as per quantity given below i/c full charging of R-410A refrigerant gas complete as per specifications & direction of Engineer-in-charge and having following items.				
<b>a)</b>	<b>Outdoor units.</b>				
	Outdoor units of 18 HP suitable for operating with R-410A refrigerant as per specification attached.	2		Each	
<b>b)</b>	<b>Indoor units</b>				
	Supply of Indoor units with compact DX cooling coil, electronic expansion valve and multispeed fan motor, The blower shall be dynamically balanced and designed for silent operation, the filters shall be synthetic washable media type arranged for convenient cleaning and replacement as per the given capacity range.				
	<b>Cassette Units</b>				
i)	3.0 TR ( Nominal Capacity)	8		Each	
ii)	1.5 TR ( Nominal Capacity)	3		Each	
c)	Y-joints / Ref nut.	11		Each	
d)	Corded/Cordless Remote controls.	11		Each	
<b>2</b>	Supplying & Installation of interconnecting following sizes of refrigerant copper pipe insulated with closed cell electrometric nitrile rubber tubular insulation between each set of indoor & outdoor units as per specifications, 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 existing cable tray etc. as reqd.				
a	9.53 mm dia with 13mm thick nitrile rubber insulation.	20		Mtr.	
b	12.70 mm dia with 13mm thick nitrile rubber insulation.	50		Mtr.	
c	15.86 mm dia with 19mm thick nitrile rubber insulation.	54		Mtr.	
d	19.1 mm dia with 19mm thick nitrile rubber insulation.	40		Mtr.	



e	25.00 mm dia with 19mm thick nitrile rubber insulation.	10		Mtr.	
f	28.58 mm dia with 19mm thick nitrile rubber insulation.	40		Mtr.	
3	Providing & fixing of Rigid PVC Piping complete with fittings, supports as per specifications and duly insulated with 13mm thickness of closed cell nitrile rubber insulation etc. complete as per direction of Engineer-in-charge & specifications enclosed as reqd.				
a)	25 mm dia.	35		Mtr.	
4	Providing & fixing of control wiring/ power cabling with following sizes of copper conductor armoured cable between indoor and outdoor units directly on surface of wall/ existing channel i/c making connection etc. as reqd.				
a)	2 x 1.5 sq. mm	116		Mtr.	
	<b>Cable / Pipe Tray</b>				
5	Providing and fixing of 16 SWG G.I. perforated cable tray of approximate size for running outdoor refrigerant pipes. Cable tray should be properly clamped and hang with all necessary accessories as required.				
a)	40mm x 300mm x 40mm	20		mtr	
6	Supply & Installation of Glass cloth wrapping & UV treated paint for outdoor piping.	20		mtr	
7	Supply & Installation of suitable size of stand made out of angle iron frame work to be suitable to bear the overall weight of the outdoor Unit, duly painted including grouting the legs in CC foundation etc. as required.	2		each	
<b>Part - II</b>					
8	Comprehensive maintenance of inverter technology based/ digital scroll variable refrigerant flow/ volume (VRF/ VRV) type of Air-Conditioning system complete as installed and commissioned in Part-I of this Schedule of work of Student Canteen building at GGSIPU.				
a)	During warranty period in first year	12	included	Month	included
b)	For second year	12		Month	
c)	For third year	12		Month	
d)	For fourth year	12		Month	
e)	For fifth year	12		Month	
				<b>Total</b>	

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