PACKAGE- 3A

TENDER FOR HVAC WORK FOR OUTREACH BUILDING AT PROPOSED PERMANENT CAMPUS (PHASE I)

OF

NALANDA UNIVERSITY, AT RAJGIR, BIHAR.

NOTICE INVITING TENDER

NALANDA UNIVERSITY, RAJGIR, BIHAR.

Every care has been taken while preparing this document to cover all necessary information, matters, specifications, general conditions, special conditions & provisions for smooth and complete execution of works. However, in case of any omission in the tender/ contract document, the most recent version of correction slips(as on 31st January 2018) of General Conditions of Contract (GCC) for CPWD Works, 2014 shall be the reference manual.

NALANDA UNIVERSITY

Notice Inviting e-Tenders

The Registrar, Nalanda University on Behalf of the Vice Chancellor, Nalanda University invites online the bids from firms/contractors of repute in two bid system for the following work:

NIT No: NU/ENGG/MEP/02/2018-19/02 dated 14.05.2018

NAME OF WORK: Supply, Installation, testing & commissioning of High Side HVAC works For the Outreach Building including, Chillers, Pumps, Pipes, Heat Pump, Boiler, AHU's and related works complete with SCADA Compatibility etc. For Outreach Building at Nalanda University (NU) Project.

Estimated Cost: Rs. 5.13 Crores,

Earnest Money: 10.26 Lacs,

Period of Completion: 4 Months,

Last time and date of submission of online bid: 12.06.2018upto 3PM

Summary of Scope of work

This tender is invited for Supply, Installation, testing & commissioning of High Side HVAC works For the Outreach Building including, Chillers, Pumps, Pipes, Heat Pump, Boiler, AHU's and related works complete with SCADA Compatibility etc. for Outreach Building at Nalanda University (NU) Project, comprising of the following:

1. **OUTREACH Building HVAC works including** Supply, Installation, testing & commissioning, Chillers, Pumps, Pipes, Heat Pump, Boiler, AHU's, Softener Plants and related works complete with SCADA Compatibility etc. for Outreach Building at Nalanda University (NU) Project and all related works including SCADA compatibility etc.

Site is located along the Patna - Rajgir Highway and is well connected with the city of Rajgir, Bihar. Total area of the site is approximately 455 acres ("Site").

The proposed campus of Nalanda University is planned to be developed on a mostly flat terrain in the foot hill of Nalanda Hills. The site is located in Gangatic plains area of Southern Bihar.

Entire campus is planned to be constructed in two phases. The first phase will be of approximately 140,200 Smt. of built up area. Built up area for Outreach Building will be approximately 8400 Smt. This tender is being invited for Supply, Installation, testing and commissioning of HVAC work for Outreach Building at Nalanda University Campus.

Contents

SECTION 1 9
TECHNICAL PART 9
INFORMATION &INSTRUCTIONS TO BIDDERS FOR e-TENDERING 10
NOTICE INVITING TENDER 13
INTEGRITY AGREEMENT 20
Brief Particulars of the Work 39
GENERAL GUIDELINES FOR BIDDERS 39
SECTION 2 60
PROFORMA OF SCHEDULES: A TO F 60
SCHEDULE A 61
SCHEDULE OF QUANTITIES 61
SCHEDULE B 62
SCHEDULE C 62
SCHEDULE D 62
SCHEDULE E 63
SCHEDULE F (GENERAL RULES & DIRECTIONS) 64
CLAUSE 1: Performance Guarantee 65
CLAUSE 2 and Clause 2 A: Compensation for Delay and Incentive for early completion 65
CLAUSE 5: Time and Extension for Delay 65
Clause 7A 68
CLAUSE 10B (i) & 10B (ii) : Secured Advance & Mobilization Advance. 69
CLAUSE 11 : Work to be executed in accordance with Specifications, Drawings, and Orders etc. 69
CLAUSE 12 : Deviations/Variations/ Extent and Pricing 69
CLAUSE 16 : Action in casework not done as per Specifications 69
CLAUSE.17 : Contractor Liable for Damages/ Defects during defects liability period 69
CLAUSE 4.38: Settlement of Disputes 69
SECTION 3 71
GENERAL RULES & DIRECTIONS 71
SECTION 4 76
GENERAL CONDITIONS OF CONTRACT 76
CLAUSES OF CONTRACT 81
CLAUSE.1 Performance Guarantee 81
CLAUSE. 1A. Recovery of Security Deposit 82

CLAUSE. 2. Compensation for Delay 83
CLAUSE 2 A Incentive for Early Completion 84
CLAUSE. 3. When Contract can be Determined 85
CLAUSE 3A. Work cannot be Started Due to Reasons not within the Control of the Contractor. 87
CLAUSE. 4 Contractor Liable to Pay Compensation even if Action not taken as Clause 3 (When Contract can be determined) 87
CLAUSE. 5 Time and Extension for Delay 88
CLAUSE. 6. Measurement of Work Done 91
CLAUSE. 6A. Computerized Measurement Book 92
CLAUSE. 7. Payment on intermediate Certificate to be regarded as Advances 94
CLAUSE 7A 95
CLAUSE. 8Completion Certificate and completion plans 95
CLAUSE. 8A Contractor to keep site clean 96
CLAUSE 8B Completion plans to be submitted by the contractor 96
CLAUSE.9 Payment of final bill 96
CLAUSE. 9A Payment of Contractor's Bills to Banks 97
CLAUSE. 10. Materials supplied by the Owner 98
CLAUSE. 10A Materials to be provided by the Contractor 98
CLAUSE. 10BSecured Advance on Non-perishable Materials 99
CLAUSE. 10C. Payment on Account of Increase in Price/Wages due to statutory Order(s) 99
CLAUSE. 10CAPayment due to variation in prices of materials after receipt of tender 99
CLAUSE.10CC.Payment due to Increase/Decrease in Prices/Wages (excluding materials covered under clause 10CA after Receipt of Tender for Works 99
CLAUSE.10D Dismantled Material Owner's Property 100
CLAUSE. 11 Work to be executed in Accordance with Specifications, Drawings, and Orders etc. 100
CLAUSE. 12 Deviations / Variations Extent and Pricing 100
CLAUSE.13.Foreclosure of Contract due to Abandonment or Reduction in Scope of Work(s). 103
CLAUSE14. Carrying out part work at risk & cost of contractor. 104
CLAUSE.15.Suspension of Work 106
CLAUSE.16.Action in case work not done as per Specifications 107
CLAUSE. 17. Contractor Liable for Damages/ Defects during defects liability period 108
CLAUSE.18.Contractor to provide tools & plants etc. 109
CLAUSE.18A.Recovery of Compensation paid to Workmen 109
CLAUSE.18B.Ensuring Payment and Amenities to Workers if Contractor fails 109
CLAUSE.19 .Labour Laws to be complied with, by the Contractor 110

CLAUSE 19A Child Labour: 110
CLAUSE 19B Payment of wages: 110
Clause 19C 112
CLAUSE 19D 112
CLAUSE 19E 112
CLAUSE 19F Leave and pay during leave: 112
CLAUSE 19G 113
CLAUSE 19 H 114
CLAUSE 19I 115
CLAUSE 19J Occupation of Buildings by Unauthorized persons 116
CLAUSE 19K Employment of skilled/semi-skilled workers 116
CLAUSE 19 L Contribution of EPF and ESI 116
CLAUSE. 20. Minimum Wages Act to be complied with 117
CLAUSE. 21. Work not to be sublet. Action in case of insolvency 117
CLAUSE. 22. Compensation 117
CLAUSE. 23. Changes in firm's Constitution to be intimated 117
CLAUSE. 24. Works to be executed under the Contract 118
CLAUSE.25 .Settlement of disputes & Arbitration 118
CLAUSE. 26. Contractor to indemnify Owner against Patent Rights 119
CLAUSE 27 Lump sum provision in Tender. 120
CLAUSE.28 .Action where no Specifications are specified 120
CLAUSE. 29. Withholding and lien in respect of sum due from contractor 120
CLAUSE. 29A.Lien in respect of claims in other Contracts 121
CLAUSE 30. Employment of Coal Mining or Controlled area labour not permissible. 122
CLAUSE. 31 .Unfiltered Water Supply 122
CLAUSE 31A Departmental Water supply if available. 122
CLAUSE 32. Alternate water arrangements 122
CLAUSE. 33. Return of Surplus materials 123
CLAUSE. 34 Hire of Plant & Machinery 123
Clause 35. Conditions relating to use of asphaltic materials. 123
CLAUSE 36. Employment of technical Staff and employees 124
CLAUSE. 37 .Levy/Taxes payable by Contractor 126
CLAUSE 38 Conditions for Reimbursement of levy/taxes if levied after receipt of tenders. 126
CLAUSE. 39 .Termination of Contract on death of contractor 127

CLAUSE 40 If relative working in Nalanda University then the contractor not allowed to tender: 127
CLAUSE 41 No Gazzeted Engineer to work as contractor within one year of Retirement. 127
CLAUSE 42 Return of material & recovery for excess material issued. 127
CLAUSE. 43. .Compensation during warlike situations 128
CLAUSE. 44. Apprentices Act provisions to be complied with 128
CLAUSE. 45. Release of Security Deposit after labour clearance 129
SECTION 5 130
SPECIAL CONDITIONS OF CONTRACT 130
General instructions: 131
Additional Definitions 133
CLAUSE. 5.1 :EARNEST MONEY 134
CLAUSE.5.2 :Sub-Contractors 135
CLAUSE.5.3 :Site office 136
CLAUSE. 5.4 : Reinforcement steel and structural steel 136
CLAUSE. 5.5: Electricity 137
CLAUSE.5.6 : Fossils: 137
CLAUSE.5.7 :Insurance 138
CLAUSE.5.8:Good For Construction Drawings, Details and Clearance to Construct. 139
CLAUSE.5.9 :Protection of Persons, Works and Property 140
CLAUSE.5.10 :Site Security: 144
CLAUSE.5.11 :Warranty/Guarantee 144
CLAUSE.5.12 :Contractor's Responsibilities and Work Control 145
CLAUSE.5.13 : Co-operation with other contractors/specialized agencies/sub-contractors 150
CLAUSE.5.14 :Percentage Rates 152
CLAUSE.5.15 :Inspection and rectification of Works 154
CLAUSE.5.16 :Rejected Work 156
Clause. 5.17 : On Account Payment of Interim Bills 157
Clause. 5.18 : Payment of Final Bill 157
CLAUSE.5.19 : Limit of price Adjustment 158
CLAUSE.5.20 : Exemption from price Adjustment 158
CLAUSE.5.21 : Specifications 159
CLAUSE.5. 22 : Setting Out 160
Deleted 160
CLAUSE.5.23 : Contractor shall submit fabrication/ shop drawings for obtaining approval 160

CLAUSE.5.24 : Quality Assurance 160
CLAUSE.5.25 : Special Conditions – HVAC Works 163
CLAUSE. 5.26 : Store :..... 189
CLAUSE 5.27 : Inspection: 189
CLAUSE 5.28 : Pre Dispatch Inspection: 189
CLAUSE 5.29 : Material Supply Lot : 190
CLAUSE 5.30 : Fake Inspection Call : 190
CLAUSE.5.31 :Commercial and Additional Conditions 190
CLAUSE.5.32 :Special Conditions For Directives Of Hon'ble National Green Tribunal 04.12.2014 & 10.04.2015 And EIA Guidance Manual 200
SECTION 6 210
ADDITIONAL CONDITIONS FOR GREEN BUILDING PRACTICES..... 210
SECTION 7 221
C.P.W.D. SAFETY CODES AND RULES 221
SECTION 8 228
Model Rules for the Protection of Health and Sanitary Arrangements for Workers Employed by Nalanda University (As per Standard Central P.W.D. Procedure)or its Contractors..... 228
SECTION 9 235
Nalanda university Contractor's Labour Regulations as per Standard (C.P.W.D.) Regulation 235
SECTION 10 242
LIST OF ACTS AND OMISSONS FOR WHICH FINES CAN BE IMPOSED 242
Form H CHECK LIST FOR BIDDER 245

SECTION 1

TECHNICAL PART

INFORMATION &INSTRUCTIONS TO BIDDERS FOR e-TENDERING

The Registrar, Nalanda University on Behalf of the Vice Chancellor, Nalanda University invites online percentage rate bids from firms/contractors of repute in two bid system for the following work:

NAME OF WORK: Supply, Installation, testing & commissioning of High Side HVAC works For the Outreach Building including, Chillers, Pumps, Pipes, Heat Pump, Boiler, AHU's and related works complete with SCADA Compatibility etc. for Nalanda University (NU) Project.

Estimated Cost	Rs. 5.13 Crores
Earnest Money	Rs.10.26 Lacs (to be refunded after submission of Performance Guarantee)
Performance Guarantee	5% of Tendered Value.
Security Deposit	2.5% of Tendered Value
e-Tender Processing Fee	Rs. 15000 (Fifteen Thousand Only)
Time Allowed	4 Months
Date of Uploading Notice Inviting Tender	14.05.2018
Pre-bid Meeting	22.05.2018 at 11.30AM at NU Rajgir.
Last Date of Submission of Tender Date & Time	12.06.2018, 3PM
Date & Time of Opening of Technical Tender (Eligibility) Documents	13.06.2018 at 4.00 PM

General Information:

1) Pre-bid meeting shall be held with the prospective bidders in the office of Nalanda University, at Rajgir, on 22.05.2018 at 11.30 AM. The detailed address of the venue is as follows:

Nalanda University,
Rajgir, District Nalanda,
Bihar - 803116, India.

The Program of Pre Bid Meeting is as follows.

a) Welcome of the Prospective bidders by Nalanda University.

b) Introduction Session.

c) Presentation of the Project Details by Vastu Shilpa Consultants and their Associate Consultants regarding Design, Innovative Concepts being tried for this Monumental Project and the Scope of the complete Project in General and regarding the works to be covered under the scope of Present Tender.

d) Presentation and Discussions of Queries raised by the bidders.

e) Interactive session between The Executives of Nalanda University, Representatives of the Vastu Shilpa Consultants and the representatives of Prospective Bidders.

2)Bidders should send all their queries by email, at least Two days before pre - tender meeting, to project manager on phase1.tender@nalandauniv.edu.in The bidders' authorised representatives are advised to attend the pre-tender meeting. In response to the queries and clarifications sought by the bidders during the pre-tender meeting, certain modifications/clarification may be issued to all bidders by the project manager, as may be deemed necessary through an Addendum and not through the minutes of the pre-tender meeting and will be uploaded on website hosting the tender document. No separate communication in this regard shall be sent to the individual bidders. Bidders are advised to periodically check the website hosting the tender for any addendum until 2 days before the date of submission of the tender.

3) Technical tender (which essentially covers the documents in support of meeting the eligibility criteria) of only those bidders shall be opened first on due date and time as mentioned above who have paid tender fees and deposited earnest money as prescribed. The time and date of opening of financial tender of only those bidders qualifying the Technical tender shall be communicated to them at later date.

Bidders are advised to ensure that they have submitted all requisite documents as per the list given in the table below. A checklist in this regard as per Form H is to be completed, signed, sealed and submitted along with the covering letter of the tender documents.

1	Check list of documents submitted by bidder (Form H)	245
2	Affidavit declaring site visit (Form G)	58
3	Certificate of financial turnover (Form A)	50
4	Bank solvency certificate (Form B)	51
5	Details of eligible works of similar nature completed & project specific work during the last seven years (Form C)	52
6	Certificates of Works Experience (Form D).	53
7	Structure & Organization (Form E).	54
8	Self-evaluated marking statement of Eligibility for Short listing of Bidders. (Form F).	56

NOTICE INVITING TENDER

1. Percentage rate tenders (in e-tendering mode) are invited by the Nalanda University from the eligible contractors in two-tender system for the development of its permanent campus at the Site i.e. Rajgir, Bihar.

2. Name of the Work: Supply, Installation, testing & commissioning of High Side HVAC works For the Outreach Building including, Chillers, Pumps, Pipes, Heat Pump, Boiler, AHU's and related works complete with SCADA Compatibility etc. for Nalanda University (NU) Project.

(a) The estimated cost of Work is INR **5,12,86,544. 00** (Five Crore Twelve Lakhs Eighty-Six Thousand Five Hundred Forty-four Only).

(b) Intending bidders is eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed similar works of magnitude specified below:-

1. **Three similar** works each costing not less than **Rs.2.05 Crores(Rupees Two Crore Five Lacs only)**with individual chiller capacity of 90 TR or completed **two similar** works each costing not less than **Rs.3.08 crores(Rupees Three Crores Eight Lacs only)**with individual chiller capacity of 90 TR or completed **one similar** work costing not less than **Rs.4.10 crores(Rupees Four Crores Ten Lacs only)** with individual chiller capacity of 90 TR during the last seven (7) years ending previous day of the last day of submission of Tender. For this purpose cost of work shall mean gross value of the completed work. This should be certified by an officer not below the rank of Executive Engineer/Project Manager or equivalent.

   For the purpose of this clause, "similar work" shall mean **"Supply, Installation, Testing and Commissioning of HVAC system including**, **Chillers, Pumps, Pipes, Heat Pump, AHU's, FCU's and related works complete with SCADA Compatibility etc within a single campus / premises of Residential or Non-residential campus, in India, within last seven years".**

   The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per

annum, calculated from the date of completion to the previous day of the last day of submission of the Tender.

2. The bidder should have had **average annual financial turnover (gross)**of **Rs. 2.56 Crore (Rupees Two Crores Fifty Six Lacs only)** of Similar works during the immediate last five consecutive financial years balance sheets, ending 31st March 2018 , duly audited by Charted Accountant. Year in which no turnover is shown would also be considered for working out the average.
3. The bidder **should not have** incurred **any loss** (Profit after tax should be positive) in more than **two (2) years** during available last Five consecutive financial years balance sheets, ending 31st March 2018 , duly certified and audited by the Chartered Accountant.
4. The bidder shall furnish a **solvency certificate** of value not less than **Rs. 2.05 Crores (Rupees Two Crore Five Lacs only)** certified by his bankers. Such certificate shall not be of a date, which is more than six months prior to the date of submission of tender.
5. The bidder shall have sufficient number of technical and administrative employees for proper execution of the Contract. The bidder **shall have to submit** a list of these employees stating clearly how these would be involved in this work within 15 **days of award of work**.

(c) Intending bidders are advised to ensure that they meet the minimum eligibility criteria as per the detailed terms and evaluation parameters enumerated in this document before they submit their tender documents.

2. An agreement shall be executed by and between the NU and the successful bidder for the **"Supply, Installation, testing & commissioning of High Side HVAC works For the Outreach for permanent campus of Nalanda University (NU) Project, Rajgir, Bihar."** in the given format as per the terms and conditions stipulated in the tender documents. The percentage rates shall be quoted by the bidder as per various terms and conditions of this document, which shall form part of the agreement.
3. The time allowed for carrying out the Work shall be 4 months from the date of initiation as defined in Schedule –F or from the first date of handing over of the Site, whichever is later.

4. The Site shall be handed over to the successful bidder at the time of award of contract on "as is where is" basis.
5. The tender documents consisting of drawings, specifications, schedule of quantities of the various classes of work to be done and the set of terms & conditions of contract to be complied with and other necessary documents can be seen on the website of NU at http://www.nalandauniv.edu.in and also athttp://www.eprocure.gov.in/eprocure/app
6. Intending bidders are advised to obtain valid class-II (or appropriate class) digital signature to participate in tendering.
7. The interested bidders shall upload their e-tenders in http://www.eprocure.gov.in/eprocure/app and also physically submit the hard copies of tenders as per the guidelines given on page no. 16& 17 of this document at Reception of Nalanda University's Rajgir office both within the stipulated time and date as indicated above. The detailed address of the Nalanda University's Rajgir Office is as follows:

Nalanda University,
Rajgir, District Nalanda,
Bihar - 803116, India.

8. While submitting the revised tender, contractor can revise the percentage rate offered one or more item(s) any number of times but before last time and date of submission of tender as notified.

a) Earnest Money Deposit (EMD) shall be accepted only in the form of Deposit at Call receipt/Demand Draft drawn in favour of Nalanda University, payable at Rajgir, Bihar from any scheduled bank guaranteed by the Reserve Bank of India. The intending bidder has to scan and upload all the details such as Banker's name, Demand Draft/ Bank Guarantee number, amount and date to the e-Tendering website within the period of tender submission and original should be deposited at project office of Nalanda University. Alternatively, a part of the EMD is acceptable in the form of bank guarantee of any scheduled bank having validity for **120 Days** or more from the last date of receipt of tenders. In Such case Rs. 5,30,000/- (Rupees Five Lac Thirty Thousand Only/-) will have to be deposited in the shape prescribed amount and balance can be accepted in form of bank Guarantee issued by a Scheduled bank, which is to be scanned and uploaded by the intending bidders. The amount of the EMD can be paid by multiple Deposits at Call receipt/Demand

Drafts along with Bank Guarantee of any scheduled bank. The bank guarantee shall be in the format as prescribed in this document.

b) Bank Details of Nalanda university is as follows:

1. Name of Bank :HDFC BANK LTD

2. Name & Address of Branch :DHARAMSHALA ROAD, DIST NALANDA, City :RAJGIR 803116, State :BIHAR

3. Branch Code :2059

4.IFSC Code of respective branch :HDFC0002059

c) Interested bidders who wish to participate in the tender shall pay Rs. 15,000/ (Rupees Fifteen Thousand only) as e-Tender Processing Fee of Nalanda University, Rajgir, Bihar in the form of Demand Draft of any scheduled bank, a copy of which shall have to be scanned and uploaded to the e-Tendering website before tender submission

The tender shall be accompanied with the following documents:

a) Deposit at Call receipt/Demand Draft and/or Bank Guarantee against the EMD and Demand Draft for the-Tender Processing Fee shall be placed in a sealed Envelope 1 super scribed as "**Earnest Money and Cost of e-Tender Processing Fee"** with name of Work and due date of opening of the tender also mentioned thereon.

b) Copies of certificates of work experience and other prequalifying documents as specified in the NIT shall be deposited in a sealed Envelope 2A super scribed as **"Eligibility Documents".**

c) All the tender documents (Notice Inviting Tender, Schedule of Quantities, BOQ, Technical Specifications and Tender drawings) uploaded by the University shall be duly signed on each page by the authorized signatory of the bidder, stamped and placed in a sealed Envelope 2B super scribed as "**Signed Tender Documents".** The documents in this envelop 2Bis not required to be uploaded in the e-tendering website (http://www.eprocure.gov.in/eprocure/app). However a declaration must be uploaded under the relevant packet stating on oath that the signed tender documents will be submitted physically on or before 03:00 PM on 12.06.2018 at Nalanda University, Rajgir Office.

d) Both the envelops, Envelop 2A & 2B shall be put in to a large envelop super scribed as **"Envelop 2 Technical Tender".**

e) Bill of quantities duly filled in and compiled with rates quoted as percentage below/above/ at par with the rates entered in the Schedule of quantities, total amounts, tendered (in duplicate) and other relevant commercial information

(tender) signed by authorized signatory shall be placed separately in a sealed Envelope 3. Bidder must submit a soft copy of BOQ with rates quoted as percentage below/above/ at par with the rates entered in the Schedule of quantitiesand amounts in editable Format on a CD also in the envelope. Envelope 4 shall be super scribed as **"Financial Tender"** and opened only after bidder's eligibility to participate in the tender is successfully established and accepted by NU.

f) All the three envelopes shall be placed in large sealed envelope marked as **"Tender for SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF HVAC WORK FOR OUTREACH BUILDING WITHIN THE CAMPUS OF PROPOSED PERMANENT CAMPUS, RAJGIR, BIHAR."** with due mention of Name of work, date and time of opening of tender. The large sealed envelope shall be submitted in the Rajgir office of Nalanda University up to 03:30 PM 12.06.2018. The Technical tender documents submitted shall be opened at 04:00 PM on 13.06.2018 in presence of intending bidders who chose to remain present. The large sealed envelope shall be addressed to the Registrar, Nalanda University, Rajgir, Bihar.

g) Technical tender documents submitted by intending bidders shall be opened only of those bidders, whose Earnest Money Deposit and e- Tender Processing Fee and other documents placed in the Envelope 1 are found in order.

h) Opening of e-Tender shall be in the following sequence:

i) EMD and e-Tender Processing Fee of which hard copies are placed in Envelope 1;
ii) Eligibility documents of which hard copies are placed in Envelope 2;
iii) Financial Tender of which hard copies are placed in Envelope 3, to be opened only for the bidders fulfilling necessary eligibility criteria per this tender document and accepted by NU.

9. The tender submitted shall become invalid if:

i) The bidders are found ineligible; or
ii) The bidders fail to upload all the documents (Including Service Tax Registration/GST Registration/ VAT Registration/ Sales Tax Registration) as stipulated in this tender document.
iii) If any discrepancy is noticed between the documents as uploaded at the time of submission of e-Tender and hard copies as submitted physically in the office of the tender opening authority.
iv) The lowest bidder does not deposit physical EMD within a week of opening of bid.
v) If a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender of any section/sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.

10. The contractor whose bid is accepted will be required to furnish performance guarantee of 5% (Five Percent) of the tender amount within the period specified in Schedule F. This guarantee shall be in the form of Deposit at Call receipt of any scheduled bank/Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F', including the extended period if any,the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The earnest money deposited along with tender shall be returned after receiving the aforesaid performance guarantee. The contractor whose tender is accepted will also be required to furnish either copy of applicable licenses/registrations or proof of applying for EPFO, ESIC and BOCW Welfare Board including Provident Fund Code No. if applicable and also ensure the compliance of aforesaid provisions by the sub contractors, if any engaged by the contractor for the said work and Programme Chart (Time and Progress) within the period specified in Schedule F.
11. Intending bidders must inspect and examine the Site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as is practicable), form and nature of the Site, the means of access to the Site, the accommodation as may be required and in general, shall obtain all necessary information as to the risks involved, contingencies and other circumstances which may have a bearing or influence or affect the decision of submission of tender. A bidder shall be deemed to have full knowledge of the Site whether or not an inspection has been undertaken by the bidder or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed in the amount quoted in the tender. The bidder shall be responsible for arranging and maintaining cost of 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 this document and/or the agreement and/or any other letter, circular, notification issued or document released by **NU**. Submission of a tender by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the Work to be executed and of conditions and local conditions and other factors having a bearing on the execution of the Work. Bidder shall submit the Affidavit for Site Visit in the form as prescribed in **FORM "G".**

12. Owner is not bound to accept the lowest or any other tender and reserves to itself the right to reject any or all the tenders received without assigning any reason thereof. Owner also reserves the right to restrict the list of qualified contractors to any number deemed suitable by it, if too many tenders are received satisfying the laid down criteria. All tenders in which any of the prescribed conditions are not fulfilled or any condition including that of conditional rebate is put forth by the bidder shall be rejected summarily. Tenders

subject to any conditions proposed by the bidder shall not be accepted and shall be liable to be rejected.

13. Canvassing either directly or indirectly, in connection with tender is strictly prohibited and the tenders submitted by the bidders who resort to canvassing shall be liable to be rejected.

14. Owner reserves the right of accepting the whole or any part of the tender and the bidders shall be bound to perform the same at the quoted rate.

15. The bidder shall intimate the names of persons who are or were working in any capacity with the bidder or are subsequently employed by the bidder and who are or have been an officer in **NU.**

16. The contractor shall not be permitted to render for this work if his near relative is employed by Nalanda University in any capacity. 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 Nalanda University or in the Ministry of External Affairs. Any breach of this condition by the contractor would render liable to be debarred from participating in tender process.

17. No engineer of Gazetted rank or other Gazetted officer employed in Engineering or Administrative duties in an Engineering department of Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the previous permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found to be such a person who had not obtained permission of the Government of India as aforesaid before submission of the tender or engagement in the contractor's service.

18. The tender for the Work shall remain open for acceptance for a period of **60(sixty) days** from the date of opening of Technical tender. In case any bidder withdraws its tender before the end of ninety days or issue of letter of acceptance, whichever is earlier, or makes such modifications in the terms and conditions of the tender which are not acceptable to the Owner, then the Owner shall, without prejudice to any other right or remedy available under the contract or law, be at liberty to forfeit 50% of the EMD. Further, such bidder shall be debarred from participating in the re-tendering process of the Work.

19. This notice-inviting Tender shall form a part of the agreement and shall be read and construed accordingly. The successful bidder, on acceptance of its tender by the Owner, shall within 15 days from the stipulated date of initiation of the Work, execute an agreement consisting of: -

The Notice Inviting Tender, general conditions, all the documents including additional conditions, specifications, drawings and minutes of pre-tender meeting, addendums and corrigendum, if any, forming the tender as issued at

the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.

Note : Integrity Agreement will be signed and sealed by the Authorised Representative of bidder as per the format of NIT on bidder's letter head initially. Formal agreement on stamp paper shall be signed between NU and the successful bidder only, at the time of Signing of agreement for the work.

INTEGRITY AGREEMENT

On account of the e-tendering process adopted by NU, the bidder does not sign any document physically and entire tender document is submitted online through digital signature. However, the bidder shall be required to physically submit a set of documents in the office of Registrar, NU. In order to maintain transparency and integrity in the process of awarding contract, it is essential for NU and bidders to agree and abide by certain principles and policies. NU and bidders agree to following:

i) NU shall remain committed to follow the principles of transparency, equity and competitiveness in public procurement;

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

iii) The bidders agree and acknowledge that the NIT is an invitation to offer made on the condition that the bidders shall sign an Integrity Agreement in the format as provided for in this document. Such Integrity Agreement shall form an integral part of the tender documents. Any failure on the part of any bidder to execute the Integrity Agreement shall render such bidder disqualified from the tendering process. The bidder agree and acknowledge that bidding for the Work as envisaged in this document shall be regarded as an unconditional and absolute acceptance of the condition of executing the Integrity Agreement.

iv) The bidders acknowledge, agree and confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the Integrity Agreement shall be separate and distinct from the main agreement, which shall come into existence once tender is finally accepted by NU. The bidders acknowledge and accept the tenure of the Integrity Agreement, which shall be in the line with Article 1 of the format of Integrity Agreement as prescribed herein.

The bidders acknowledge that in the event of failure to sign and accept the Integrity Agreement, while submitting the tender/tender documents, NU shall have unqualified, absolute and unfettered right to disqualify the bidder and reject the tender in accordance with terms and conditions of the tender. In addition to other

components of tender document, the Integrity Pact shall also be signed between The Registrar, NU and successful bidder after acceptance of tender.

To,

……..,

……..,

Sub: Notice Inviting Tender for Supply, Installation, Testing and Commissioning of HVAC work for Outreach Building within the Proposed Permanent Campus of Nalanda University, Rajgir, Bihar.

Dear Sir,

It is here by declared that the Nalanda University 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/tender documents, failing which the bidder will stand disqualified from the tendering process and the tender 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 NU.

Yours faithfully

Registrar, NU

INTEGRITY AGREEMENT

To,

The Registrar,

Nalanda University, Rajgir, Bihar

Sub: Submission of Tender for Supply, Installation, Testing and Commissioning of HVAC work for Outreach Building within the Proposed Permanent Campus of Nalanda University, Rajgir, Bihar.

Dear Sir,

I/We, -----(Name of The bidder)----------, acknowledge that the Nalanda University is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/tender 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 TENDER 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 is finally accepted by NU. 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/tender documents, NU shall have unqualified, absolute and unfettered right to disqualify the bidder and reject the tender in accordance with terms and conditions of the tender.

Yours faithfully

(Duly authorized signatory of the Bidder)

(To be signed by the bidder and the Registrar, NU)

INTEGRITY AGREEMENT

THIS INTEGRITY AGREEMENT is made at ..... on this..... Day of 2018

BETWEEN

The Vice Chancellor, Nalanda University represented through the Registrar, Nalanda University (hereinafter referred as "NU" or "Owner" which expression shall unless repugnant to the context or meaning thereof is deemed to include its successors & permitted assigns) of the FIRST PART:

AND

..... (Name and Address of the Individual/firm/Company) through..... (Hereinafter referred to as the (Details of duly authorized signatory) "Bidder/Contractor" and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns) of the SECOND PART

Each of the NU/Owner and Bidder/Contractor individually referred to as the "Party" and collectively referred to as the "Parties".

Preamble

WHEREAS the Owner floated a tender for Supply, Installation, Testing and Commissioning of HVAC work for Outreach Building within the Proposed Permanent Campus of Nalanda University, Rajgir, Bihar.("Tender") and intends to award, under laid down organizational procedure, contract for …….(Name of Work) hereinafter referred to "Contract".

AND WHEREAS the Owner values full compliance with all applicable 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, 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 documents and Contract between the Parties.

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

Article 1: Commitment of the Owner

1) The Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:

(a) No employee of the 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 Owner will, during the tender process, treat all bidder(s) with equity and reason. The 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 Owner shall endeavour to exclude from the tender process any person, whose conduct in the past has involved any bias of any nature.

2) If the Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal Code (IPC) or Prevention of Corruption Act, 1988 or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Owner will be at liberty to take appropriate disciplinary action or initiate disciplinary proceedings as per its internal policies and procedures.

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

1) Each Bidder/Contractor shall be required to (including their respective officers, employees and agents) adhere to the highest ethical standards and shall report to the Owner of any 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 and award of the Contract.

2) The Bidder(s)/Contractor(s) commits themselves to take all measures essential to prevent any act of corruption. The Bidders/Contractors commit themselves to observe the following principles during their participation in the Tender process and during the execution of the Contract:

a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the owner's employees involved in the Tender process or execution of the Contract, or to any third person any material or other benefit which such person 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) shall not enter with other Bidder(s) in to any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts,

submission or non-submission of tenders or any other actions to restrict competitiveness or to cartelize in the tendering process.

c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant Indian Penal Code (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 Owner as part of the business relationship regarding plans, technical proposals and business details, including information contained or transmitted electronically or otherwise.

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 can submit tender in the process of tender, but not both. In cases where an agent participates in the tender on behalf of one bidder, such agent shall not be permitted to quote on behalf of any another bidder along with the first manufacturer in a subsequent/parallel tender for the same item.

e) The Bidder(s)/Contractor(s) will, when presenting tender, disclose any and all payments made, is committed to make 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 any third person to commit offences mentioned 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 wilful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the interest of the Owner.

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 Owner under law or the Contract or the Contract or its established policies and laid down procedures, the Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the 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 Owner after giving 14 days' notice to the Bidder/Contractor shall have the powers to disqualify the Bidder(s)/Contractor(s) from the process of Tender 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 Owner. Such exclusion may be forever or for a limited period as decided by the Owner.

2) **Forfeiture of EMD/Performance Guarantee/Security Deposit:** If the 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 Owner apart from exercising any legal rights that may have accrued to the Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit rendered by the Bidder/Contractor.

3) **Criminal Liability:** If the 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 the Indian Penal Code (IPC) Act or if the Owner has substantive suspicion in this regard, the Owner will forthwith inform the same to any law enforcing agencies for further investigation..

Article 4: Previous Transgression

1) The Bidder/Contractor declares that no previous transgressions occurred in the last five (5) years with any other company in any country confirming to the anti-corruption approach or with the Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify its exclusion from the process of Tender.

2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the process of Tender or action can be taken for banning of business dealings/holiday listing of the Bidder/Contractor as deemed fit by the 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 Owner may, at its sole 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 sub-contractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall

be responsible for any violation(s) of this Integrity Pact by any of its subcontractors/sub-vendors.

2) The Owner will enter into such agreements or pacts on identical terms as this Integrity Pact with all Bidders and Contractors.

3) The Owner will disqualify Bidders, who do not submit the duly signed Integrity Pact between the 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 parties (the Owner and the Bidder/Contractor) have legally signed it.It expires for the Contractor/Vendor twelve (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 Pact as specified above, unless it is discharged/determined by the Owner.

Article 7- Other Provisions

1) This Integrity Pact is subject to Indian laws and the place of performance and jurisdiction is the place of office of the Owner/NU who has floated the Tender.

2) Any change, amendment, modification or supplement or addendum to the Integrity Pact can only be brought into effect by way of mutual written agreement between the parties to the Integrity Pact.

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

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

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

Article 8- LEGAL AND PRIOR RIGHTS

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

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

:.....

(For and on behalf of Owner)

.....

(For and on behalf of Bidder/Contractor)

WITNESSES (Signature, name and address)

1 .....

2 .....

Place:

Dated:

FORM OF BANK GUARANTEE FOR EARNEST MONEY

WHEREAS, contractor..... (Name of contractor) (Hereinafter called "the Contractor") has submitted his tender dated..... (Date) for Work 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 The Registrar, Nalanda University, Rajgir (hereinafter called "the Owner") in the sum of Rs..... (Rs. in words .....) for which payment well and truly to be made to the said Owner, 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 opening of the Tender, the Contractor withdraws the Tender during the period of validity of Tender (including extended validity of the Tender) specified in the Form of Tender;

2) If the Contractor having been notified of the acceptance of his Tender by the Owner:

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 the Notice Inviting Tender and instructions given to the Contractor;

or

c. If the contractor withdraws his tender before the expiry of the validity period, or before the issue of letter of acceptance, whichever is earlier, or makes any modification in the terms and conditions of the tender, which are not acceptable to the NU.

We undertake to pay to the Owner, without any protest or demur, an amount equal to the amount specified in this Bank Guarantee or part thereof upon receipt of the first written demand received from the Owner, without the Owner having to substantiate his demand, provided that in his demand the Owner will clearly note that the amount claimed by him is due to him owing to occurrence of one or any of the above conditions, specifying the occurred condition or conditions entitling the Owner to claim the amount under the present Bank Guarantee.

This Guarantee will remain in force up to and including the date ----------(validity period of **120 Days** from the last date of receipt of the Tender) 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 Owner, 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 BANK:

.
SEAL:
WITNESS: ……
(SIGNATURE, NAME AND ADDRESS)

*(**To be executed by and between the Owner and the successful bidder)***

FORMAT OF AGREEMENT

This agreement is executed at _____ (place of execution) on the _____ day of _____, 20__
BETWEEN

_____
_____, which expression shall mean and include its successors and assigns (name and address of the Owner) ("Owner") of the FIRST PART
AND
_____
_____
_____
_____,
(name and address of the successful bidder) ("Contractor") of the SECOND PART

The Owner and the Contractor shall be individually referred to as the "Party" and collectively referred to as the "Parties"

Whereas the Owner is desirous of **Supply, Installation, Testing and Commissioning of HVAC work for outreach building within the Proposed Permanent Campus of Nalanda University, Rajgir, Bihar** and had invited tenders by issuing Notice Inviting Tender ("Tender") for selection of a contractor for constructing the said campus. The Contractor has submitted its tender pursuant to the issuing of the Tender by the Owner. WHEREAS the details of the work proposed to be executed by the Contractor is more particularly specified in the **Tender for Supply, Installation, Testing and Commissioning of HVAC work for outreach building within the Proposed Permanent Campus of Nalanda University, Rajgir, Bihar**, (name and identification number of Contract) ("Works") and the Owner has accepted the Tender submitted by the Contractor for the execution and completion of the Works and the remedying of any defects therein, at a contract price of Rs..... ..... (Rupees _____(*in words*))

WHEREAS the Owner is now desirous of laying down the terms and conditions governing the execution of the Works and has therefore, requested the Contractor to execute the present Agreement.

NOW THIS AGREEMENT WITNESSETH as under:

1. In this Agreement, words and expressions shall carry the same meanings as are ascribed to them in the Conditions of Contract as more particularly mentioned in the Tender. The Parties agree that the Tender shall form an integral part of this Agreement and shall be read and construed accordingly.

2. In consideration of the payments to be made by the Owner to the Contractor as the consideration for execution of the Works ("Consideration"), the Contractor hereby covenants with the Owner to execute and complete the Works and remedy the defects therein in conformity in all aspects with the provisions of the Tender and this Agreement.

3. The Owner hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and in the remedying the defects wherein the Contract Price or such other sum as may become payable under the provisions of the Tender and this Agreement at the times and in the manner prescribed under the Tender.

4. The following documents shall be deemed to form and be read and construed as part of this Agreement:

i) Letter of Acceptance;
ii) Notice to proceed with the Works;
iii) Contractor's Tender;
iv) Contract Data;
v) Conditions of Contract (including Special Conditions of Contract);
vi) Specifications;
vii) Drawings;
viii) Bill of Quantities; and
ix) Any other documents listed in the Contract Data as forming part of the Contract.

In witness whereof the Parties have caused this Agreement to be executed on the day and year first written above.

The Common Seal of
_____
_____
_____
_____
was hereunto affixed in the presence of:

Signed Sealed and Delivered by the said
_____
_____
_____
_____
_____
Binding Signature of Owner
_____

Binding Signature of Contractor _____

in the presence of _____

_____

Percentage Rate Tender & Contract for Works

Tender for the work of: -This tender is invited online for the **Supply, Installation, Testing and Commissioning of HVAC work for outreach building within the Proposed Permanent Campus of Nalanda University, Rajgir, Bihar**.

i) To be submitted by the bidders in hard copy in the Rajgir office of Nalanda University,-up to 03:30 PM on_____ .
ii) To be opened in presence of bidders who may be present at 04:00 PM on_____ at the Rajgir office of Nalanda University.

TENDER

I/We have read and examined the notice inviting tender, bill of quantity, Specifications, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, Special conditions& 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 to execute the work of NU mentioned above and detailed in the schedule of quantities within the time frame specified in Schedule F of the tender documents, and in accordance with the specifications, designs, drawing and instructions/orders of the engineer in charge meeting all the Conditions of Contract with such materials as are provided for In the drawings, technical specifications or the schedule of quantities.

I/We agree to keep the tender open and valid for 60 (Sixty) days from the due date of opening of Technical tender and shall not make any modifications in its terms and conditions.

A sum of Rs.10.26 Lacs is hereby forwarded in the form of a Receipt of Deposit at Call receipt/ a demand draft of a Scheduled Bank and a bank guarantee issued by a Scheduled Bank as earnest money. If I/We, fail to furnish the prescribed performance guarantee within prescribed period and form, I/We agree that NU 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 NU 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 Owner towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause Deviations/Variations Extent and Pricing of the tender form. Further, I/We agree that in case of forfeiture of Earnest Money & Performance Guarantee as aforesaid, I/We shall be debarred from participating in the re-tendering process of the work.

I/We hereby declare that I/we shall treat the Tender Documents, drawings and other records connected with the Work as secret / confidential documents and shall not communicate nor use any information derived therefrom to any persons 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 interest of Nalanda University.

Dated Signature of Contractor

Witness

Name …… Name ……

Address …… Address ……

Occupation …… Telephone ……

ACCEPTANCE

The above offer is hereby accepted by me on behalf of The Nalanda University Rajgir, Bihar. For a sum of Rs. ---------- (Rupees ----------)

The letters referred to below shall from part of this agreement:

(a)
(b)
(c)

Dated For & on behalf of NU

Signature

Form of Performance Security (Guarantee)Bank Guarantee Bond

In consideration of the Nalanda University (hereinafter called "the Owner") having offered to accept the terms and conditions of the proposed agreement between The Registrar, Nalanda University and ……(hereinafter called "the said Contractor(s)") for the work…… (herein after called "the said agreement") having agreed to production of an irrevocable Bank Guarantee for Rs. ……(Rupees …… only) as a security/guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said agreement.

1. We, ……. (hereinafter referred to as "the Bank") hereby undertake to pay to the Owner an amount not exceeding Rs. …….. (Rupees……. Only) on demand by the Owner.

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

3. We, the said bank further undertake to pay to the Owner any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court orTribunal 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 thereunder and the Contractor(s) shall have no claim against us for making such payment.

4. We, ……. (indicate the name of the Bank) further agree that the guarantee herein contained shall 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 Owner 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 Owner 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, ……. (indicate the name of the Bank) further agree with the Owner that the owner 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 Owner 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 Owner or any indulgence by the Owner 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, ……. (Indicate the name of the Bank) lastly undertake not to revoke this guarantee except with the previous consent of the Owner in writing.

8. This guarantee shall be valid up to ……unless extended on demand by the Owner. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs.

…… (Rupees ……..) 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)

Brief Particulars of the Work

Nalanda University was established in November 2010. It came into being by an Act of the Indian Parliament – a testimony to the important status that Nalanda University occupies in the Indian intellectual landscape. Nalanda is a standalone international university unlike any other established in the country. Located in the town of Rajgir, in the northern Indian State of Bihar, Nalanda University is mandated to be "an international institution for the pursuit of intellectual, philosophical, historical and spiritual studies". This new university contains within it a memory of the ancient Nalanda University and is premised on the shared desire of Member States of the East Asia Summit countries to re-discover and strengthen "educational co-operation by tapping the East Asia Regions centres of excellence in education ... [and] to improve understanding and the appreciation of one another's heritage and history"

The proposed site for the University is located in the Nalanda district of Bihar and fronts the State Highway 71. The site for the University is on the South West outskirts of Rajgir town at a distance of 3.5 kms from the current urban edge of the town. Rajgir also happens to be the administrative sub division of Nalanda district.

The whole campus is planned to be constructed in two phases. The first phase will be of approximately 1,17,400Sqm of Built up area.

This tender document is for **Supply, installation, testing & commissioning of HVAC work for Outreach Building within the campus including, Chiller, Boiler, Heat Pumps, Pumps, Pipes, etc... with BMS compatibility with complete scope of supply installation testing and commissioning for Outreach Building of Nalanda University (NU) Project**

GENERAL GUIDELINES FOR BIDDERS

1. GENERAL:

1.1 Letter of transmittal and forms, terms and conditions for deciding eligibility are given in this tender document.

1.2 All information called for in the enclosed forms should be furnished against the relevant columns in the forms. If for any reason, information is furnished on a separate sheet, this fact should be mentioned against the relevant column. In case no information is to be provided in a particular column, "nil" or "no such case" or "not available" entry should be made in that column. If any particulars/query is not applicable in case of a bidder, "not applicable" shall be mentioned against such particular/query. The bidders are cautioned that not giving complete information called for in the application forms or not giving it in clear terms or making any change in the prescribed forms or deliberately suppressing the information may result in the tender being

summarily disqualified and rejected entitling the Owner to forfeit the EMD and e-Tender Processing Fee without any further notice to the bidder. Tenders made by telegram or telex and including those received late shall not be entertained and returned unaccepted.

1.3 The tender should be type written. The bidder should sign each page of application. Scanned copies of these signed documents should be uploaded for online submission.

1.4 Over-righting should be avoided. Corrections, if any, should be made by neatly crossing out, initiating, dating and rewriting. Pages of eligibility criteria are numbered. Additional sheets, if any added by the bidder, should also be numbered by him. They should be submitted as a package with signed letter of transmittal.

1.5 References, information and certificates from the respective owners certifying suitability, technical knowledge or capability of the bidder should be attested by the first class judicial magistrate or equivalent or Group A Gazetted officer of Central or any State Government.

1.6 The bidder may furnish any additional information, which he thinks is necessary to establish his capabilities to successfully complete the envisaged Work. Bidders are, however, advised not to furnish any superfluous information. No information shall be entertained after uploading of eligibility criteria document unless it is called for by the Engineer-in-Charge.

It is desirable that the bidder is not contesting or defending any legal proceeding before a court of law or tribunal or quasi-judicial or administrative authority ("Legal Proceedings"). The bidder must submit information of all on-going Legal Proceedings and for the past seven (7) years. In the event the bidder has not been subject to any such Legal Proceedings either in process or in the past seven (7) years, an affidavit to this effect, duly notarized shall be submitted in original.

1.7 Any information furnished by the bidder found to be incorrect either immediately or at a later date, shall render such bidder liable to be debarred from tendering/taking up of the Work.

1.8 The bidder shall not have been black listed by any State/Central Government Department or Public Sector Undertaking or any autonomous body. The bidder shall submit a duly notarized affidavit, stating on oath that the bidder

has not been blacklisted. Applications received without such affidavit in original shall stand automatically rejected. NU shall be entitled to forfeit the EMD and e-Tender Processing Fee on account of any such rejection.

2. DEFINITIONS:

1.9 The **Contract** means the documents forming the tender and acceptance thereof and the formal agreement executed between the competent authority on behalf of the President of India and the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to timeby the Engineer-in- Charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.

In this document the following words and expressions shall carry the meaning hereby assigned to them:

2.1 "Owner/Purchaser/Employer/NU" shall mean and refer to the Nalanda University, Rajgir, Bihar

2.2 "Vice Chancellor" shall mean and refer to the Vice Chancellor of NU

2.3 "Registrar" shall mean and refer to Registrar of NU

2.4 "Project Manager" shall mean and refer to the person/Project Management Consultants (PMC) nominated as Project Manager by NU and shall report to Engineer in Charge.

2.5 "Architect Consultants" shall mean and refer to the Consultants appointed by NU as Architect Consultants.

2.6 "MEP Consultant" shall mean and refer to the Consultants appointed by "Architect Consultants" as MEP Consultants.

2.7 "Engineer in Charge" shall mean and refer to an authorized Engineer Officer appointed by NU who shall supervise and be In-Charge of the work.

2.8 "Bidder" shall mean and refer to an individual, proprietary firm, firm in partnership, limited company (private or public) or corporation but shall not include a joint venture and special purpose vehicle.

2.9 "Year" means financial year unless stated otherwise.

2.10 "Market Rate" shall be the rate as decided by the Engineer-in-Charge on the basis of the prevailing cost of materials and labour at the site (where the work is being executed) involved in executing that item plus the percentage

mentioned in Schedule 'F' to cover, all overheads and profits, provided that no extra overheads and profits shall be payable on the part(s) of work assigned to other agency(s) by the contractor as per terms of contract.

3. METHOD OF APPLICATION:

3.1 If the bidder is an individual, the application for submitting tender shall be signed by such individual above the full type written name and current address.

3.2 If the bidder is a **proprietary concern**, the application for submitting tender shall be signed by the proprietor above full type written name and the full name of the proprietor firm with its current address.

3.3 If the bidder is a partnership firm, the application for submitting tender shall be signed by all the partners of the partnership firm above their full typewritten names and current address, or, alternatively, by one or more partners holding power of attorney for the firm and/or other partners. A notarized copy of such power of attorney shall be submitted along with the application and it must be disclosed that the firm is duly registered under the **INDIAN PARTNERSHIP ACT 1932**. The application shall also be accompanied with a notarized copy of the partnership deed and current addresses of all the partners of the firm.

3.4 If the bidder is a limited company or a corporation, the application for submitting tender shall be signed by a duly authorized person holding power of attorney for signing the application accompanied by a copy of the power of attorney. The bidder shall also furnish a notarized copy of the Memorandum and Articles of Association of the company.

4. FINAL DECISION MAKING AUTHORITY

The NU reserves the right to accept or reject any tender and to annul the process and reject all tenders at any time without assigning any reason thereof or incurring any liability to the bidders.

5. Particulars of the work given in Brief are to be considered Provisional. They are liable to change and must be considered only as advance information to assist the Bidders.

6. SITE VISIT

The bidder shall visit the Site of Work, at his own cost, and examine the Site and its surroundings to satisfy himself and collect all information that may be considered necessary for proper assessment of the scope of Work enumerated in the this tender document. Contact Person at Nalanda University for Coordination of Site Visit.

Ms.Swati Krishna,
Junior Engineer Electrical, Nalanda University, Rajgir.
Email: skishna@nalandauniv.edu.in
Mob@ +91-9102011241

7. Initial CRITERIA FOR ELIGIBILITY (TECHNICAL TENDER)

7.1 The eligibility criteria applicable for the bidders for the present tender in terms of the scope of Work shall be:

7.1.1 The bidder should have satisfactorily completed **Three similar** works each costing not less than **Rs.2.05 Crores(Rupees Two Crore Five Lacs only)**with individual chiller capacity of 90 TR or completed **two similar** works each costing not less than **Rs.3.08 Crores(Rupees Three Crores Eight Lacs only)**with individual chiller capacity of 90 TR or completed **one similar** work costing not less than **Rs.4.10 Crores(Rupees Four Crores Ten Lacs only)** with individual chiller capacity of 90 TR during the last seven (7) years ending previous day of the last day of submission of Tender. For this purpose cost of work shall mean gross value of the completed work. This should be certified by an officer not below the rank of Executive Engineer/Project Manager or equivalent.

For the purpose of this clause, "similar work" shall mean **"Supply, Installation, Testing and Commissioning of HVAC system including**, **Chillers, Pumps, Pipes, Heat Pump, AHU's, FCU's and related works complete with SCADA Compatibility etc. within a single campus / premises of Residential or Non-residential campus, in India, within last seven years".**

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

7.2. The bidder should have had **average annual financial turnover** (gross) of **Rs. 2.56 Crores (Rupees Two Crore Fifty Six Lacs only)** of similar works during the immediate last five consecutive financial years balance sheets, ending 31st March 2018 , duly audited by Charted Accountant. Year in which no turnover is shown would also be considered for working out the average.

7.3. The bidder **should not have incurred any loss**(Profit after tax should be positive) in more than **two (2) years** during available last five consecutive financial years balance sheets, ending 31st March 2018 , duly certified and audited by the Chartered Accountant.

7.4. The bidder shall furnish a **solvency certificate of value not less than Rs. 2.05 Crores (Rupees Two Crore Five Lacs only)** certified by his bankers. Such certificate shall not be of a date, which is more than six months prior to the date of submission of tender.

7.5. The bidder shall have sufficient number of technical and administrative employees for proper execution of the Contract. The bidder **shall have to** submit a list of these employees stating clearly how these would be involved in this work within **15 days of award of work.**

8. **Evaluation Criteria for Eligibility (Technical Tender)**

8.1 The details submitted by the bidders will be evaluated in the following manner:

8.1.1. The initial criteria for eligibility prescribed in para 7.0 above in respect of experience of eligible similar class of works completed, loss, solvency and financial turn over etc. shall be first scrutinized and the bidder's eligibility for the work shall be determined.

The bidders qualifying the initial criteria as set out in Para 7.0 above will be evaluated for following criteria by scoring method on the basis of details furnished by such bidders:

(A)	**Financial strength (Form "A" and "B")** A Turn over B Solvency	**Maximum 20 marks** 16 4
(B)	**Experience in eligible similar nature of Work during last seven years. (Form "C"}**	**Maximum 20 marks**
(C)	**Performance on Works (time Over run) (Form "D")**	**Maximum 20 marks**
(D)	**Performance on quality of eligible similar works executed (Form "D")**	**Maximum 40 marks**
Total		**100 Marks**

The owner reserves the right to restrict the list of such qualified contractor to any number deemed suitable by it.

8.1.2 Evaluation of Performance: The NU reserves the right of physical inspection of completed projects of bidders conducted by a tender evaluation committee constituted by the Competent Authority, NU for evaluating the quality of work. The tender evaluation committee may visit and inspect all the eligible works that have been executed and submitted by the bidders in the Technical tender. The marks for quality shall be given based on this inspection, if inspection is carried out. The Committee may also at its discretion, call for information from owners of eligible works carried out by bidders or the works in progress by bidders and evaluate the projects regarding all submission done by the bidder including litigations. The bidder shall submit a self-certified self-evaluation calculation sheet for evaluation parameters mentioned in Form F.

8.1.3 To become eligible for short-listing, the bidder shall secure at least 50 % marks in each section A, B, C, and D and sixty percent marks in aggregate. In case of eligible similar works being more than one, average value of performance of works for time overrun and quality shall be taken on the basis of performance report of these works.

9 FINANCIAL INFORMATION

The bidder shall furnish the Annual Financial Statements for the last five(5) years ending 31st March 2018 in "Form A" and Solvency Certificate in "Form B".

10 DISCLOSURE OF EXPERIENCE IN SIMILAR WORKS

10.1 The bidder shall furnish the List of eligible similar works successfully completed during the preceding seven years (ending previous day of the last day of submission of tenders) in 'Form C'.

11 ORGANISATION INFORMATION

The bidder shall be required to submit the information in respect of its organization in **Form E.**

12. LETTER OF TRANSMITTAL

The bidder shall submit the Letter of Transmittal in the format as prescribed in this document.

13. OPENING OF THE FINANCIAL TENDER

After evaluation of applications, a list of short listed agencies will be prepared. Thereafter, the financial tenders of only the qualified and technically acceptable bidders shall be opened at the notified time, date and place in the presence of the qualified bidders or their representatives. The validity of the tenders shall be **60 (Sixty) days** and shall be reckoned from the date of opening of the Technical Tender.

14. AWARD CRITERIA

14.1 The Owner reserves the right, without being liable for any damages or any obligation to inform the bidder, to:

14.1.1. Amend the scope and value of Work to the bidder.

14.1.2. Reject any or all of the applications without assigning any reason.

14.2 Any effort on the part of the bidder or his agent to exercise any influence or to pressurize the Owner shall result in rejection of his tender. The

Owner clarifies that any kind of canvassing or any act of similar nature is expressly prohibited.

INFORMATION REGARDING ELIGIBILITY CRITERION
LETTER OF TRANSMITTAL

From:

To

The Registrar,

Nalanda University, Rajgir, Bihar.

Dear Sir,

Subject: Tender for Supply, Installation, Testing and Commissioning of HVAC work for outreach building within the Proposed Permanent Campus of Nalanda University, Rajgir, Bihar

TENDER NO :_____

Having examined the details given in Press –Notice and Technical Tender document for the above work in the subject hereinabove, I/we hereby submit the relevant information as hereunder:

a. I/We hereby certify that all the statement made and information supplied in the enclosed Forms A to Eand accompanying statement are true and correct in all respects and no information has been concealed and misrepresented.

b. I/We have furnished all information and details necessary for certifying the eligibility and that no further pertinent information required to be shared remains undisclosed.

c. I/We hereby submit the requisite certified solvency certificate and authorize the Vice Chancellor, NU to approach the bank, issuing the solvency certificate to confirm the correctness and veracity thereof. I/We also authorize Vice Chancellor, NU to approach individuals, owners, firms and corporations to verify my/our competence and reputation.

d. I/We submit the following certificates in support of my/our suitability, technical knowledge and capability for having successfully completed the following works:

Sr.No.	Name of Work	Certificate from

Certificate:

It is certified that the information given in the enclosed Eligibility Tender are correct. It is also certified that I/we shall be liable to be debarred, disqualified/cancellation of enlistment in case any information furnished by me/us is found to be incorrect.

Enclosures: Seal of bidder

Date of submission

SIGNATURE (S) OF BIDDER (S)

FORM A

FINANCIAL INFORMATION

Financial Analysis-Details to be furnished duly supported by figures in balance sheet/profit & loss account for the last **five (5)** years duly certified by the Chartered Accountant, as submitted by the bidder to the Income Tax Department (copies of all the documents to be attached).

S. No.	Description	Years				
		2014-2015	2015-2016	2016-2017	2016-2017	2017-2018
i)	Gross Annual turnover					
ii)	Turnover on similar works					
iii)	Profit/Loss					

i. Financial arrangements for carrying out the proposed work.

ii. Solvency Certificate from Bankers of bidder in the prescribed Form B

SIGNATURE OF BIDDER (S)

Signature of Chartered Accountant with Seal

FORM B

(FORM OF BANKER'S SOLVENCY CERTIFICATE FROM A SCHEDULED BANK)

SOLVENCY CERTIFICATE

This is to certify that to the best of our knowledge and information that M/s. /Shri…… having marginally noted address, a customer of our bank are/is respectable and can be treated as good for any engagement up to a limit of Rs……(Rupees……..…).

This certificate has been issued at the specific request for limited purpose of submitting the Tender to the Nalanda University, Rajgir, Bihar and shall not be used for any other purpose whatsoever.

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

(Signature)

For the Bank

GENERAL INSTURCTIONS:

(1) Banker's Solvency Certificate must be on the letterhead of the bank issuing such certificate, sealed in a cover addressed to the Vice Chancellor, NU.

(2) In case the Solvency Certificate is issued at the request of a partnership firm, such certificate must include names of all partners as recorded with the Bank.

(3) The Solvency Certificate shall not be more than 6 months old from the original date of submission of tender.

FORM C

DETAILS OF SIMILAR WORKS COMPLETED DURING THE LAST SEVEN YEARS ENDING PREVIOUS DAY OF LAST DATE OF SUBMISSION OF TENDER

A	B	C	D	E	F	G	H	I	J
Sr.No	Name of work/project and location	Owner or sponsoring organization	Cost of work in Crores of Rupees	Date of commencement as per contract	Stipulated date of completion	Actual date of completion	Litigation / arbitration cases pending / in progress with details*	Name and address / telephone number of officer to whom reference may be made	Whether the work was done on back to back basis Yes/No
1									
2									
3									

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

SIGNATURE OF BIDDER (S)

FORM D(On letterhead of respective owners of the Work)

PERFORMANCE REPORT OF WORKS REFERRED TO IN 'FORM C'

1	Name of work/ Project & Location	
2	Agreement No.	
3	Estimated Cost	
4	Tendered Cost	
5	Date of Start	
6	Date of completion	
	(i) Stipulated Date of Completion	
	(ii) Actual Date of Completion	
7	(i) Whether case of levy of compensation for delay has been decided or not. (ii) If decide, amount of compensation levied for delayed completion, if any	Yes/No
8	Performance Report	
	1) Quality of Work	Outstanding/Very Good/Good/Poor
	2) Financial Soundness	Outstanding/Very Good/Good/Poor
	3) Technical Proficiency	Outstanding/Very Good/Good/Poor
	4) Resourcefulness	Outstanding/Very Good/Good/Poor
	5) General Behaviour	Outstanding/Very Good/Good/Poor
Dated: Stamp:		Signed by Ex. Engineer or equivalent and attested by first class judicial magistrate or equivalent or Group A Gazetted officer of Central or any State Government or equivalent.

Certified that the above information is complete and that the information furnished above is true, correct and not misleading to my/our knowledge and belief.

FORM E

STRUCTURE & ORGANIZATION

1	Name & Address of the bidder		
2	Telephone No./Telex No./Fax No./e-mail address		
3	Legal status of the bidder (attach copies of original document defining the legal status).		
	a)	An Individual	
	b)	A Proprietary Firm	
	b)	A firm in partnership	
	c)	A limited company or Corporation	
4	Particulars of registration with various Government bodies (attach attested photo-copy). (Company Registration, PAN no., CST and VAT Registration, Service Tax Registration, PF Registration, ESI Registration, Registration as a Contractor with CPWD/MES/State PWD etc. ant information about others)		
	ORGANIZATION/PLACE OF REGISTRATION		REGISTRATION No.
	1		
	2		
5	Names and Titles of Directors& Officers with designation to be deputed for the Works		

6	Designation of individuals authorized to act for the organization.	
7	Has the bidder or any constituent partner in case of partnership firm/Limited Company/Joint Venture, ever been convicted by a court of law? If so, give details.	
8	In which field of Mechanical Engineering the bidder has specialization and interest?	
9	Any other information considered necessary but not included above.	

Certified that the information mentioned above is complete and no information has been left undisclosed and that the information furnished above is true, correct and not misleading to my/our knowledge and belief.

SIGNATURE OF BIDDER (S)

FORM F

CRITERIA FOR ELIGIBILITY CRITERION EVALUATION OF CONTRACTORS

	Attributes	**Max. Marks**	**Marks Obtained By the Bidder on Self Assessment**	**Evaluation Criteria** [*1]				**Remarks**
A	**Financial strength**	**20**		*(i) 60% marks for minimum eligibility criteria*				
1	Average annual turnover	16		*(ii) 100% marks for twice the minimum eligibility criteria or more*				
2	Solvency Certificate	4		*In between (i) & (ii) – on pro-rata basis*				
B	Experience of Work during last seven years.	20		*(i) 60% marks for minimum eligibility criteria (ii) 100% marks for twice the minimum eligibility criteria or more In between (i) & (ii) – on pro-rata basis*				
C	**Performance on works (time over run)**	**20**						
	Parameter -			**SCORE**				
	Calculation for Points		If TOR =	1	2.0	3.0	>3.5	Maximum Marks (20)
1	Without levy of compensation			20	15	10	10	
2	With levy of compensation			20	5	0	-5	
3	Levy of compensation not decided			20	10	0	0	

	TOR (Time Over Run) = AT/ST, where AT=Actual Time; ST=Stipulated Time.				
D	**Performance of works (Quality)**	**40**		*Outstanding Quality 40 Marks Very Good Quality 30 Marks Good Quality 20 Marks Poor Quality 0 Marks The evaluation will be done by the expert committee/jury nominated by the Nalanda University for the purpose based on documents submitted and/or other means as decided by the committee/jury who may include visit of the site of project referred to by the bidder or any other project deemed fit by Engineer In Charge. The bidder must submit precise certificate given by the Owner/owner signed by an officer not below the rank of Executive Engineer or equivalent along with photographic evidence to support evaluation for this category, in case of absence of such document Zero (0) marks shall be awarded for the specific category of evaluation.*	

To become eligible for short listing the bidder must secure at least 50% marks in each section A, B, C, and D and sixty percent marks in aggregate. The Institute reserves the right to restrict the list of qualified contractors to any number deemed suitable by it.

*1- Precise certificate given by the Owner signed by an officer not below the rank of Executive Engineer or equivalent shall be furnished along with photographic evidence to support evaluation for this category, in case of absence of such document Zero (0) marks shall be awarded for the specific category of evaluation.

*1 – In place of a copy of bill/final bill, The Bidder can also submit a certificate by the Owner or his authorised representative, stating the quantity of works executed for each Work Specific items mentioned in qualifying criteria above, in support of his claim regarding his having executed the work specific items.

FORM G

GENERAL INSTRUCTIONS FOR THE AFFIDAVIT:

- The affidavit shall be executed on appropriate non-judicial **stamp paper** of minimum value as applicable in the State of Bihar and notarized by a Notary Public;

- Scanned copy of the affidavit shall be uploaded at the time of submission of the tender in soft copy.

AFFIDAVIT FOR SITE VISIT

I, _____, aged ___ years, son/daughter of_____, presently residing at _____and authorized by _____ (name of bidder) ("Bidder") to solemn this affidavit on behalf of the Bidder, solemnly affirm on oath as hereunder:

1. The Bidder confirms that the Bidder has duly undertaken the visit of the proposed project site of Nalanda University, located at Rajgir, Bihar.
2. The Bidder has inspected and examined its surroundings and has satisfied itself about the site conditions and site logistics. The Bidder confirms that it is aware of the ground conditions and nature of the site, means of access to the site and the accommodation area required for establishing the labour camp. The Bidder agrees and confirms it shall be solely responsible for arranging and maintaining the afore-mentioned at its own cost including all materials, tools & plants, water, electricity, access, facilities for workers and all other services required for executing the Work unless otherwise specifically provided for in the contract documents.
3. The Bidder confirms and agrees that the submission of the tender implies that the requisite site visit has already been undertaken and that the Bidder has acquainted itself with the local conditions and other factors having a bearing on the execution of the Work.

DEPONENT

VERIFICATION

I, _____, aged ___ years, son/daughter of_____, presently residing at _____and authorized by Bidder verify that the information mentioned above is true and correct to the best of my knowledge and belief.

DEPONENT

Requirement of technical Staff

Technical Staff

The bidder shall deploy sufficient number of technical and administrative employees for smooth execution of the Work. However Minimum Technical Staff to be deployed at site at all times during the execution of the work will be as per following table. The bidder shall submit a list of employees stating clearly the responsibility to be assigned to each of such employees. Further, the bidder shall have the capability and resources to arrange at least 25±10% numbers of skilled and 50±10% numbers of unskilled labourers per day continuously for various stages of the Work. The bidder shall have to demonstrate the capability to arrange such workers and additional numbers as per the requirement assessed by the Engineer-in-Charge for timely completion of various stages of the Work. The capability as claimed by the bidder shall be supported by the past performance and an undertaking.

Technical Staff	Requirement of Technical staff		Minimum experience of Execution work (Years)
	Qualification	Number	
Mechanical Engineers	• Project Manager Graduate Engineer	1	10
	• Project Leader Graduate Engineer	1	5
	• Site Engineers Graduate Engineer	2	2
	Or Diploma Engineer	2	5

SECTION 2

PROFORMA OF SCHEDULES: A TO F

SCHEDULE A

SCHEDULE OF QUANTITIES

As per Separate sheet Attached with this NIT

SCHEDULE B

Schedule of materials to be issued to the Contractor

Sr. No.	**Description of item**	**Quantity**	**Rates in figures & words at which the material will be charged to the contractor**	**Place of issue**
1	2	3	4	5
	NIL	NIL	NIL	NIL

SCHEDULE C

Tools and plants to be made available to the Contractor:

Sr. No.	Description of item	Quantity
1	2	3
	NIL	NIL

SCHEDULE D

Extra schedule for specific requirements / documents for the work if any.

The bidder may give additional information other then sought for in the preceding paragraph.

SCHEDULE E

Reference to General Conditions of Contract.

Name of Work :**Supply, Installation, Testing and Commissioning of HVAC work for outreach building within the Proposed Permanent Campus of Nalanda University, Rajgir, Bihar**.

Estimated cost of work: Rs. 5.13 Crores

Earnest Money: Rs 10.26 Lacs

(ii) Performance Guarantee: 5%(Five percent) of tendered value

(iii) Security Deposit :2.5% (Two Point Five Percent) of tendered value

SCHEDULE F (GENERAL RULES & DIRECTIONS)

1. **Authority Inviting Tender. - Registrar, Nalanda University, Rajgir, Bihar.**

2. **Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses "Deviation, Extra items and pricing & Deviation submitted items and pricing"** Please refer below

Definitions:

Sr. No	DESCRIPTION	DETAILS
1	**Owner**	Vice Chancellor, Nalanda University, Rajgir, Bihar
2	**Tender Accepting Authority**	Registrar, Nalanda University, Rajgir, Bihar.
3	**Engineer In charge**	Authorized Engineer Officer appointed by Nalanda University Rajgir, Bihar
4	**Project Manager**	Nominated Person/PMC by NU
5	**Architect Consultants**	Consultants, appointed by NU as Architect Consultants.
6	**Percentage on cost of materials and Labour to cover all overheads and profits for Extra Items**	15% For HVAC works.
7	**Rates considered for Estimate**	DSR 2016& Market Rates as applicable.(with correction slips issued up to the previous day of the last date of submission of tenders),

CLAUSE 1: Performance Guarantee

1	**Time allowed for submission of Performance Guarantee Programme Chart (Time and Progress) and applicable labour Licenses, Registration with EPFO, ESIC, and BOCW Welfare board or proof of applying therefrom the date of issue of letter of acceptance**	15 (Fifteen) Days
2	**Maximum allowable extension beyond the period provided in 1 above**	7 (Seven) Days with late fee @ 0.1% per day of the Performance Guarantee amount.

CLAUSE 2 and Clause 2 A: Compensation for Delay and Incentive for early completion

1	**Authority for fixing compensation under its clause**	Vice Chancellor, Nalanda University, Rajgir, Bihar
2	**Incentive for early completion**	Applicable as per detailed Clause.

CLAUSE 5: Time and Extension for Delay

1	**Number of days from the date of issue of letter of acceptance for reckoning date of start.**	22 (Twenty Two) days.

Milestone(s) as per table given below:-

Though the overall time of completion is 4 months the contractor shall complete all the buildings/structures such that the buildings are ready for occupation in all respects, strictly conforming to the time limit specified for such items. Any delay in achieving specified timeline given in the Milestones (as mentioned below) of these building shall invite withholding of payments as indicated against each and every Milestone:

Project Milestone Schedule:			
Sr. No.	Description of Milestone (Physical)	Time allowed in Months (from date of start)	Amount to be with-held in case of non-achievement of milestone
Milestone of Works (Time duration 4 Months)			
1	Submission of detailed design of heat load calculation. Submission of detailed layout drawings, schematic drawings and data sheet from the date of issue of LOI	15 Days	0.5% of tendered value.
2	Supply of pipe and valves from the date of issue of LOI	20 Days	0.5% of tendered value
3	Supply of major equipment such as chiller, cooling tower, pumps, panels, laying of pre insulated pipes in ground.	60 Days	0.5 % of the tendered value
4	Installation of chillers, pumps and cooling tower	12 Days	0.5% of tendered value.
5	Installation of All other associated equipment's, Etc	3 Days	0.5% of tendered amount
6	Testing and Commissioning of All equipment's as per standard procedures laid and attending to snag lists provided by the design consultant.	10 Days	0.5% of tendered amount
7	Final Handing over of the entire setup as per design intent along with details of the local service and central service centre. The contractor shall introduce in writing about the services support, do's & donts, Operation, Maintenance and Services procedures and guidelines. The contractor has to submit the AS Built Drawing and maintenance manuals of all the items.	120 Days	0.5% of tendered amount

Note: Withheld amount shall be released if and when subsequent milestone is achieved.

1	**Total Time allowed for execution of work**	4 (Four) Months
2	**Authority to decide Extension of Time**	Vice Chancellor, Nalanda University, Rajgir, Bihar
3	**Rescheduling of Milestones**	Engineer In Charge, and the Rescheduling is to be approved by Vice Chancellor, Nalanda University (NU)

Clause 5
Schedule of handing over of site

Part	**Portion of site**	**Description**	**Time Period for handing over reckoned from date of issue of letter of intent.**
1	**Substation Building**	Handing over of the chiller Plant and Outreach Building for installation work	Within 15 Days

Schedule of issue of Designs

Part	Portion of Design	Description	Time Period for issue of design reckoned from date of receipt of tenders
Part A	**Portion already included in NIT**	Tender Drawings	Included in Tender Set
Part B	**Portions of E&M Designs to be issued**	Working Drawings- SLD and Layouts	As per Contractors Time and Progress Chart

Clause 5.4
Schedule of rate of recovery for delay in submission of the modified program in terms of delay days

I.	More than 5Crore but Less than 20Crore.	Rs. 2500

CLAUSE 7 : Payment on Intermediate Certificate to be regarded as Advances

Clause 7A

1	**Whether Clause 7 A shall be applicable**	yes

List of Testing Equipment.

1	**List of Testing equipment to be provided by the contractor at site laboratory.**	As per (Table-1) of Annexure-1 attached.

CLAUSE 10B (i) & 10B (ii) : Secured Advance & Mobilization Advance.

1	**Secured advance on Non-perishable materials & Mobilization Advance.**	Applicable as per detailed clause.

CLAUSE 11 : Work to be executed in accordance with Specifications, Drawings, and Orders etc.

1	**Specifications**	Detailed Specifications and related IS/IEC and other mentioned codes For HVAC works.

CLAUSE 12 : Deviations/Variations/ Extent and Pricing

1	**Deviation limit beyond clause 4.23 shall apply for all building work (Above plinth level).**	30 % (Thirty per cent).
2	**Deviation Limit beyond clauses 4.23 for work up to plinth level**	100% (One Hundred per cent)

Note:- For concrete road work, all items of work above GSC/WMM level shall be treated as work other than foundation.

CLAUSE 16 : Action in casework not done as per Specifications

1	**Competent Authority for deciding reduced rates.**	Engineer in Charge

CLAUSE.17 : Contractor Liable for Damages/ Defects during defects liability period

4	**Defects Liability Period**	24 months from completion of the project as a whole.

CLAUSE 4.38: Settlement of Disputes

1	**Settlement of Disputes**	Committee appointed by NU

Employment of Technical Staff and employees

Requirement of Technical Representative(s) in progressive manner in satisfaction of Project Manager & Engineer-In-Charge with its recovery Rate.

S. No.	Minimum Qualification of Technical Representative	Discipline	Minimum Experience	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause Figures	
1	Project Manager with degree in Mechanical and hands on experience of Chiller plant testing and commissioning	Mechanical	Ten Years	One	Rs. 30,000/- p.m.	.
2.	Graduate Engineer	Mechanical	Five Years	One	Rs. 25,000/ p.m.	.
3.	Graduate Engineer or Diploma Engineer		Two years Five Years	Two Two	Rs. 15,000/ p.m. Rs. 15,000/ p.m.	

SECTION 3

GENERAL RULES & DIRECTIONS

General Rules & Directions:

1. The Tender shall state the work to be carried out, the date for submitting and opening tenders and the time allowed for executing the Work, the amount of earnest money to be deposited with the tender, the amount of the security deposit and performance guarantee to be deposited by the successful bidder and the percentage if any, to be deducted from the security deposit. 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 bidder at the office of NU 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 behalf of such partner by a person holding a valid power of attorney from such absentee partner specifically for the purposes of the tender. Such power of attorney shall be produced along with the tender. Any firm submitting its bid pursuant to the tender shall be duly registered under the Indian Partnership Act, 1932.

3. Receipts for payment made on account of completed 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 A This tender being a Percentage Rate Tender, contractor shall fill up the usual printed form, stating at what percentage below/above (in figures as well as in words) the total estimated cost given in Schedule of Quantities at Schedule-A, he will be willing to execute the work. The tender submitted shall be treated as invalid if:-

1. The contractor does not quote percentage above/below on the total amount of tender or any section/sub head of the tender.
2. The percentage above/below is not quoted in figures & words both on the total amount of tender or any section/sub head of the tender.
3. The percentage quoted above/below is different in figures & words on the total amount of tender or any section/sub head of the tender.

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.

4B In case the lowest tendered amount (estimated cost +/- amount worked on the basis of percentage above/below) of two or more contractors is same, such lowest contractors will be asked to submit sealed revised offer in the form of letter mentioning percentage above/ below on estimated cost of tender including all sub sections/sub heads as the case may be, but the revised percentage quoted above/below on tendered cost or on each sub section/ sub head should not be higher than the percentage quoted at the time of submission of tender. The lowest

tender shall be decided on the basis of revised offers. In case any of such contractor refuses to submit revised offer, then it shall be treated as withdrawal of his tender before acceptance and 50% of earnest money shall be forfeited.

If the revised tendered amount of two more contractors received in revised offer is again found to be equal, the lowest tender, among such contractors, shall be decided by draw of lots in the presence of the Tender Evaluation Committee and any other member nominated by the Competent Authority at NU& the lowest contractors those have quoted equal amount of their tenders.

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

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

5. The NU will open tenders in the presence of any intending contractors who may be present at the time, and will enter the amounts of the several tenders in a comparative statement in a suitable form. In the event of a tender being accepted, a receipt for the earnest money shall there upon be given to the contractor who shall thereupon for the purpose of identification sign copies of the specifications and other documents mentioned above. In the event of a tender being rejected, the earnest money shall thereupon be returned to the respective bidders without any interest on such earnest money.

6. The NU shall have the right of rejecting all or any of the tenders and shall 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 bidder shall not be considered as an acknowledgment for payment to the NU and the bidder shall be responsible for ensuring that a receipt signed by the NU or a duly authorized cashier is obtained for monies paid.

8. The bidders 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 awarded to the bidder. The unsuccessful bidders shall return all the drawings shared during the course of the tender process.

9. Use of correcting fluid, anywhere in tender document shall not be permitted. Such tender shall be liable to be rejected.

10. This tender being a Percentage Rate Tender, only percentage quoted shall be considered. Any tender containing item rates is liable to be rejected. Percentage quoted by the contractor in percentage rate tender shall be accurately filled in figures and words, so that there is no discrepancy.

11. This tender being a Percentage Rate Tender, the bidder shall quote percentage below/above (in figures as well as in words) at which he will be willing to execute the work. He shall also work out the total amount of his offer and the

same should be written in figures as well as in words in such a way that no interpolation is possible. In case of figures, the word 'Rs.' should be written before the figure of rupees and word 'P' after the decimal figures, e.g. 'Rs. 2.15P and in case of words, the word 'Rupees' should precede and the word 'Paisa' should be written at the end.

12.
a. The Contractor whose tender is accepted, shall be required to furnish performance guarantee of 5% (five per cent) of the tendered amount within the period specified herein. Deposit at Call receipt of any scheduled bank/Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form.

13. The bidder whose tender is accepted shall be required to furnish by way of Security Deposit for the fulfilment of the Contract, an amount equal to 2.5% of the tendered value of the work. The Security Deposit shall be collected by deductions from the running bills as well as final bill of the Contractor at the rates mentioned above. The Security Deposit shall also be accepted in cash or in the shape of Government securities, Fixed deposit receipt of a scheduled bank or State Bank of India will also be accepted for this purpose provided conformity advice is enclosed.

14. On acceptance of the tender, the name of the accredited representative(s) of the bidder, responsible for taking instructions from the Engineer-in-Charge, shall be communicated in writing to the Engineer-in-Charge/Architect Consultants with a copy to the Owner.

15. Sales-tax/VAT (except service tax), purchase tax, turnover tax, Excise duty, Entry Tax, Royalties, Labour Cess or any other tax applicable in respect of the Contract shall be payable by the Contractor and NU shall not entertain any claim whatsoever in respect of the same. However, in respect of service tax, same shall be paid by the Contractor to the concerned department on demand and it shall be reimbursed by the NU on recommendation of Engineer-in-Charge upon satisfaction that the requisite service tax has been actually and genuinely paid by the Contractor. The applicable and eligible service tax shall be reimbursed preferably within 7 days but not later than 30 days of submission of documentary proof of payment provided same are in order.

16. The contractor shall give a list of both Nalanda University officials/employees and/or any other official/employees of the Consultants appointed by NU in regard to this Project 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 ESI and EPF contribution on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-Charge to the contractor on actual basis. The applicable and eligible amount of EPF & ESI shall be reimbursed preferably within 7 days but not later than 30 days of submission of documentary proof of payment provided same are in order.

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. Any failure to so shall amount to a breach of the Contract and the Owner may in its 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 under the provisions of the Apprentices Act, 1961.

SECTION 4

GENERAL CONDITIONS OF CONTRACT

Definitions

The **Contract** means the documents forming the tender and acceptance thereof and the formal agreement executed between the Competent Authority, Nalanda University 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/the Competent Authority at NU and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:-

Work:

The expression work or works shall, mean unless there be something either in the subject or context repugnant to such construction the context otherwise requires 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.

Site:

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.

Contractor:

The Contractor 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 assignees of such individual, firm or company.

Owner:

Owner shall mean the Nalanda University, Rajgir, BIHAR.

Project Manager:

Means the authorized Engineer Officer nominated by the Project Management Consultant appointed by Nalanda University. He will report to the Engineer-In-Charge and will be responsible for day to day supervision of project execution and will assist Engineer-in-Charge in Planning, Quality Assurance and Control, Execution and monitoring the Progress of work.

Architect Consultants:

Architect Consultants shall mean the Architect Consultant appointed by NU including its associate architects and their authorized consultants and Engineers to design and assist the Engineer In Charge in monitoring the Architectural, Structural, Electrical, Plumbing, Acoustic, HVAC, Landscape and Infrastructure

works and also to check quality, project scheduling, cost control, installation of systems and equipment in the Works and ensure that the same is done as per the drawings approved.

Engineer-in-Charge:
Engineer-in-Charge (EIC) shall mean the authorized Engineer Officer appointed by NU, who shall supervise and be in charge of the work. Engineer-in-Charge will administer the contract with the assistance of his authorized subordinate Engineers.

Accepting Authority:
Accepting Authority shall mean the authority mentioned in **Schedule 'F'**.

Excepted Risk:
Excepted Risk are risk 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 Owner damage 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 (i.e. either the Owner or an Agency appointed by the Owner) or causes solely due to use or occupation by Owner of the part of the Work in respect of which a certificate of completion has been issued or a cause solely due to Owner's faulty design of works..

Market Rate:
Market rate shall be the rate as decided by the Engineer-in-Charge in consultation with Architect Consultants and Project Management Consultant (PMC) 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 of the Contractor and approved by the NU, provided that no extra overheads and profits shall be payable on the part(s) of work assigned to other agency(s) by the contractor as per terms of contract.

Tendered value:

Tendered value / Contract value means the value of the entire Work as stipulated in the letter of award.

Date of commencement of work:

The Date of commencement of work shall be the date when contract comes into existence i.e. the date the Letter of Acceptance by NU is awarded or the first date of handing over of the site, whichever is later, in accordance with the phasing if any, as indicted in the tender document.

Scope & Performance

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.

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

Works to be carried out

The Work to be carried out under the Contract shall, except as otherwise provided in these conditions shall include all labour, materials, tools and plants, equipment and transport to be provided at the cost and expense of the Contractor 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 Works as aforesaid in accordance with good practice and recognized principles.

Sufficiency of Tender:

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 and Tender Documents, which rates and prices shall, except as otherwise provided, cover all its obligations under the contract and all matters and things necessary for the proper completion and maintenance of the works.

Discrepancies and Adjustment of Errors:

The several documents forming the Contact 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.

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 Schedule of Quantities.

ii) Particular Specifications

iii) Special Conditions.

iv) Additional Conditions

v) General Conditions

vi) Drawings.

vii) CPWD Specifications for HVAC works

vii) Indian Standard Specifications of BIS.

ix) Accepted good Engineering Practice based on experience of Foreign Countries'' Codes.

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.

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.

Signing of Contract: The successful bidder/contractor, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of:

i. The notice inviting tender, all the documents including drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
ii. Standard C.P.W.D. Form as mentioned in Schedule 'F' consisting of:
    a. Various standard clauses with corrections up to the date stipulated in Schedule 'F' along with annexures thereto.
    b. C.P.W.D. Safety Code
    c. Model Rules for the protection of health, sanitary arrangements for workers employed by CPWD or its contractors.
    d. CPWD Contractor's Labour Regulations.
    e. List of Acts and omissions for which fines can be imposed.
iii. No payment for the work done will be made unless contract is signed by the contractor

CLAUSES OF CONTRACT

CLAUSE.1 Performance Guarantee

(i)The contractor shall submit an irrevocable Performance Guarantee of 5% (Five percent) of the tendered amount in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period specified in Schedule 'F' from the date of issue of letter of acceptance. This period can be further extended by the Engineer-in-Charge up to a maximum period as specified in schedule 'F' on written request of the contractor stating the reason for delays in procuring the Performance Guarantee, to the satisfaction of the Engineer-in-Charge. This guarantee shall be in the form of Deposit at Call receipt of any scheduled bank/Bankers Cheque of any scheduled bank/Demand Draft of any scheduled bank or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the form annexed hereto. In case a fixed deposit receipt of any Bank is furnished by the contractor to the Nalanda University as part of the performance guarantee and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the Nalanda University to make good the deficit.

(ii)The Performance Guarantee shall be initially valid up to the stipulated date of completion plus 60 days beyond that. In case the time for completion of work gets enlarged, the contractor shall get the validity of Performance Guarantee extended to cover such enlarged time for completion of work. After recording of the completion certificate for the work by the Engineer In charge, the performance guarantee shall be returned to the contractor, without any interest.

iii) The Engineer-in-Charge shall not make a claim under the performance guarantee except for amounts to which the Nalanda University is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:

(a) Failure by the contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer-in-Charge may claim the full amount of the Performance Guarantee.

(b) Failure by the contractor to pay Nalanda University any amount due, either as agreed by the contractor or determined under any of the Clauses/Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer-in-Charge.

(iv) In the event of the contract being determined or rescinded under provision of any of the Clause/Condition of the agreement, the performance guarantee shall stand forfeited in full and shall be absolutely at the disposal of the Nalanda University.

(v) On substantial completion of any work which has been completed to such an extent that the intended purpose of the work is met and ready to use, then a provisional completion certificate shall be recorded by the Engineer-In-Charge. The provisional certificate shall have appended with a list of outstanding balance item of work that need to be completed in accordance with the provisions of the contract.

This provisional completion certificate shall be recorded by the concerned Engineer-In-Charge with the approval of Project manager/ chief Project manager/ Superintending Engineer. After recording of the provisional completion certificate for the work by the competent authority, the 80% of performance guarantee shall be returned to the contractor, without any interest.

However in case of contracts involving Maintenance of building and services. Any other work after construction of same building and services/ other work, then 40% of performance guarantee shall be returned to the contractor without any interest after recording the provisional completion certificate.

CLAUSE. 1A. Recovery of Security Deposit

The person/persons whose tender(s) may be accepted (hereinafter called the contractor) shall permit Nalanda University, at the time of making any payment to him for work done under the contract to deduct a sum at the rate 2.5% (two decimal five per cent) of the gross amount of each running and finalbill, till the sum deducted will amount to security deposit of 2.5 % (two decimal five per cent) of the tendered value of the work. Such deductions will be made and held by Nalanda University by way of Security Deposit unless he/they has/have deposited the amount of Security at the rate mentioned above in the form of Government Securities or fixed deposit receipt. In case a fixed deposit receipt of any Bank is furnished by the contractor to the Nalanda University as part of the security deposit and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the Nalanda University to make good the deficit.

All compensations or the other sums of money payable by the contractor under the terms of this contract may be deducted from, or paid by the sale of a sufficient part of his security deposit or from the interest arising there from, or from any sums which may be due to or may become due to the contractor by Owner on any account whatsoever and in the event of his Security Deposit being reduced by reason of any such deductions or sale as aforesaid, the contractor shall within 10 days make good in fixed deposit receipt tendered by the State Bank of India or by Scheduled Banks or Government Securities (if deposited for more than 12 months) endorsed in favour of the Nalanda University, any sum or sums which may have been deducted from, or raised by sale of his security deposit or any part thereof. The security deposit shall be collected from the running bills and the final bill of the contractor at the rates mentioned above.

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 lac subject to the condition that amount of such bank guarantee, except last one, shall not be less than Rs.5 lac. Provided further that the validity of bank guarantee, including the one given against the earnest money shall be in conformity with provisions contained in this clause 17 which shall be extended from time to time depending upon extension of contract granted under provisions of Clause 2 (Compensation for delay) Clause 5 (Time and Extension for delay).

No interest shall be paid on the amount retained as Security Deposit by NU.

Security deposit shall be released as follows:

Security deposit shall be released after the completion of the Defects Liability period.

CLAUSE. 2. Compensation for Delay

If the contractor fails to maintain the required progress in terms of clause 5 (Time and Extension for delay) or to complete the work and clear the site on or before the contract or justified extended date of completion as per clause 5 (excluding any extension under Clause 5.5) as well as any extension granted under clauses 12 and 15, he shall, without prejudice to any other right or remedy available under the law to the Owner on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below as the authority specified in schedule-F (whose decision in writing shall be final and binding) may decide on the amount of tendered value of the work for every completed day/month (as determined) that the progress remains below that specified in Clause 5 (Time and Extension for delay) or that the work remains incomplete.

This will also apply to items or group of items for which a separate period of completion has been specified.

Compensation for delay of work @ 1 % per month of delay to be computed on per day basis.

Provided always that the total amount of compensation for delay to be paid under this Condition shall not exceed 10% (Ten per cent) of the Tendered Value of work or of the Tendered Value of the Sectional part of work as mentioned in Schedule 'F' for which a separate period of completion is originally given.

In case no compensation has been decided by the authority in Schedule 'F' during the progress of work, this shall be no waiver of right to levy compensation by the said authority if the work remains incomplete on final justified extended date of completion. If the Engineer In Charge decides to give further extension of time allowing performance of work beyond the justified extended date, the contractor shall be liable to pay compensation for such extended period. If any variation in amount of contract takes place during such extender period beyond justified extended date and the contractor becomes entitled to additional time under clause 12, the net period for such variation shall be accounted for while deciding the period for levy of compensation. However, during such further extended period

beyond the justified extender period, if any delay occurs by events under sub clause 5.2, the contractor shall be liable to pay compensation for such delay.

Provided that compensation during the progress of work before the justified extended date of completion for delay under this clause shall be for non-achievement of sectional completion or part handing over of work on stipulated/justified extended date for such part work or if delay affects any other works/ services. This is without prejudice to right of action by the Engineer In Charge under clause 3 for delay in performance and claim for compensation under that clause.

In case action under clause 2 has not been finalized and the work has been determined under clause 3, the right of action under this clause shall remain post determination of contract but levy of compensation shall be for days the progress is behind the schedule on date of determination, as assessed by the authority in Schedule 'F', after due consideration of justified extension. The compensation for delay, if not decided before the determination of contract, shall be decided after determination of contract.

The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with the Nalanda University. In case, the contractor does not achieve a particular milestone mentioned in schedule F, or the re-scheduled milestone(s) in terms of Clause 5 (Time and Extension for delay), the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied as above. Withholding of this amount on failure to achieve a milestone shall be automatic without any notice to the contractor. However, if the contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the contractor fails to make up for the delay in subsequent milestone(s), amount mentioned against each milestone missed subsequently also shall be withheld. However, no interest, whatsoever, shall be payable on such withheld amount.

CLAUSE 2 A Incentive for Early Completion

In case, the contractor completes the work ahead of updated stipulated date of completion considering the effect of extra work (to be calculated on pro-rata basis as cost of extra work X stipulated period/tendered cost) but excluding any hindrance whatsoever on the part of either party, a bonus shall be payable to the contractor by the following formula:-

$$B=\frac{Tv}{5xTs} \times \{[Ts + \frac{(Fv-Tv)}{Tv} \times Ts] - Ta])$$

Where

B = Bonus payable to the contractor in Rs subject to a maximum of 5 percent of the tendered value

Tv = Tendered Value of the work in Rs

Ts = Time allowed for execution of work as mentioned in schedule F in number of days.

Ta= Actual time taken to complete the entire work including deviations/variations in the work and inclusive of all hindrances (for any reason whatsoever) in number of days

Fv = Value of gross work done as per final bill in Rs subject to a maximum limit of 5% (five per cent) of the tendered value. **Provided that justified time for extra work shall be calculated on pro-rata basis as cost of extra works X stipulated period/ Tendered Value**. The amount of bonus, if payable, shall be paid along with final bill after completion of work. Provided always that provision of the Clause 2A shall be applicable only when so provided in 'Schedule F'.

CLAUSE. 3. When Contract can be Determined

Subject to other provisions contained in this clause, the Engineer – in charge may without prejudice to any other rights or remedy against the Contractor in respect of any delay, inferior workmanship or any claims for damages and/or any other provisions of this contract or otherwise, whether or not the date of completion has or has not elapsed, by notice in writing, absolutely determine the contract in any of the following cases:

(i) If the contractor having been given , the Engineer-in-Charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or un-workman like manner or shall omit to comply with the requirement of such notice for a period of seven days thereafter.

(ii) If the Contractor has, without reasonable cause suspended the progress of the Work or has failed to proceed with the work with due diligence and continues to do so after a notice in writing of seven days from the Engineer-in-Charge.

(iii) If the contractor fails to complete the work or **section of work with individual date of completion on or before** the stipulated date or **justified extender date, on or before such date of completion; and the Engineer-in-Charge without any prejudice to any other right or remedy under any other provision in the contract has given further reasonable time in a notice given in writing in that behalf as either mutually agreed or in absence of such mutual agreement by his own assessment making such time essence of contract and in the opinion of Engineer-in-charge the contractor will be unable to complete the same or does not complete the same within the period specified.**

(iv) If the contractor persistently neglects to carry out his obligations under the contract and/ or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to

remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge.

(v) If the contractor shall offer or give or agree to give to any person in service of Nalanda university or consultants or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract for Nalanda University.

(vi) If the contractor shall enter into a contract with Owner in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in-Charge

(vii) If the contractor had secured the contract with Owner as a result of wrong tendering or other non-bonafide methods of competitive tendering or commits breach of integrity agreement.

(viii) If the contractor being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport to do so, or if any application be made under any Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors.

(ix) If the Contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver, or a manager on behalf of a creditor shall be appointed, or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager, or which entitle the court to make a winding up order.

(x) If the contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days.

(xi) If the contractor assigns **(excluding part(s) of work assigned to other agency(s) by the contractor as per terms of contract)**, transfers, sublets (engagement of labour on a piece-work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer -in-Charge.

When the Contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge on behalf of the Nalanda University shall have powers:

(a) To determine the contract as aforesaid **so far as performance of work by the contractor is concerned** (of which **determination** notice in writing to the contractor under the hand of the Engineer-in-Charge shall be conclusive evidence). Upon such determination, the, Security Deposit already recovered and Performance Guarantee under the contract shall be liable to be forfeited and shall be absolutely at the disposal of the Owner.

(b) After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof, as shall be un-executed out of his hands and to give it to another contractor to complete the work. The contractor, whose contract is determined as above, shall not be allowed to participate in the tendering process for the balance work.

In the event of anyone or more of the above course(s) of action(s) being adopted by the Engineer-in-Charge the Contractor shall have no right to claim compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagement or made any advances on account or with a view to the execution of the Work or the performance of the contract And In case action is taken under any of the provisions aforesaid, the Contractor shall not be entitled to recover or be paid any sum for any work thereof actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such Work and the value payable in respect thereof and the Contractor shall only be entitled to be paid the value so certified.

CLAUSE 3A.Work cannot be Started Due to Reasons not within the Control of the Contractor.

In case, the work cannot be started due to reasons not within the control of the contractor within 1/8th of the stipulated time for completion of work or one month whichever is higher, either party may close the contract **by giving notice to the other party stating the reasons**. In such eventuality, the Performance Guarantee of the contractor shall be refunded within 21 days.

Neither party shall claim any compensation for such eventuality. This clause is not applicable for any breach of the contract by either party.

CLAUSE. 4 Contractor Liable to Pay Compensation even if Action not taken as Clause 3 (When Contract can be determined)

In any case in which any of the powers conferred upon the Engineer-in-Charge by Clause 3 (when contract can be determined) thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of the contractor for compensation shall remain unaffected. In the event of the Engineer-in-Charge putting in force all or any of

the powers vested in him under the preceding clause he may, if he so desires after giving a notice in writing to the contractor, take possession of (or at the sole discretion of the Engineer-in-Charge which shall be final and binding on the contractor) use as on hire (the amount of the hire money being also in the final determination of the Engineer-in-Charge) all or any tools, plant, materials and stores, in or upon the works, or the site thereof belonging to the contractor, or procured by the contractor and intended to be used for the execution of the work/or any part thereof, paying or allowing for the same in account at the contract rates, or, in the case of these not being applicable, at current market rates to be certified by the Engineer-in-Charge, whose certificate thereof shall be final, and binding on the contractor, clerk of the works, foreman or other authorized agent to remove such tools, plant, materials, or stores from the premises (within a time to be specified in such notice) in the event of the contractor failing to comply with any such requisition, the Engineer-in-Charge may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and his risk in all respects and the certificate of the Engineer-in-Charge as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the contractor.

CLAUSE. 5 Time and Extension for Delay

The time allowed for execution of the Works as specified in Schedule F or the extended time in accordance with these conditions shall be the essence of the contract. The execution of the works shall commence from such time period as mentioned in Schedule F or from the date of handing over of the site, **notified by the Engineer-in-Charge,** whichever is later. **However, the handing over of site by the Engineer in Charge, in full or in part (if so provided in contract), shall be completed within two months for issue of acceptance letter.** If the Contractor commits default in commencing the execution of the work as aforesaid, **the performance guarantee shall be forfeited by the Engineer In charge and shall be absolutely at disposal of the Owner** without prejudice to any other right or remedy available in law.

5.1 The contractor shall submit within Fifteen days of award of work as in consideration of

a) Schedule of handing over of site as specified in the Schedule 'F"
b) Schedule of issue of designs as specified in the schedule 'F'

(i) The contractor shall submit a programme Chart (Time and Progress) for each mile stone. The Engineer in Charge may within 30 days thereafter, if required modify, and communicate the program approved to the contractor failing which the program submitted by the contractor shall be deemed to be approved by the Engineer-in-Charge. The work programme shall include all details of balance drawings and decisions required to complete the contract

with specific dates by which these details are required by the contractor without causing any delay in execution of the work. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Owner and the Contractor within the limitations of time imposed in the Contract documents, and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work, exceeds one month (save for special jobs for which a separate program has been agreed upon) complete the work as per mile stones given in Schedule F.

(ii) In case of non-submission of construction programme by the contractor the program approved by the Engineer-in-charge shall be deemed to be final.

(iii) The approval by the Engineer-in-charge of such programme shall not relieve the contractor of any of the obligations under the contract.

(iv) The contractor shall submit the Time and progress chart and progress report using mutually agreed software or in other format decided by Engineer-in-Charge for the work done during previous month to the Engineer-in-charge on or before 5th day of each month failing which a recovery Rs. 5000/- shall be made on per week or part basis in case of delay in submission of the monthly progress report.

5.2 If the work(s) were delayed by: -

(i) Force majeure, or

(ii) Abnormally bad weather, or

(iii) Serious loss or damage by fire, or

(iv) Civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or

(v) Delay on the part of other contractors or tradesmen engaged by Engineer-in-Charge in executing work not forming part of the Contract, or

(vi) Any other cause like above which, in the **reasoned opinion** of the Engineer-in-Charge is beyond the Contractor's control.

Then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the **Engineer In Charge for entry in the hindrance register (physical or web-based as prescribed in Schedule F)** but shall nevertheless use constantly his best endeavours to prevent the delay in overall completion of the work or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the works. **The contractor shall have no claim of damages for extension of time granted or rescheduling of milestone/s for evens listed in sub clause 5.2.**

5.3 In case the work is hindered by any reason, in the opinion of the contractor, by the owner or for someone for whose action the owner is responsible, the contractor may immediately give notice thereof in writing to the Engineer in Charge in the same manner as prescribed under sub clause 5.2 seeking extension of time or reschedule of milestone/s. The authority as indicated in schedule 'F' shall, if justified, give a fair and reasonable extension of time and reschedule the milestones for completion of work after due consideration of the same within 30 days of receipt of such request. In event of non application by the contractor for extension of time Engineer in Charge after affording opportunity to the contractor may give, supported with a programme, a fair and reasonable extension within a reasonable period of occurrence of the event. Such extension of time or rescheduling of milestone/s shall be without prejudice to any other right or remedy of the parties in contract or in lay; provided further that for concurrent delays under this sub clause and sub clause 5.2 to the extent the delay is coveted under sub clause 5.2 the contractor shall be entitled to only extension of time and no damages.

5.3 Request for rescheduling of Mile stones **or** extension of time, to be eligible for consideration, shall be made by the Contractor (As per Appendix XVI) in writing with supporting documents within fourteen days of the happening of the event causing delay on the prescribed form **i.e Form of application by the contractor for seeking reschedule of milestones (Appendix-XVI) or form of application by the contractor for seeking extension of time (Appendix-XVII) respectively** to the authority as indicated in Schedule-F. **The contractor shall indicate in such a request the period by which rescheduling of milestone/s or extension of time is desired. With every request for rescheduling of milestones, or if at any time the actual progress of work falls behind the approved program by more than 10% of the stipulated period of completion of contract, the contractor shall produce a revised program which shall include all details of pending drawings and decisions required to complete the contract and also the target dates by which these details should be available without causing any delay in execution of the work. A recovery as specified in Schedule 'F' shall be made on per day basis in case of delay in submission of the revised program.**

5.4 **In any such case the authority as indicated in Schedule 'F' may give a fair and reasonable extension of time for completion of work or reschedule the mile stones. Such extension or rescheduling of the milestones shall be communicated to the Contractor by the authority as indicated in Schedule 'F' in writing, within 30 days of the date of receipt of such request from the Contractor in prescribed form. In event of non application by the contractor for extension of time E-in-C after affording opportunity to the contractor, may give, supported with a program (as specified under 5.4 above), a fair and reasonable extension within a reasonable period of occurrence of the event.**

5.5 In case the work is delayed by any reasons, in the opinion of the Engineer-in-Charge, by the contractor for reasons beyond the events mentioned in clause 5.2 or clause 5.3 or clause 5.4 and beyond the justified extended date; without prejudice to right to take action under Clause 3, the Engineer-in-Charge may grant extension of time required for completion of work without rescheduling of milestones. The contractor shall be liable for levy of compensation for delay for such extension of time.

CLAUSE. 6. Measurement of Work Done

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement the value in accordance with the contract of Work done.

All measurement of all items having financial value shall be entered in Measurement Book and/or level field-books complete record is obtained of all works performed under the contract.

All measurements and levels shall be taken jointly by the Engineer-in-Charge or his authorized representative and by the Contractor or his authorized representative from time to time during the progress of the Work and such measurements shall be signed and dated by the Engineer-in-Charge or their authorized representative and the Contractor or their authorized representatives in token of their acceptance. If the Contractor objects to any of the measurements recorded, a note shall be made to that effect along with reasons and signed by both the parties.

If for any reason the Contractor or his authorized representative is not available and the Work of recording measurements is suspended by the Engineer-in-Charge or his authorized representative, the Engineer-in-Charge and the Owner shall not entertain any claim from the Contractor for any loss or damages on this account. If the Contractor or his authorized representative does not remain present at the time of such measurements after the Contractor or his authorized representative has been given a notice in writing three (3) days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurements recorded in his absence by the Engineer-in-Charge or his representative shall be deemed to be accepted by the Contractor.

The Contractor shall, without any extra charge, provide all assistance with every appliance, labour and other things necessary for measurements and recording levels.

Except where any general or detailed description of the Work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items, which are not covered by specifications, measurements shall be taken in

accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available then a mutually agreed method shall be followed.

The Contractor shall give not less than seven days' notice to the Engineer-in-Charge or his authorized representative in-charge of the Work before covering up or otherwise placing beyond the reach of measurement any Work in order that the same may be measured and correct dimensions thereof may be taken before the same is so covered up or placed beyond the reach of measurement and shall not cover up or placed beyond the reach of measurement any Work without the consent in writing of the Engineer-in-Charge or his authorized representative in charge of the Work who shall within the aforesaid period of 7 days inspect the work, and 'if any Work shall be covered up or be placed beyond the reach of measurement without such notice having been given or Engineer- in - charge's consent being obtained in writing, the same shall be uncovered at Contractor's expense or in default thereof no payment or allowance shall be made for such Work or of the material with which the same was executed.

Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the Authority to check the measurements recorded jointly or otherwise as aforesaid and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

It is also a term of this contract that recording of measurements of any item of Work in the measurement book and/or its payment in the interim bill, on account bill or final bill shall not be considered as conclusive evidence as to the sufficiency of any Work or material to which it relates nor shall it relieve the Contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

CLAUSE. 6A. Computerized Measurement Book

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract.

All measurements of all items having financial value shall be entered by the contractor and compiled in the shape of the Computerized Measurement Book having pages of A-4 size as per the format suggested by the Engineer–in-charge so that a complete record is obtained of all the items of works performed under the contract.

All such measurements and levels recorded by the contractor or his authorized representative from time to time, during the progress of the work, shall be got checked by the contractor from the Engineer-in-Charge or his authorized representative as per interval or program fixed in consultation with Engineer-in-Charge or his authorized representative. After the necessary corrections are made by the Engineer-in-Charge, the measurement sheets shall be returned to the

contractor for incorporating the corrections and for resubmission to the Engineer-in- Charge for the dated signatures by the Engineer-in- Charge and the contractor or their representatives in token of their acceptance.

Whenever bill is due for payment, the contractor would initially submit draft computerized measurement sheets and these measurements would be got checked/test checked from the Engineer-in-Charge and/or his authorized representative. The contractor will, thereafter, incorporate such changes, as may be done during these checks/test checks in his draft computerized measurements, and submit to the Engineer in Charge computerized measurement book, duly bound, and with its pages machine numbered. The Engineer-in- Charge and/or his authorized representative would thereafter check this MB, and record the necessary certificates for their checks/test checks.

The final, fair, computerized measurement book given by the contractor, duly bound, with its pages machine numbered, should be 100% correct, and no cutting or over-writing in the measurements would thereafter be allowed. If at all any error is noticed, the contractor shall have to submit a fresh computerized MB with its pages duly machine numbered and bound, after getting the earlier MB cancelled by the Engineer in charge.

The contractor shall also submit to the Engineer in charge separately his computerized Abstract of Cost and the bill based on these measurements, duly bound, and its pages machine numbered along with two spare copies of the "bill. Thereafter, this bill will be processed by the Engineer-in-Charge and allotted a number as per the computerized record in the same way as done for the measurement book meant for measurements.

The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for checking of measurements/levels by the Engineer-in- Charge or his representative.

Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items, which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available then a mutually agreed method shall be followed.

The contractor shall give not less than seven days' notice to the Engineer-in-Charge or his authorized representative in charge of the work before covering up or otherwise placing beyond the reach of checking and/or test checking the measurement of any work in order that the same may be checked and/or test checked and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of checking and/or test checking measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his authorized representative in

charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of checking and/or test checking measurements without such notice having been given or the Engineer-in-Charge's consent being obtained in writing the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the Authority to check the measurements recorded by contractor and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

It is also a term of this contract that checking and/or test checking the measurements of any item of work in the measurement book and/or its payment in the interim, on account of final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

CLAUSE. 7. Payment on intermediate Certificate to be regarded as Advances

The interim or running account bills shall be submitted by the contractor for the work executed on the basis of such recorded measurements on the format of the Engineer in charge in triplicate on or before the date of every month or as fixed for the same by the Engineer–in-charge. The contractor shall not be entitled to be paid any such interim payment if the gross work done together with net payment/ adjustment of advances for material collected, if any, since the last such payment is less than the amount specified in Schedule-F, in which case the interim bill shall be prepared on the appointed date of the month after the requisite progress is achieved. Engineer-in-Charge shall arrange to have the bill verified by taking or causing to be taken, where necessary, the requisite measurements of the work. In the event of the failure of the contractor to submit the bills, Engineer-in-Charge shall prepare or cause to be prepared such bills in which event no claims whatsoever due to delays on payment including that of interest shall be payable to the contractor. Payment on account of amount admissible shall be made by the Engineer-in- Charge certifying the sum to which the contractor is considered entitled by way of interim payment at such rates as decided by the Engineer-in-Charge. The amount admissible shall be paid by 15th working day after the day of presentation of the bill by the Contractor to the Engineer-in-Charge or his Asst. Engineer together with the account of the material issued by the Owner, or dismantled materials, if any.

All such interim payments shall be regarded as payment by way of advances against final payment only and shall not preclude the requiring of bad, unsound

and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-Charge relating to the work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is/are in accordance with the contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-Charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract.

Pending consideration of extension of date of completion, interim payments shall continue to be made as herein provided without prejudice to the right of the Owner to take action under the terms of this contract for delay in the completion of work, if the extension of date of completion is not granted by the competent authority.

The Owner in his sole discretion on the basis of a certificate from the Engineer in Charge to the effect that the work has been completed up to the level in question make interim advance payments without detailed measurements against work done up to 75% of the assessed value. The advance payments so allowed shall be adjusted in the subsequent interim bill by checking the detailed measurement sheets to be submitted by the contractor within 10 days of the interim payment. In case of delay in submission of bill by the contractor a simple interest @ 10% per annum shall be paid to the Government from the date of expiry of prescribed time limit which will be compounded on yearly basis.

CLAUSE 7A

No running account bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare board, whatever applicable are submitted by the contractor to the engineer-in-Charge.

CLAUSE. 8Completion Certificate and completion plans

Within ten days of the completion of the work, the contractor shall give notice of such completion to the Engineer-in-Charge and within thirty days of the receipt of such notice, the Engineer-in-Charge shall inspect the work and if there is no defect in the work, shall furnish the contractor with a final certificate of completion, otherwise a provisional certificate of physical completion indicating defects (a) to be rectified by the contractor and/or (b) for which payment will be made at reduced rates, shall be issued. But no final certificate of completion shall be issued, nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work shall be executed all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements required for his/their work people on the site in connection with the execution of the works as shall have been erected or constructed by the contractor(s) and cleaned off the dirt from all wood work, doors, windows, walls, floor or other parts of the building, in, upon, or about which the work is to be executed or of which he

may have had possession for the purpose of the execution; thereof, and not until the work shall have been measured by the Engineer-in-Charge. If the contractor shall fail to comply with the requirements of this Clause as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangements as aforesaid and cleaning off dirt on or before the date fixed for the completion of work, the Engineer-in-Charge may at the expense of the contractor remove such scaffolding, surplus materials and rubbish etc., and dispose of the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall have no claim in respect of scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

CLAUSE. 8A Contractor to keep site clean

When any repair or maintenance of works are carried out, the splashes and droppings from white washing, colour washing, painting etc., on walls, floor, windows, etc. shall be removed and the surface cleaned simultaneously with the completion of these items of work in the individual rooms, quarters or premises etc. where the work is done: without waiting for the actual completion of all the other items of work in the contract. In case the contractor fails to comply with the requirements of this clause, the Engineer-in-Charge shall have the right to get this work done at the cost of the contractor or through any other agency. Before taking such action, the Engineer-in-Charge shall give ten days' notice in writing to the contractor.

CLAUSE 8B Completion plans to be submitted by the contractor

The contractor shall submit completion plan as required vide General Specifications for HVAC works 2018 as applicable within thirty days of the completion of the work In case, the contractor fails to submit the completion plan as aforesaid, he shall be liable to pay a sum equivalent to 2.5% of the value of the work subject to a ceiling of Rs.15, 000 (Rs. Fifteen thousand only) as may be fixed by the Superintending Engineer concerned and in this respect the decision of the Superintending Engineer shall be final and binding on the contractor.

The contractor shall submit completion plan for water, sewerage and drainage line plan within Thirty days of the completion of the work.

In case, the contractor fails to submit the completion plan as aforesaid, the department will get it done through other agency at his cost and actual expenses incurred plus Rs. 15,000/- For the same shall be recovered from the contractor.

CLAUSE.9 Payment of final bill

The final bill shall be submitted by the contractor in the same manner as specified in interim bills within three months of physical completion of the work or within one month of the date of the final certificate of completion furnished by the Engineer-in-Charge whichever is earlier. No further claims shall be made by the contractor after submission of the final bill and these shall be deemed to have been waived and extinguished. Payments of those items of the bill in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by Engineer-in-Charge, will, as far as possible be made within the period of 6 (six) months, the period being reckoned from the date of receipt of the bill by the Engineer-in-Charge or his authorized representative, complete with account of materials issued by the Owner and the dismantled materials.

In case of delay in payment of final bills after prescribed time limit, a simple interest @ 7.5% per annum shall be paid to the contractor from the date of expiry of prescribed time limit which will be compounded on yearly basis, provided the final bill submitted by the contractor found to be in order.

CLAUSE. 9A Payment of Contractor's Bills to Banks

Payments due to the contractor may, if so desired by him, be made to his bank, registered financial, co-operative or thrift societies or recognized financial institutions instead of direct to him provided that the contractor furnishes to the Engineer-in-Charge (1) an authorization in the form of a legally valid document such as a power of attorney conferring authority on the bank; registered financial, co-operative or thrift societies or recognized financial institutions to receive payments and (2) his own acceptance of the correctness of the amount made out as being due to him by the Owner or his signature on the bill or other claim preferred against the Owner before settlement by the Engineer-in-Charge of the account or claim by payment to the bank, registered financial, co-operative or thrift societies or recognized financial institutions. While the receipt given by such banks; registered financial, co-operative or thrift societies or recognized financial institutions shall constitute a full and sufficient discharge for the payment, the contractor shall whenever possible present his bills duly receipted and discharged through his bank, registered financial, co-operative or thrift societies or recognized financial institutions.

Nothing herein contained shall operate to create in favour of the bank; registered financial, co-operative or thrift societies or recognized financial institutions any rights or equities visa-vis the Owner.

CLAUSE. 10. Materials supplied by the Owner

No material is planned to be procured by the Owner for supply to the contractor however in case of any subsequent mutual understanding entered into between the Owner and the Contractor, it is decided that certain materials are to be supplied by the Owner to the Contractor in to the best interest of the Project, the modalities for such Owner supplied material shall be as per mutual understanding between the Owner and the Contractor.

CLAUSE. 10A Materials to be provided by the Contractor

The contractor shall, at his own expense, provide all materials, required for the works other than those, which are stipulated, to be supplied by the Owner.

The contractor shall, at his own expense and without delay, submit to the Engineer-in- Charge samples of materials to be used on the work and shall get these approved in advance from PMC & Architect Consultants. All such materials to be provided by the Contractor shall be in conformity with the specifications laid down or referred to in the contract. The contractor shall, if requested by the Engineer-in-Charge furnish proof, to the satisfaction of the Engineer-in-Charge/ that the materials so comply. The Engineer-in-Charge shall within thirty days of submission of samples or within such further period as he may require intimate to the Contractor in writing whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the Engineer-in-Charge for his approval, fresh samples complying with the specifications laid down in the contract. When materials are required to be tested in accordance with specifications, approval of the Engineer-in-Charge shall be issued after the test results are received.

The Contractor shall at his risk and cost submit the samples of materials to be tested or analysed and shall not make use of or incorporate in the work any materials represented by the samples until the required tests or analysis have been made and materials finally accepted by the Engineer-in-Charge. The Contractor shall not be eligible for any claim or compensation either arising out of any delay in the work or due to any corrective measures required to be taken on account of and as a result of testing of materials.

The contractor shall, at his risk and cost, make all arrangements and shall provide all facilities as the Engineer-in-Charge may require for collecting, and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Engineer-in-Charge and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications. The Engineer in- Charge or his authorized representative shall at all times have access to the works and to all workshops and places where work is

being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the contractor shall afford every facility and every assistance in obtaining the right to such access.

The Engineer-in-Charge shall have full powers to require the removal from the premises of all materials which in his opinion are not in accordance with the specifications and in case of default, the Engineer-in-Charge shall be at liberty to employ at the expense of the contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Engineer-in-Charge shall also have full powers to require other proper materials to be substituted thereof and in case of default, the Engineer-in-Charge may cause the same to be supplied and all costs which may attend such removal and substitution shall be borne by the Contractor.

The contractor shall at his own expense, provide a material-testing lab at the site for conducting routine field tests. The lab shall be equipped at least with the testing equipment as specified.

CLAUSE. 10BSecured Advance on Non-perishable Materials

No Secured advance shall be paid. Contractor shall be paid as per payment terms.

Mobilization Advance

No Mobilisation advance shall be paid.

CLAUSE. 10C. Payment on Account of Increase in Price/Wages due to statutory Order(s)

DELETED

CLAUSE. 10CAPayment due to variation in prices of materials after receipt of tender

No variation in Prices/ Rates of any item of works shall be payable and the prices shall remain firm during the period of the contract and also fir the extended period of contract. Therefore no claims on this account shall be acceptable.

CLAUSE.10CC.Payment due to Increase/Decrease in Prices/Wages (excluding materials covered under clause 10CA after Receipt of Tender for Works

No variation in Prices/ Wages shall be payable and the prices shall remain firm during the period of the contract and also fir the extended period of contract. Therefore no claims on this account shall be acceptable.

CLAUSE.10D Dismantled Material Owner's Property

The contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work, etc. as Owner's property and such materials shall be disposed of to the best advantage of Owner according to the instructions in writing issued by the Engineer-in-Charge.

CLAUSE. 11 Work to be executed in Accordance with Specifications, Drawings, and Orders etc.

The contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work signed by Engineer-In-Charge and the contractor shall be furnished free of charge one copy of the contract documents together with specifications, designs, drawings and instructions as are not included in the standard specifications of Central Public Works Department specified in Schedule 'F' or in any Bureau of Indian Standard or any other, published standard or code or, Schedule of Rates or any other printed publication referred to elsewhere in the contract.

The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The Contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction.

CLAUSE. 12Deviations / Variations Extent and Pricing

The Owner shall have power

(I) To make alteration in, omissions from, additions to or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the Work, and

(II) To omit a part of the Work(s) in case of non-availability of a portion of the site or for any reasons, and Contractor shall be bound to carry out the Works in accordance with any instructions given to him in writing signed by the Engineer-in-Charge and such alterations omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted Work which the Contractor may be directed to do in

the manner specified above as part of the Works, shall be carried out by the Contractor on the same conditions in all respects including price on which he agreed to do the main Work except as hereafter provided.

12.1. The time for completion of the Works shall in the event of any deviations resulting in additional cost over the Tendered Value sum being ordered, be extended, if requested by the Contractor, as follows:

(I) in the proportion which the additional cost of the altered, additional or substituted Work, bears to the original Tendered Value plus

(II) 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge.

(III) Any Further deviation beyond this limit upto 1.5 times of the tendered amount shall be approved by Chief Engineer with recorded reason and in exceptional case, ADG shall have full power to approved the deviation beyond 1.5 times of tendered amount with recorded reason and take suitable corrective action.

12.2Deviation, Extra items and Pricing

In the case of extra items (items that are completely new, and are in addition to the items contained in the contract) the contractor may within fifteen days of receipt of order or occurrence of the item(s) claim rates, supported by proper analysis**which shall include invoices, vouchers etc and Manufacturer's specifications**, for the work **failing which the rate approved later by the Engineer-in-Charge shall be binding** and the engineer-in-charge shall within prescribed time limit of one month of the receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.

Deviation, Substituted items, Pricing

In the case of substituted items (items that are taken up with partial substitution or in lieu of items of work in the contract), the rate for the agreement item (to be substituted) and substituted item shall also be determined in the manner as mentioned in the following para.

(a) If the market rate for the substituted item so determined is more than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so increased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).

(b) If the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).

Deviation, Deviated Quantities, Pricing

In the case of contract items, substituted items, contract cum substituted items, which exceed the limits laid down in Schedule-F, the contractor may within fifteen days of receipt of order or occurrence of the excess, claim revision of the rates, supported by proper analysis for the work in excess of the above mentioned limits, provided that if the rates so claimed are in excess of the rates specified in the schedule of quantities, the Engineer-in-Charge shall within prescribed time limit of receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.

12.3 The provisions of the preceding paragraph shall also apply to the decrease in the rates of items for the work in excess of the limits laid down in Schedule-F, and the Engineer in-Charge shall after giving notice to the contractor within one month of occurrence of the excess and after taking into consideration any reply received from him within fifteen days of the receipt of the notice, revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates.

12.4 . The contractor shall send to the Engineer-in-Charge once every three months, an up to date account giving complete details of all claims for additional payments to which the contractor may consider himself entitled and of all additional work ordered by the Engineer-in-Charge which he has executed during the preceding quarter failing which the contractor shall be deemed to have waived his right. However, the Owner may authorize consideration of such claims on merits.

12.5 For the purpose of operation of Schedule-F the following works shall be treated as works relating to work up to plinth level.

(i) For buildings and basements: All works up to respective plinth level or up tofloor1level.
(ii) For abutments, piers and well staining: all works up to1.2m above the bed level:
(iii) For retaining wall, wing walls, compound walls, chimneys, overhead reservoirs/ tanks and other elevated structures: All works up to1.2meter above the formation ground level
(iv) For reservoirs/tanks (other than overhead reservoirs/tanks): All works up to1.2meters above the formation ground level:
v) For basement: All works up to 1.2 m above ground level or up to floor 1 level whichever is lower.
(vi) For Roads, all items of Excavation and filling including treatment of Sub base.

12.6 Any operation incidental to or necessarily has to be in contemplation of bidder while filling tender, or necessary for proper execution of the item included in the Schedule of quantities or in the schedule of rates mentioned above, whether or not, specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the bidder or the rate given in the said schedule of rates, as the case may be. Nothing extra shall be admissible for such operations.

CLAUSE.13.Foreclosure of Contract due to Abandonment or Reduction in Scope of Work(s).

If at any time after acceptance of the **tender or during the progress of work, the purpose or object for which the work is being done changes due to any supervening cause and as a result of which the work has to be abandoned or reduced in scope**, the Engineer in-Charge shall give notice in writing to that effect to the Contractor **stating the decision as well as the cause for such decision** and the Contractor shall act accordingly in the matter. The Contractor shall have no claim to any payment of compensation or otherwise whatsoever on account of any profit or advantage which he might have derived from the execution of the Works in full but which he did not derive in consequence of the foreclosure of the whole or part of the Works.

The Contractor shall be paid at contract rates for the full amount for Work(s) executed at site and, in addition, a reasonable amount as certified by the Engineer-in-Charge for the items hereunder mentioned which could not be utilized on the Work to the full extent in view of the foreclosures:

i) Any expenditure incurred on preliminary site work, e.g. temporary access roads, temporary labour huts, staff quarters and site office; storage accommodation and water storage tanks.

ii) The Owner shall have the option to take over Contractor's materials or any part thereof either brought to site or of which the Contractor is legally bound to accept delivery from suppliers (for incorporation in or incidental to the work) provided, however, the Owner shall be bound to take over the materials or such portions thereof as the Contractor does not desire to retain. For materials taken over or to be taken over by the Owner, the cost of such materials as detailed by Engineer-in-Charge shall be paid. The cost shall, however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the Contractor.

ii) If any materials supplied by Owner are rendered surplus, the same except normal wastage shall be returned by the contractor to Owner at rates not exceeding those at which these were originally issued, less allowance for any deterioration or damage which may have been caused whilst the materials were in the custody of the contractor. In addition, cost of transporting such materials from site to Owner stores, if so required by Owner, shall be paid.

Reasonable compensation for transfer of T & P from site to contractor's permanent stores or to his other works, whichever is less. If T & P are not transported to either of the said places, no cost of transportation shall be payable.

iii) Reasonable compensation for repatriation of contractor's site staff and imported labour to the extent necessary.

The contractor shall, if required by the Engineer- in-Charge, furnish to him, books of account, wage books, time sheets and other relevant documents and evidence as may be necessary to enable him to certify the reasonable amount payable under this condition.

The reasonable amount of items on (i), (iv) and (v) above shall not be in excess of 2% of the cost of the work remaining incomplete on the date of closure, i.e. total stipulated cost of the work as per accepted tender less the cost of work actually executed under the contract and less the cost of contractor's materials at site taken over by the Government as per item (ii) above. Provided always that against any payments due to the contractor on this account or otherwise, the Engineer-in-Charge shall be entitled to recover or be credited with any outstanding balances due from the contractor for advance paid in respect of any tool, plants and materials and any other sums which at the date of termination were recoverable by the Government from the contractor under the terms of the contract.

A compensation for such eventuality, on account of damages etc. shall be payable @ 0.5% of cost of work remaining incomplete on date of closure i.e. total stipulated cost of the work less the cost of work actually executed under the contract shall be payable.

CLAUSE14. Carrying out part work at risk & cost of contractor.

If Contractor

- At any time makes default during currency of the Work or does not execute any part of the Work with the due diligence and continues to do so after a notice in writing of 7 days from the Owner/Engineer-in-Charge; or
- Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it or take effective steps to remedy it within 7 days even after a notice in writing is given in that behalf by the Owner/Engineer-in-Charge; or
- Fails to complete the Work(s) or items of Work, with individual dates of completion, on or before the date(s) so determined and does not complete them within the period specified in the notice given in writing in that behalf by the Engineer-in-Charge.

The Engineer- in-Charge without invoking action under clause 3 (when Contract can be determined) may, without prejudice to any other right or remedy against

the contractor which have either accrued or accrue thereafter to Owner, by a notice in writing to take the part work / part incomplete work of any item(s) out of his hands and shall have powers to:

a) Take possession of the site and any materials, constructional plant, implements, stores, etc. thereon; and/or

b) Carry out the part work/ part incomplete Work of any item(s) by any means at the risk and cost of the Contractor.

The Engineer-in-Charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work/ part incomplete work of any item(s) taken out of his hands and execute at the risk and cost of the contractor, the liability of contractor on account of loss or damage suffered by Owner because of action under this clause shall not exceed 10% (Ten per cent) of the tendered value of the work.

In determining the amount, credit shall be given to the contractor with the value of work done in all respect in the same manner and at the same rate as if it had been carried out by the original contractor under the terms of his contract, the value of contractor's materials taken over and incorporated in the work and use of plant and machinery belonging to the contractor. The certificate of the Engineer-in-Charge as to the value of work done shall be final and conclusive against the contractor provided always that action under this clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the Authority are less than the amount payable to the contractor at his agreement rates, the difference shall not be payable to the contractor.

Any excess expenditure incurred or to be incurred by Owner in completing the part work/ part incomplete work of any item(s) or the excess loss of damages suffered or may be suffered by Owner as aforesaid after allowing such credit shall without prejudice to any other right or legal remedy available to Owner as per agreement be recovered from any money due to the contractor on any account, and if such money is insufficient, the contractor shall be called upon in writing and shall be liable to pay the same within 30 days.

If the contractor fails to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge shall have the right to sell any or all of the contractors' unused materials, constructional plant, implements, temporary building at site etc. and adjust the proceeds of sale thereof towards the dues recoverable from the contractor under the contract and if thereafter there remains any balance outstanding, it shall be recovered in accordance with the provisions of the contract.

In the event of above course being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advance on any account or with a view to the execution of the work or the performance of the contract.

CLAUSE.15.Suspension of Work

(i) The Contractor shall, on receipt of the order in writing of the Engineer-in-Charge (whose decision shall be final and binding on the Contractor) suspend the progress of the Works or any part thereof for such time and in such manner as the Engineer-in-Charge may consider necessary so as not to cause any damage, or injury to the Work already completed or endanger the safety thereof for any of the following reason:

- On account of any default on the part of the Contractor or;
- For proper execution of the Works or part thereof for reasons other than the default of the Contractor; or
- For safety of the Works or part thereof.

  The Contractor shall, during such suspension, properly protect and secure the Work(s) to the extent necessary and carry out the instructions given in that behalf by the Engineer-in-Charge.

(ii) If the suspension is ordered for reasons as per (b) and (c) of para (i) above;

- The Contractor shall be entitled to an extension of time equal to the period of every such suspension plus 25% for completion of the item or group of items of Work for which a separate period of completion is specified in the contract and of which the suspended Work forms a part, and;
- If the total period of all such suspensions in respect of an item or group of items or Work for- which a separate period of completion is specified in the contract exceeds thirty days, the Contractor shall, in addition to the compensation payable under the Contract be entitled to such compensation as the Engineer-in-Charge may consider reasonable in respect of salaries and/or wages paid by the Contractor to his employees and labour at site, remaining idle during the period of suspension by adding thereto 2% (to such compensation payable) to cover indirect expenses of the Contractor; provided the Contractor submits his claim supported by details to the Engineer-in-Charge within fifteen days of the expiry of the period of 30 days.
- If the Works or part thereof is suspended on the orders of the Engineer-in-Charge for more than three months at a time, except when suspension is ordered for reason as per para (i) (a) above, the Contractor may after receipt of such order serve a written notice on the Engineer-in-Charge requiring permission within fifteen days from receipt by the Engineer-in-Charge of the said notice, to proceed with the Work or part thereof in regard to which progress has been suspended and if such permission is not granted within that time, the Contractor, if he intends to treat the suspension, where it affects only a part of the Works as an omission of such part by the Owner or where it affects whole of the Works, as an abandonment of the Works by the Owner, shall within ten days of expiry of such

period of 15 days give notice in writing of his intention to the Engineer-in-Charge. In the event of the Contractor treating the suspension as an abandonment of the contract by the Owner, he shall have no claim to payment of any compensation on account of any profit or advantage which he might have derived from the execution of Work in full, but which he could not derive in consequence of the abandonment. He shall, however, be entitled to such compensation, as the Engineer-in-charge may consider reasonable in respect of salaries and/or wages paid to his employees and labour at site remaining idle in consequence adding to the total thereof 2% to cover indirect expenses of the Contractor provided the Contractor submits his claim supported by details to the Engineer-in-Charge within 15 days of the expiry of the period of 4 months.

CLAUSE.16.Action in case work not done as per Specifications

All Works under or in course of execution or executed in pursuance of the Contract shall at all times be open and accessible to the inspection and supervision of the Engineer-in-charge, his authorized subordinates in charge of the Work and all superior officers, officer of Quality assurance unit of the Owner or any organization engaged by the Owner for quality assurance and of the Chief Technical Examiner's Office, and the Contractor shall, at all times during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the Contractor either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the Contractor himself.

If it shall appear to the Engineer-In-Charge or his authorized subordinates in charge of the Work or to the Chief Engineer in charge of Quality Assurance or his subordinate officers or the officers of the organization engaged by the Owner for quality assurance or to the Chief Technical Examiner or his subordinate officers, that any Work has been executed with unsound, imperfect, or unskilful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a qualityinferior to that contracted or otherwise not in accordance with the Contract, the Contractor shall, on demand in writing, which shall be made within twelve months of the completion of the Work from the Engineer-in-Charge specifying the work, materials or articles complained of, notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the Work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of failing to do so within a period specified by the Engineer-in- charge in his demand aforesaid, then the Contractor shall be liable to pay compensation at the same rate as under clause 2 of the Contract (for non-completion of the work in time) for this default.

In such case the Engineer-in-Charge may not accept the item of Work at the rates applicable under the contract, but may accept such items at reduced rates as the Authority specified in Schedule F may consider reasonable during the preparation of on account bills or final bill, if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or remove and re-executed at the risk and cost of the contractor. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same will be final and binding on the contractor.

CLAUSE. 17. Contractor Liable for Damages/ Defects during defects liability period

If the Contractor or his working people or servants shall break, deface injure or destroy any part of building/ installation/ equipment in which they may be working, or any building road, road curb, fence, enclosure, water pipe, cables, drains, electric or telephone post or wires, trees, grass or grassland, or cultivated ground contiguous to the premises on which the Work or any part is being executed, or if any damage shall happen to the Work while in progress, from any cause whatsoever, or if any defect, shrinkage or other faults appear in the Work within 12 (Twelve) months after a certificate final or otherwise of its completion shall have been given by the Engineer-in-charge as aforesaid arising out of defect or improper materials or workmanship, the Contractor shall upon receipt of a notice in writing on that behalf by the Engineer-in-Charge make the same good at his own expense or In default of the Contractor to make such payments, the Engineer-in Charge shall cause the same to be made good by other workmen and deduct the expense incurred from any sums that may be due or at any time thereafter may become due to the Contractor or from his security deposit or the proceeds of sale thereof or of a sufficient portion thereof. The security deposit of the contractor shall not be refunded before the expiry of twelve months after the issue of the certificate final or otherwise, of completion of work, or till the final bill has been prepared and passed whichever is later. Provided that in the case of road work, if in the opinion of the Engineer-in-Charge, half of the security deposit is sufficient, to meet all liabilities of the contractor under this contract, half of the security deposit will be refundable after six months and the remaining half after twelve months of the issue of the said certificate of completion or till the final bill has been prepared and passed whichever is later.

In case of Maintenance and Operation works of E&M services, the security deposit deducted from contractors shall be refunded within one month from the date of final payment or within one month from the date of completion of the maintenance contract whichever is earlier.

CLAUSE.18.Contractor to provide tools & plants etc.

The contractor shall provide at his own cost all materials (except such special materials, if any, as may in accordance with the contract be supplied from the Owner's store), machinery, tools & plants as specified in Schedule-F. In addition to this, appliances, implements, other plants, ladders, cordage, tackle, scaffolding and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specifications or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials, necessary for the purpose of setting out works, and counting, weighing and assisting the measurement for examination at any time and from time to time of the work or materials.

Failing his so doing, the same may be provided by the Engineer-in-Charge at the expense of the contractor and the expenses may be deducted, from any money due to the contractor, under this contract or otherwise and/or from his security deposit or the proceeds of sale thereof, or of a sufficient portions thereof.

CLAUSE.18A.Recovery of Compensation paid to Workmen

In every case in which by virtue of the provisions sub-section (1) of Section 12, of the Workmen's Compensation Act, 1923, Owner is obliged to pay compensation to workman employed by the contractor, in execution of the works, Owner will recover from the contractor, the amount of the compensation so paid; and, without prejudice to the rights of the Owner under sub-section (2) of Section 12, of the said Act, Owner shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by Owner to the contractor whether under this contract or otherwise. Owner shall not be bound to contest any claim made against it under sub-section (1) of Section 12, of the said Act, except on the written request of the contractor and upon his giving to Owner full security for all costs for which Owner might become liable in consequence of contesting such claim.

CLAUSE.18B.Ensuring Payment and Amenities to Workers if Contractor fails

ln every case in which by virtue of the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and of the Contract Labour (Regulation and

Abolition) Central Rules, 1971, Owner is obliged to pay any amounts of wages to a workman employed by the contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the rules under Clause 19H or under the C.P.W.D. Contractor's Labour Regulations, or under the Rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by C.P.W.D. Contractors, Owner will recover from the contractor, the amount of wages so paid or the amount of expenditure so incurred; and without prejudice to the rights of the Owner under sub-section(2) of Section 20, and sub-section (4) of Section 21, of the Contract Labour (Regulation and Abolition) Act, 1970, Owner shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by Owner to the contractor whether under this contract or otherwise. Owner shall not be bound to contest any claim made against it under sub-section (1) of Section 20, sub-section (4) of Section 21, of the said Act, except on the written request of the contractor and upon his giving to the Owner full security for all costs for which Owner might become liable in contesting such claim.

CLAUSE.19 .Labour Laws to be complied with, by the Contractor

The contractor shall obtain a valid license under the Contract Labour (Regulation & Abolition) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, before the commencement of the work, and continue to have a valid license until the completion of the work. The contractor shall also comply with provision of the interstate migrant workmen (Regulation of employment & condition of services) Act 1979. The contractor shall also abide by the provisions of the Child Labour (Prohibition and Regulation) Act, 1986.

The contractor shall also comply with the provisions of the building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996.

Any failure to fulfil these requirements shall attract the penal provisions of this contract arising out of the resultant non-execution of the work.

CLAUSE 19A Child Labour:

No labour below the age of fourteen years shall be employed on the work.

CLAUSE 19B Payment of wages:

(i) The contractor shall pay to labour employed by him either directly or through subcontractors, wages not less than fair wages as defined in the C.P.W.D. Contractor's Labour Regulations or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.

(ii) The contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his sub-contractors in connection with the said work, as if the labour had been immediately employed by him.

(iii) In respect of all labour directly or indirectly employed in the works for performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with the Central Public Works Department contractor's Labour Regulations made by Government from time to time in regard to payment of wages, wage period, deductions from wages recovery of wages not paid and deductions unauthorized made, maintenance of wage books or wage slips, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.

(iv) (a) The Engineer-in-Charge concerned shall have the right to deduct from the moneys due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfilment of the conditions of the contract for the benefit of the workers, non-payment of wages or of deductions made from his or their wages which are not justified by their terms of the contract or non-observance of the Regulations.

(b) Under the provision of Minimum Wages (Central) Rules, 1950, the contractor is bound to allow to the labours directly or indirectly employed in the works one day rest for 6 days continuous work and pay wages at the same rate as for duty. In the event of default, the Engineer-in-Charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holidays to any labours and pay the same to the persons entitled thereto from any money due to the contractor by the Engineer-in-Charge concerned.

(v) The contractor shall comply with all the Central, State Laws & other statutory and regulatory provisions and Rules including but not limited to the provisions of the Payment of Wages Act, 1936, Minimum Wages Act 1948, Minimum Wages (Central) Rules, 1950, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits Act, 1961, Child Labour (Prohibition and Regulation) Act, 1986 and the Contractor's Labour (Regulation and Abolition) Act 1970, or the modifications thereof or any other laws relating thereto and the rules made there under from time to time.

(vi) The contractor shall indemnify and keep indemnified Owner against payments to be made under and for the observance of the laws aforesaid and the C.P.W.D. Contractor's Labour Regulations without prejudice to his right to claim indemnity from his sub-contractors.

(vii) The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.

(viii) Whatever is the minimum wage for the time being, or if the wage payable is higher than such wage, such wage shall be paid by the contractor to the workmen directly without the intervention of Jamadar (head of the labour Gang) and that Jamadar shall not be entitled to deduct or recover any amount from the minimum wage payable to the workmen as and by way of commission or otherwise.

(ix) The contractor shall ensure that no amount by way of commission or otherwise is deducted or recovered by the Jamadar from the wage of workmen.

Clause 19C

In respect of all labour directly or indirectly employed in the work for the performance of the contractor's part of this contract, the contractor shall at his own expense arrange for the safety provisions as per C.P.W.D Safety Code framed from time to time and shall at his own expense provide for all facilities in connection therewith. In case the contractor fails to make arrangement and provide necessary facilities as aforesaid, he shall be liable to pay a penalty of Rs.200/- for each default and in addition, the Engineer-in- Charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the contractor.

CLAUSE 19D

The contractor shall submit by 4th and 19th of every month, to the Engineer-in-Charge, a true statement showing in respect of the second half of the preceding month and the first half of the current month respectively:-

1) The number of laborers employed by him on the work,
2) Their working hours,
3) The wages paid to them,
4) The accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them, and
5) The number of female workers who have been allowed maternity benefit according to **"Leave and pay during leave Clause19F"** and the amount paid to them.

Failing which the contractor shall be liable to pay to Owner, a sum not exceeding Rs.200/- for each default or materially incorrect statement. The decision of the Engineer in Charge shall be final in deducting from any bill due to the contractor; the amount levied as fine and is binding on the contractor.

CLAUSE 19E

In respect of all labour directly or indirectly employed in the works for the performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with all the rules framed by Governmentfrom time to time for the protection of health and sanitary arrangements for workers employed by the Owner and its contractors.

CLAUSE 19F Leave and pay during leave:

Leave and pay during leave shall be regulated as follows:

1. Leave:

(i) in the case of delivery - maternity leave not exceeding 8 weeks, 4 weeks up to and including the day of delivery and 4 weeks following that day,

(ii) in the case of miscarriage – up to 3 weeks from the date of miscarriage.

2. Pay:

(i) in the case of delivery - leave pay during maternity leave will be at the rate of the women's average daily earnings, calculated on total wages earned on the days when full time work was done during a period of three months immediately preceding the date on which she gives notice that she expects to be confined or at the rate of Rupee one only a day whichever is greater.

(ii) in the case of miscarriage - leave pay at the rate of average daily earning calculated on the total wages earned on the days when full time work was done during a period of three months immediately preceding the date of such miscarriage.

3. Conditions for the grant of Maternity Leave:

No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period of not less than six months immediately preceding the date on which she proceeds on leave.

4. The contractor shall maintain a register of Maternity (Benefit) in the Prescribed Form as shown in appendix -I and II, and the same shall be kept at the place of work.

CLAUSE 19G

In the event of the contractor(s) committing a default or breach of any of the provisions of the Central Public Works Department, Contractor's Labour Regulations and Model Rules for the protection of health and sanitary arrangements for the workers as amended from time to time or furnishing any information or submitting or filing any statement under the provisions of the above Regulations and' Rules which is materially incorrect, he/they shall, without prejudice to any other liability, pay to the Owner a sum not exceeding Rs.200/- for every default, breach or furnishing, making, submitting, filing such materially incorrect statements and in the event of the contractor(s) defaulting continuously in this respect, the penalty may be enhanced to Rs.200/- per day for each day of default subject to a maximum of 5 per cent of the estimated cost of the work put to tender. The decision of the Engineer-in-Charge shall be final and binding on the parties.

Should it appear to the Engineer-in-Charge that the contractor(s) is/are not properly observing and complying with the provisions of the C.P.W.D. Contractor's Labour Regulations and Model Rules and the provisions of the Contract Labour (Regulation and Abolition) Act 1970, and the Contract Labour (R& A) Central Rules 1971, for the protection of health and sanitary arrangements for work-people employed by the contractor(s) (hereinafter referred as "the said Rules") the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said Rules be complied with and the amenities prescribed therein be provided to the work-people within a reasonable time to be specified in the notice. If the contractor(s) shall fail within the period specified in the notice to comply with and/observe the said Rules and to provide the amenities to the work-

people as aforesaid, the Engineer-in-Charge shall have the power to provide the amenities hereinbefore mentioned at the cost of the contractor(s). The contractor(s) shall erect, make and maintain at his/their own expense and to approved standards all necessary huts and sanitary arrangements required for his/their work-people on the site in connection with the execution of the works, and if the same shall not have been erected or constructed, according to approved standards, the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said huts and sanitary arrangements be remodelled and/or reconstructed according to approved standards, and if the contractor(s) shall fail to remodel or reconstruct such huts and sanitary arrangements according to approved standards within the period specified in the notice, the Engineer-in-Charge shall have the power to remodel or reconstruct such huts and sanitary arrangements according to approved standards at the cost of the contractor(s).

CLAUSE 19 H

The contractor(s) shall at his/their own cost provide his/their labour with a sufficient number of huts (hereinafter referred to as the camp) of the following specifications on a suitable plot of land to be approved by the Engineer-in-Charge.

(i) (a) The minimum height of each hut at the eaves level shall be 2.10m (7 ft.) and the floor area to be provided will be at the rate of 2.7 sqm. (30 sq. ft.) For each member of the worker's family staying with the labourer.

(b) The contractor(s) shall in addition construct suitable cooking places having a minimum area of 1.80m x 1.50m (6'x5') adjacent to the hut for each family.

(c) The contractor(s) shall also construct temporary latrines and urinals for the use of the labourers each on the scale of not less than four per each one hundred of the total strength, separate latrines and urinals being provided for women.

(d) The contractor(s) shall construct sufficient number of bathing and washing places, one unit for every 25 persons residing in the camp. These bathing and washing places shall be suitably screened.

(ii) (a) all the huts shall have walls of sun-dried or burnt-bricks laid in mud mortar or other suitable local materials as may be approved by the Engineer-in-Charge. In case of sun-dried bricks, the walls should be plastered with mud gobri on both sides. The floor may be kutcha but plastered with mud gobri and shall be at least 15 cm (6") above the surrounding ground. The roofs shall be laid with thatch or any other materials as may be approved by the Engineer-in-Charge and the contractor shall ensure that throughout the period of their occupation, the roofs remain watertight.

(b) The contractor(s) shall provide each hut with proper ventilation.

(c) All doors, windows, and ventilators shall be provided with suitable leaves for security purposes.

(d) There shall be kept an open space of at least 7.2m (8 yards) between the rows of huts which may be reduced to 6m (20 ft.) according to the availability of site with the approval of the Engineer-in-Charge. Back to back construction will be allowed.

(iii)Water Supply - The contractor(s) shall provide adequate supply of water for the use of labourers. The provisions shall not be less than two gallons of pure and wholesome water per head per day for drinking purposes and three gallons of clean water per head per day for bathing and washing purposes. Where piped water supply is available, supply shall be at stand posts and where the supply is from wells or river, tanks that may be of metal or masonry, shall be provided. The contractor(s) shall also at his/ their own cost make arrangements for laying pipe lines for water supply to his/ their labour camp from the existing mains wherever available, and shall pay all fees and charges therefore.

(iv) The site selected for the camp shall be high ground, removed from jungle.

(v)Disposal of Excreta - The contractor(s) shall make necessary arrangements for the disposal of excreta from the latrines by trenching or incineration, which shall be

According to the requirements lay down by the Local Health Authorities. If trenching or incineration is not allowed, the contractor(s) shall make arrangements for the removal of the excreta through the Municipal Committee/authority and inform it about the number of labourers employed so that arrangements may be made by such Committee/authority for the removal of the excreta. All charges on this account shall be borne by the contractor and paid direct by him to the Municipality/authority. The contractor shall provide one sweeper for every eight seats in case of dry system.

(**vi) Drainage -** The contractor(s) shall provide efficient arrangements for draining away sullage water so as to keep the camp neat and tidy. The contractor may provide package type STP plant of required capacity approved by engineer in change for treating the sewage water and supply to the Owner free of cost for the use of gardening. The contractor will carry out maintenance of STP at his own cost. Contractor will keep the camp neat and tidy.

(vii) The contractor(s) shall make necessary arrangements for keeping the camp area sufficiently lighted to avoid accidents to the workers.

(Viii) Sanitation - The contractor(s) shall make arrangements for conservancy and sanitation in the labour camps according to the rules of the Local Public Health and Medical Authorities.

CLAUSE 19I

The Engineer-in-Charge may require the contractor to dismiss or remove from the site of the work any person or persons in the contractors' employ upon the work who may be incompetent or misconduct himself and the contractor shall forthwith comply with such requirements. In respect of maintenance/repair or renovation works etc. where the labour have an easy access to the individual houses, the

contractor shall issue identity cards to the labourers, whether temporary or permanent and he shall be responsible for any untoward action on the part of such labour. Engineer-in-charge will display a list of contractors working in the colony/Blocks on the notice board in the colony and also at the service center, to apprise the residents about the same.

CLAUSE 19J Occupation of Buildings by Unauthorized persons

It shall be the responsibility of the contractor to see that the building under construction is not occupied by anybody unauthorized during construction, and is handed over to the Engineer-in-Charge with vacant possession of complete building. If such building though completed is occupied illegally, then the Engineer-in-Charge shall have the option to refuse to accept the said building/buildings in that position. Any delay in acceptance on this account will be treated as the delay in completion and for such delay, a levy up to 5% of tendered value of work may be imposed by the Engineer-in-charge whose decision shall be final both with regard to the justification and quantum and be binding on the contractor.

However, the Engineer in charge through a notice may require the contractor to remove the illegal occupation any time on or before construction and delivery.

CLAUSE 19K Employment of skilled/semi-skilled workers

The contractor shall, at all stages of work, deploy skilled/semi-skilled tradesmen who are qualified and possess certificate in particular trade from CPWD Training Institute/Industrial Training Institute/National Institute of construction Management and Research (NICMAR)/ National Academy of Construction, CIDC or any similar reputed and recognized Institute managed/ certified by State/Central Government. The number of such qualified tradesmen shall not be less than 20% of total skilled/semi-skilled workers required in each trade at any stage of work. The contractor shall submit number of man days required in respect of each trade, it's scheduling and the list of qualified tradesmen along with requisite certificate from recognized Institute to Engineer in charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer in-Charge. Failure on the part of contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by contractor at the rate of Rs. 100 per such tradesman per day. Decision of Engineer-in-Charge as to whether particular tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding.

CLAUSE 19 L Contribution of EPF and ESI

The ESI and EPF contributions on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of employer paid by the contractor shall be reimbursed by the Engineer-in-charge to the contractor on actual basis. The applicable and eligible amount of EPF & ESI shall be reimbursed

preferably within 7 days but not later than 30 days of submission of documentary proof of payment provided same are in order.

CLAUSE. 20. Minimum Wages Act to be complied with

The contractor shall comply with all the provisions of the Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act, 1970, amended from time to time and rules framed there under and other labour laws affecting contract labour that may be brought into force from time to time.

CLAUSE. 21. Work not to be sublet. Action in case of insolvency

The contract shall not be assigned or sublet without the written approval of the Engineer-in-Charge. And if the contractor shall assign or sublet his contract, or attempt to do so, or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt to do so, or if any bribe, gratuity, gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the contractor, or any of his servants or agent to any officer or person in the employ of Owner or any of its formally appointed consultants in any way relating to their office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Engineer-in-Charge on behalf of the Owner (Nalanda University shall have power to adopt the course specified in Clause 3 (when contract can be determined) hereof in the interest of Owner and in the event of such course being adopted, the consequences specified in the said Clause 3 shall ensue.

CLAUSE. 22. Compensation

All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of Owner without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

CLAUSE. 23. Changes in firm's Constitution to be intimated

Where the contractor is a partnership firm, the previous approval in writing of the Engineer-in-Charge shall be obtained before any change is made in the constitution of the firm. Where the contractor is an individual or a Hindu undivided family business concern, such approval as aforesaid shall likewise be obtained before the contractor enters into any partnership agreement where under the

partnership firm would have the right to carry out the works hereby undertaken by the contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have been assigned in contravention of Clause 21 (Work not be sublet Action in case of insolvency) hereof and the same action may be taken, and the same consequences shall ensue as provided in the said Clause 21 (Work not be sublet. Action in case of insolvency)

CLAUSE. 24. Works to be executed under the Contract

All works to be executed under the contract shall be executed under the direction and subject to the approval in all respects of the Engineer-in-Charge who shall be entitled to direct at what point or points and in what manner they are to be commenced, and from time to time carried on.

CLAUSE.25 .Settlement of disputes & Arbitration

Except where otherwise provided in the contract, all questions and disputes relating to the meaning of the specifications, design, drawings and instructions herein before mentioned and as to the quality of workmanship or materials used on the Work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or in relation to the contract, design, drawings, specification, estimates, instructions, orders or these conditions or otherwise concerning the Work or the execution or failure to execute the same whether arising during the progress of the Work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter

(a) If the Contractor considers any Work demanded of him to be outside the requirements of the Contract, or disputes any drawings, record or decision given in writing by the Engineer-in-Charge or **if the Engineer in Charge considers any act or decision of the contract** on any matter in connection with or arising out of the contract or carrying out of the Work to be unacceptable he shall promptly within 15 days request the Owner in writing for written instruction or decision on such matters. Thereupon, the Owner shall give his written instructions or decisions within a period of one month from the receipt of the Contractor's letter.

If the Owner fails to give his instructions or decision in writing within the aforesaid period or if the Contractor is dissatisfied with the instructions or decision of the Owner, the Contractor may, within 15 days of the receipt of the Owner's decision, give notice to the Owner to appoint an Arbitrator failing which the said decision shall be final, binding and conclusive and not referable to adjudication by the Arbitrator. It is a term of contract that each party invoking arbitration must exhaust the aforesaid mechanism of settlement of claims/disputes prior to invoking arbitration.

(b) Disputes or difference shall be referred for adjudication through arbitration by a Tribunal having sole arbitrator where Tendered amount is Rs. 100 Crore or less. Where Tendered Value is more than Rs. 100 Crore,

Tribunal shall consist of three Arbitrators as above. The requirements of the Arbitration and Conciliation Act, 1996 (26 of 1996) and any further statutory modifications or re-enactment thereof and the rules made there under and for the time being in force shall be applicable.

It is a term of this Contract that the party invoking Arbitration shall give a list of disputes with amounts claimed there under in respect of each such dispute along with the notice for appointment of Arbitrator and giving reference to the rejection by the Owner of the appeal.

It is also a term of this contract that any member of the Arbitration Tribunal shall be a Graduate Engineer with experience in handling public works engineering contracts at a level not lower than Chief Engineer (Joint Secretary level of Government of India). This shall be treated as a mandatory qualification to be appointed as arbitrator.

Parties, before or at the time of appointment of Arbitral Tribunal may agree in writing for fast track arbitration as per the Arbitration and Conciliation Act, 1996 (26 of 1996) as amended in 2015.
Subject to provision in the Arbitration and Conciliation Act, 1996 (26 of 1996) as amended in 2015 whereby the counter claims if any can be directly filed before the arbitrator without any requirement of reference by the appointing authority, the arbitrator shall adjudicate on only such disputes as are referred to him by the appointing authority and give separate award against each dispute and claim referred to him and in all cases where the total amount of the claims by any party exceeds Rs. 1,00,000/-, the arbitrator shall give reasons for the award.

It is also a term of the contract that if any fees and other expenses are payable to the Arbitrator, these shall be paid **as per the act**.

The place of arbitration shall be as mentioned in Schedule F. In case there is no mention of place of arbitration, the arbitral tribunal shall determine the place of arbitration. The venue of the arbitration shall be such place as may be fixed by the Arbitral Tribunal in consultation with both the parties. Failing any such agreement, then the Arbitral Tribunal shall decide the venue.

CLAUSE. 26. Contractor to indemnify Owner against Patent Rights

The contractor shall fully indemnify and keep indemnified the Owner against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claims made under or action brought against Owner in respect of any such matters as aforesaid, the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expense, to settle any dispute or

to conduct any litigation that may arise there from, provided that the contractor shall not be liable to indemnify the Owner if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the Engineer-in-Charge in this behalf.

CLAUSE 27 Lump sum provision in Tender.

This Clause is deleted.

CLAUSE.28 .Action where no Specifications are specified

In the case of any class of work for which there is no such specifications as referred to in Clause 11, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case there are no such specifications in Bureau of Indian Standards, the work shall be carried out as per manufacturers' specifications, if not available then as per District Specifications. In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge.

CLAUSE. 29. Withholding and lien in respect of sum due from contractor

(i) Whenever any claim or claims for payment of a sum of money arises out of or under the contract or against the contractor, the Engineer-in-Charge or the Owner shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any deposited by the contractor and for the purpose aforesaid, the Engineer-in-Charge or the Owner shall be entitled to withhold the security deposit, if any, furnished as the case may be and also have a lien over the same pending finalization or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the contractor, the Engineer-in-Charge or the Owner shall be entitled to withhold and have a lien to retain to the extent of such claimed amount or amounts referred to above, from any sum or sums found payable or which may at any time thereafter become payable to the contractor under the same contract or any other contract with the Engineer-in-Charge of the Owner or any contracting person through the Engineer-in-Charge pending finalization of adjudication of any such claim.

It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above by the Engineer-in-Charge or the Owner will be kept withheld or retained as such by the Engineer-in-Charge or Owner till the claim arising out of or under the contract is determined by the

arbitrator by the competent court, as the case may be and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the contractor. For the purpose of this clause, where the contractor is a partnership firm or a limited company, the Engineer-in-Charge or the Owner shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/limited company as the case may be, whether in his individual capacity or otherwise.

(ii) Owner shall have the right to cause an audit and technical examination of the works and the final bills of the contractor including all supporting vouchers, abstract, etc., to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been overpaid in respect of any work done by the contractor under the contract or any work claimed to have been done by him under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over-payment and it shall be lawful for Owner to recover the same from him in the manner prescribed in sub-clause (i) of this clause or in any other manner legally permissible; and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by Owner to the contractor, without any interest thereon whatsoever.

Provided that the Owner shall not be entitled to recover any sum overpaid, nor the contractor shall be entitled to payment of any sum paid short where such payment has been agreed upon between the Engineer-in-Charge on the one hand and the contractor on the other under any term of the contract permitting payment for work after assessment by the Engineer-in-Charge.

CLAUSE. 29A.Lien in respect of claims in other Contracts

Any sum of money due and payable to the contractor (including the security deposit returnable to him) under the contract may be withheld or retained by way of lien by the Engineer-in-Charge or the Owner or any other contracting person or persons through Engineer-in-Charge against any claim of the Engineer-in-Charge or the Owner or such other person or persons in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Engineer-in-Charge or the Owner or with such other person or persons.

It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the Engineer-in-Charge or the Owner will be kept withheld or retained as such by the Engineer-in-Charge or the Owner or till his claim arising out of the same contract or any other contract is either mutually settled or determined by the arbitration clause or by the competent court, as the case may be and that the contractor shall have no claim for interest or damages whatsoever

on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the Contractor.

CLAUSE 30.Employment of Coal Mining or Controlled area labour not permissible.

This clause is not relevant to this work and hence deleted.

CLAUSE. 31 .Unfiltered Water Supply

The Contractor(s) shall make his/their own arrangements for water required for the work and nothing extra will be paid for the same.. This will be subject to the following conditions:

(i) That the water used by the contractor(s) shall be fit for construction purposes to the satisfaction of the Engineer-in-Charge.

(ii) The Engineer-in-Charge shall make alternative arrangements for supply of water at the risk and cost of contractor(s) if the arrangements made by the contractor(s) for procurement of water are in the opinion of the Engineer-in-Charge, unsatisfactory.

CLAUSE 31A Departmental Water supply if available.

Water if available may be supplied to the contractor by the Owner subject to the following conditions.

i) The water charges @ 1 % shall be recovered on gross amount of the work done.

ii) The contractor shall make his own arrangement of water connection and laying of pipelines from existing main of source of supply.

iii) The Owner do not guarantee to maintain uninterrupted supply of water and it will be incumbent on the contractor to make alternative arrangements for water at his own cost in the event of any temporary break down in the Government water main so that the progress of his/their work is not held up for want of water. No claim of damage or refund of water charges will be entertained on account of such break down.

CLAUSE 32. Alternate water arrangements

i) Where there is no piped water supply arrangement and the water is taken by the contractor from the wells or hand pump constructed by the Owner, no charge shall be recovered from the contractor on that account. The contractor shall, however, draw water at such hours of the day that it does not interfere with the normal use for which the hand pumps and wells are intended. He will also be responsible for all damage and abnormal repairs arising out of his use, the cost of which shall be

recoverable from him. The Engineer-in-Charge shall be the final authority to determine the cost recoverable from the contractor on this account and his decision shall be binding on the contractor.

ii) The contractor shall be allowed to construct temporary wells in Owner's land for taking water for construction purposes only after he has got permission of the Engineer-in- Charge in writing. No charges shall be recovered from the contractor on this account, but the contractor shall be required to provide necessary safety arrangements to avoid any accidents or damage to adjacent buildings, roads and service lines. He shall be responsible for any accidents or damage caused due to construction and subsequent maintenance of the wells and shall restore the ground to its original condition after the wells are dismantled on completion of the work.

CLAUSE. 33. Return of Surplus materials

Notwithstanding anything contained to the contrary in this contract, where any materials for the execution of the contract are procured with the assistance of Owner either by issue from the Owner's stocks or purchase made under orders or permits or licenses issued by Owner, the contractor shall hold the said materials economically and solely for the purpose of the contract and not dispose of them without the written permission of the Owner and return, if required by the Engineer-in-Charge, all surplus or unserviceable materials that may be left with him after the completion of the contract or at its termination for any reason whatsoever on being paid or credited such price as the Engineer-in-Charge shall determine having due regard to the condition of the materials. The price allowed to the contractor however shall not exceed the amount charged to him excluding the element of storage charges. The decision of the Engineer-in-Charge in this regard shall be final and conclusive. In the event of breach of the aforesaid condition, the contractor shall in addition to throwing himself open to action for contravention of the terms of the license or permit and/or for criminal breach of trust, be liable to Owner for all moneys, advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach.

CLAUSE. 34 Hire of Plant & Machinery

This clause is deleted as the Owner cannot supply any Plant and Machinery.

Clause 35.Conditions relating to use of asphaltic materials.

(i) The contractor undertakes to make arrangement for the supervision of the work by the firm supplying the tar or bitumen used.

(ii) The contractor shall collect the total quantity of tar or bitumen required for the work as per standard formula, before the process of painting is started and shall hypothecate it to the Engineer-in-Charge. If any bitumen or tar remains unused on completion of the work on account of lesser use of materials in actual execution for reasons other than authorized changes of specifications and abandonment of portion of work, a corresponding deduction equivalent to the cost of unused materials as determined by the Engineer-in-Charge shall be made and the material return to the contractors. Although the materials are hypothecated to Owner, the contractor undertakes the responsibility for their proper watch, safe custody and protection against all risks. The materials shall not be removed from site of work without the consent of the Engineer-in-Charge in writing.

(i) The contractor shall be responsible for rectifying defects noticed within a year from the date of completion of the work and the portion of the security deposit relating to asphaltic work shall be refunded after the expiry of this period.

CLAUSE 36. Employment of technical Staff and employees

Contractors Superintendence, Supervision, Technical Staff & Employees

(i) The contractor shall provide all necessary superintendence during execution of the work and all along thereafter as may be necessary for proper fulfilling of the obligations under the contract.

The contractor shall immediately after receiving letter of acceptance of the tender and before commencement of the work, intimate in writing to the Engineer-in-Charge, the name(s), qualifications, experience, age, address(s) and other particulars along with certificates, of the principal technical representative to be in charge of the work and other technical representative(s) who will be supervising the work. Minimum requirement of such technical representative(s) and their qualifications and experience shall not be lower than specified in Schedule-F. The Engineer-in-Charge shall within 3 days of receipt of such communication intimate in writing his approval or otherwise of such a representative(s) to the contractor. Any such approval may at any time be withdrawn and in case of such withdrawal, the contractor shall appoint another such representative(s) according to the provisions of this clause. Decision of the Tender accepting Authority shall be final and binding on the contractor in this respect. Such a principal technical representative and other technical representative(s) shall be appointed by the contractor soon after receipt of the approval from Engineer-in-charge and shall be available at site before start of work.

All the provisions applicable to the principal technical representative under the Clause will also be applicable to other technical representative(s) The principal technical representative and other technical representative(s) shall be present at the site of work for supervision at all times when any construction activity is in progress and also present himself/themselves, as required, to the Engineer-in-Charge and or his designated representative to take instructions. Instructions given to the principal technical representative or other technical representative(s) shall be deemed to

have the same force as if these have been given to the contractor. The principal technical representative and other technical representative(s) shall be actually available at site fully during all stages of execution of work, during recording/checking/test checking of measurements of works and whenever so required by the Engineer-in-Charge and shall also note down instructions conveyed by the Engineer-in-Charge or his designated representative(s) in the site order book and shall affix his/their signature in token of noting down the instructions and in token of acceptance of measurements/checked measurements/test checked measurements. The representative(s) shall not look after any other work other than this project. Substitutes, duly approved by Engineer-in-Charge of the work in similar manner as aforesaid shall be provided in event of absence of any of the representative(s) by more than two days.

If the Engineer-in-Charge, whose decision in this respect is final and binding on the contractor, is convinced that no such technical representative(s) is/are effectively appointed or is/are effectively attending or fulfilling the provision of this clause, a recovery (non-refundable) shall be effected from the contractor as specified in Schedule 'F' and decision of the Engineer-in-Charge as recorded in the site order book and measurement recorded checked/test checked in Measurement Books shall be final and binding on the contractor. . Further if the contractor fails to appoint suitable technical Principal technical representative and/or other technical representative(s) and if such appointed persons are not effectively present or are absent by more than two days without duly approved substitute or do not discharge their responsibilities satisfactorily, the Engineer-in-Charge shall have full powers to suspend the execution of the work until such date as suitable other technical representative(s) is/are appointed and the contractor shall be held responsible for the delay so caused to the work. The contractor shall submit a certificate of employment of the technical representative(s) (in the form of copy of Form-16 or CPF deduction issued to the Engineers employed by him) along with every on account bill/final bill and shall produce evidence if at any time so required by the Engineer-in-Charge.

(ii) The contractor shall provide and employ on the site only such technical assistants as are skilled and experienced in their respective fields and such foremen and supervisory staff as are competent to give proper supervision to the work.

The contractor shall provide and employ skilled, semiskilled and unskilled labour as is necessary for proper and timely execution of the work.

The Engineer-in-Charge shall be at liberty to object to and require the contractor to remove from the works any person who in his opinion misconducts himself, or is incompetent or negligent in the performance of his duties or whose employment is otherwise considered by the Engineer-in-Charge to be undesirable. Such person shall not be employed again at works site without the written permission of the Engineer-in-Charge and the persons so removed shall be replaced as soon as possible by competent substitutes.

CLAUSE. 37 .Levy/Taxes payable by Contractor

(i) All statutory taxes, duties, Cess or any other payment or deduction due to be paid to any of the central, state or local authority including but not limited to**GST**, Building and other Construction Workers Welfare Cess or any other tax, levy or Cess in respect of input for or output by this contract shall be payable by the contractor and Owner shall not entertain any claim whatsoever in this respect except as provided under Clause 38.

(ii) The contractor shall deposit royalty and obtain necessary permit for supply of the of the red bajri, stone, kankar etc. required for the project from local authorities.

If pursuant to or under any law, notification or order any royalty, cess or the like becomes payable by the Government of India and does not any time become payable by the contractor to the State Government, Local authorities in respect of any material used by the contractor in the works, then in such a case, it shall be lawful to the Owner and it will have the right and be entitled to recover the amount paid in the circumstances as aforesaid from dues of the contractor.

CLAUSE 38 Conditions for Reimbursement of levy/taxes if levied after receipt of tenders.

a) All tendered rates under the contract shall be inclusive of any tax, levy or cess application on last stipulated date of receipt of tender including extension if any. No adjustment i.e. increase or decrease shall be made of any variation in the rate of GST, Building or other Construction workers Welfare cess or any tax, levy or cess applicable on Inputs. However, effect of variation in rates of GST of Building and Other construction Workers Welfare Cess or imposition or repeal of any other tax, levy or cess applicable on output of the works contract shall be adjusted on either side, increase or decrease. Provided for Buildings and Other Construction Workers Welfare Cess or any tax (other than GST), levy or cess varied or imposed after the last date of receipt of tender including extension if any, any increase shall be reimbursed to the contractor only if the contractor necessarily and properly pays such increased amount of taxes/levies/cess. Provided further that such adjustment including GST shall not be made in the extended period of contract for which the contractor alone is responsible for delay as determined by authority for extension of time under Clause 5 of Schedule F.

b) The Contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and required, and shall allow inspection of the same by a duly authorized representative of the Owner and/or Engineer-in-Charge and shall also furnish such other information/document as the Engineer-in-Charge may require from time to time.

c) The Contractor shall, within a period of 30 days of the imposition of any such further tax or levy or cess, give a written notice thereof to the Engineer-in-Charge

that the same is given pursuant to this condition, together with all necessary information relating thereto.

CLAUSE. 39 .Termination of Contract on death of contractor

Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the Engineer in Charge on behalf of the Owner shall have the option of terminating the contract without compensation to the contractor if there is no legal heir or successor of the contractor capable of completing the remaining work. The decision of the Engineer In charge in this regard shall be final and binding.

CLAUSE 40 If relative working in Nalanda University then the contractor not allowed to tender:

The contractor shall not be permitted to tender for the work in Nalanda University where his near relative is posted as an officer in any capacity. 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 Nalanda University or in the Ministry of External Affairs. Any breach of this condition by the contractor would render him liable to be rejected from participating in this or any other subsequent tender(s).

NOTE: By the term "near relatives" is meant wife, husband, parents and grandparents, children and grandchildren, brothers and sisters, uncles, aunts and cousins and their corresponding in-laws.

CLAUSE 41 No Gazzeted Engineer to work as contractor within one year of Retirement.

No engineer of gazetted rank or other gazetted officer employed in engineering or administrative duties in an engineering department of the Government of India shall work as a contractor or employee of a contractor for a period of one year after his retirement from government service without the previous permission of Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of Government of India as aforesaid, before submission of the tender or engagement in the contractor's service, as the case may be.

CLAUSE 42 Return of material & recovery for excess material issued.

This Clause is deleted as the Owner is not going to supply any materials.

CLAUSE. 43. .Compensation during warlike situations

The work (whether fully constructed or not) and all materials, machines, tools and plants, scaffolding, temporary buildings and other things connected therewith shall be at the risk of the contractor until the work has been delivered to the Engineer-in-Charge and a certificate from him to that effect obtained. In the event of the work or any materials properly brought to the site for incorporation in the work being damaged or destroyed in consequence of hostilities or warlike operation, the contractor shall when ordered (in writing) by the Engineer-in-Charge to remove any debris from the site, collect and properly stack or remove in store all serviceable materials salvaged from the damaged work and shall be paid at the contract rates in accordance with the provision of this agreement for the work of clearing the site of debris, stacking or removal of serviceable material and for reconstruction of all works ordered by the Engineer-in-Charge, such payments being in addition to compensation up to the value of the work originally executed before being damaged or destroyed and not paid for. In case of works damaged or destroyed but not already measured and paid for, the compensation shall be assessed by the Engineer in Charge. The contractor shall be paid for the damages/destruction suffered and for restoring the material at the rate based on analysis of rates tendered for in accordance with the provision of the contract. The certificate of the Engineer-in-Charge regarding the quality and quantity of materials and the purpose for which they were collected shall be final and binding on all parties to this contract.

Provided always that no compensation shall be payable for any loss in consequence of hostilities or warlike operations (a) unless the contractor had taken all such precautions against air raid as are deemed necessary by the Engineer-in-Charge (b) for any material etc. not on the site of the work or for any tools, plant, machinery, scaffolding, temporary building and other things not intended for the work.

In the event of the contractor having to carry out reconstruction as aforesaid, he shall be allowed such extension of time for its completion as is considered reasonable by the Engineer in Charge.

CLAUSE. 44. Apprentices Act provisions to be complied with

The contractor shall comply with the provisions of the Apprentices Act, 1961 and the rules and orders issued thereunder from time to time. If he fails to do so, his failure will be a breach of the contract and the Engineer-in-Charge may, in his discretion, cancel the contract. The contractor shall also be liable forany pecuniary liability arising on account of any violation by him of the provisions of the said Act.

CLAUSE. 45. Release of Security Deposit after labour clearance

Release of Security Deposit of the work shall not be refunded till the contractor produces a clearance deposit after labour certificate from the Labour Officer. As soon as the work is virtually complete the contractor shall apply for the clearance certificate to the Labour Officer under intimation to the Engineer-in-Charge. The Engineer-in-Charge, on receipt of the said communication, shall write to the Labour Officer to intimate if any complaint is pending against the contractor in respect of the work. If no complaint is pending, on record till after 4 months after completion of the work and/or no communication is received from the Labour Officer to this effect till six months after the date of completion, it will be deemed to have received the clearance certificate and the Security Deposit will be released if otherwise due.

SECTION 5

SPECIAL CONDITIONS OF CONTRACT

General instructions:

The tender shall be written in English language. All other information such as documents and drawings supplied by the bidder shall also be in English language only. Drawings and design shall be dimensioned according to the metric system of measurements. Tender shall be forwarded under cover or a letter typewritten on the bidder's letterhead and duly signed by the bidder. Signature must be in long hand, executed in ink by a duly authorized principal/representative of the bidder. No oral, telegraphic or telephonic tenders or subsequent modifications there to shall be entertained. If a tender is submitted on behalf of the firm, then all the partners shall sign the Tender or the Tender may be signed by one of the partners in whose favour all the remaining partners have given such signing partner a valid General Power of Attorney. In case of tender submitted by a company, the person who has been authorized by the Board of Directors of the company through a resolution shall sign the tender. Copy of power of attorney/resolution as the case may be, and the authority letter in favour of the person signing must accompany the tender.

The Bidder shall quote the percentage above/below the total estimated cost given in Schedule of Quantities. Incomplete offer under the tender shall be liable for rejection. Quantities shown in the Schedule of Quantities are approximate and can increase or decrease. No claim shall be entertained for any item of work due to variation in the quantities.

The tender shall be typed or written in indelible ink and shall be signed by the bidder or a person(s) duly authorized to sign under a valid Power of Attorney/Board Resolution on behalf of the Bidder. The person or persons signing the tender shall initial at all pages of the tender document and an initial shall be affixed at all such places where any insertions, corrections or amendments are made by hand.

The bidder shall sign at the bottom right hand corner of every page of the tender documents in token of acceptance of tender conditions and for the purpose of identification.

The Contractor shall give his address for communication along with telephone/e-mail address and all communication made by **NU** to the said address by registered post acknowledgement due, speed post, courier or any other mode of service shall be deemed to have been effected provided that communication made by mobile, telephone or e-mail shall be followed by a written communication through courier/post. All correspondence addressed to **NU** shall be in the name of **Registrar, Nalanda University, Rajgir, Bihar.**

Submission of a tender by a bidder implies that he has read all the terms and conditions contained in this document and all other contract documents and has acquainted himself of the nature, scope and specifications of the Works to be executed. The Contractor shall also be deemed to have acquainted himself of the local conditions and other factors, which might have a bearing on the execution of

the Works. **NU** shall in no event be held liable for any loss/damage/harm for costs or otherwise caused to the Contractor due to such non-acquaintance.

Against the loss/damage/harm caused, **NU** shall not be liable for any act or omission of the act of the Contractor in so far as any violation of any of the aforementioned act.

Bidders have to compulsorily submit the entire tender Contract Documents. Every Bidder shall submit all documents issued to him for the purpose of this tender after duly filling the same in all respects. Tender Contracts, which are found to be vague, irrelevant and incomplete, shall be summarily rejected.

Unless otherwise stated, the contract shall be for the whole Work as described in the "Schedule of items of Works" and under the drawings. The Contractor shall be bound to complete the whole Work within such stipulated time as set out in the schedule of items of Works and the drawings, including such additional items as may be necessary, if any, as per drawings and instructions. On the Completion of work, inspect the work and certify The Architect Consultant shall The issuance of certificate of completion, as issued by the Engineer-in-Charge on or by the Competent Authority at Nalanda University shall be mandatory for indicating the successful completion of work and such certificate of completion will be conclusive proof of completion of Work. Such certificate shall be issued only after the inspection of work by Architects Consultants and obtaining certificate from him that work is executed as per approved design and specifications

The work to be carried out under the contract shall, except as otherwise provided in these conditions shall include all labour, materials, tools, plants, equipment, transport and royalties, taxes, labour cess etc., which may be required in preparation of the full and entire execution and completion of the Works. The descriptions given in the Schedule of Quantities shall, unless otherwise stated be held to include wastage of materials, carrying and all other labour necessary for the full and entire execution and completion of the Work as aforesaid in accordance with the specifications, good practice and recognized principles.

The Contractor shall be deemed to have satisfied itself before submission of the tender as to the correctness and sufficiency of the 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. Under no circumstances shall the Contractor withdraw from the Contract once the tender is accepted. In an event of withdrawal or default by the Contractor, the deposit of earnest money made by the Contractor shall stand forfeited.

No cost payable for preparing tender: The bidder shall not be entitled to claim any costs, charges, expenses in connection with preparation and submission and subsequent clarification of its tender in the event of withdrawal of the invitation of tenders by **NU**.

The Contractor shall comply with the provisions of the Apprentices Act, 1961, Minimum Wages Act, 1948, Workmen's Compensation Act, 1923, Contract Labour (Regulation and Abolition) Act, 1970, Payment of Wages Act, 1936, Owner's Liability Act, 1938, Maternity Benefits Act, 1961, and the Industrial Disputes Act, 1947 as may be applicable and the rules and regulations issued there under from time to time. The list of the statutes mentioned above is an indicative list and all enactments applicable for workmen shall be complied with by the bidder. Any failure to comply with such statutes shall amount to breach of the Contract and the Engineer-in-Charge may, at his discretion, terminate the Contract without any prior notice being furnished to the Contractor. The Contractor shall also be liable for any pecuniary liability arising on account of violation of any of the said statutes and shall indemnify and keep the NU indemnified for any loss or damage arising on account of the same.

The provisions in the Tender documents shall prevail over the contents of the above paragraphs if there is any contradiction or variation in the conditions mentioned hereinabove and those contained in the Contract Documents.

Additional Definitions

Nominated Sub-Contractor:

Nominated Sub-Contractor shall mean any person or agency appointed by NU for the execution of any particular Work or providing any services under the Contract.

Samples:

Samples are physical samples, which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

Shop drawings:

Shop drawings means those drawings or other documents which are specifically prepared by or on behalf of the Contractor to illustrate details of construction for the purpose of fabrication or installation or any other construction related works mentioned in the Tender which required by the Architect Consultants and are submitted to the Engineer In charge for the approval/suggestion/verification from Architect Consultants as the Contractor's intended method of achieving the end result required by the Contract Drawings and Specifications.

Submittals:

Submittals includes progress schedules, setting out drawings, shop drawings, testing and inspection reports, and other information required by the Contract Documents to be submitted by the Contractor for information or approval by the Engineer in Charge.

Virtual Completion:

Virtual Completion shall mean completion of the Works as per drawings and specifications to the entire satisfaction of Engineer in Charge/ Architect

Consultants/ NU whose decision shall be final and binding on the parties in this regard and particularly the act of securing by the Contractor to get the virtual completion certificate from the Engineer in charge and submission of the same to the NU to start the Defect liability period of the contract.

Final Completion:

Final Completion shall mean the completion of the Works and any necessary rectification directed to be carried out during the Defects Liability Period and any extension thereof by the Contractor and securing of such final completion certificate from the Engineer in Charge/ Architect Consultants/ NU, and also obtaining the final handing over of the Works to the NU, and the acceptance of the same.

Jurisdiction of Courts: The Court at Bihar Sharif/High Court at Patna in the state of Bihar shall have the Jurisdiction to decide any dispute arising out of or in respect of the contract for this work.

CLAUSE.5.1 :EARNEST MONEY

The earnest money is paid by each bidder to enable the NU to ensure that a bidder does not back out of his tender before its acceptance, or refuse to execute the work after it has been awarded to him.

Deposit of earnest money

Earnest Money can be paid in the form of a Deposit at Call receipt/ Demand Draft or Banker`s Cheque of any Scheduled Bank drawn in favour of Nalanda University Rajgir, Bihar along with Bank Guarantee of any Scheduled Bank wherever applicable. It shall be scanned and uploaded to the e-Tendering website within the period of tender submission and original should be deposited in office of NU.

A part of earnest money is acceptable in the form of bank guarantee also. In such case, Rs 5.13 Lakhs of earnest money will have to be deposited in the form of a Receipt of Deposit at Call receipt/Demand Draft or Banker`s Cheque of any Scheduled Bank drawn in favour of Nalanda University Rajgir, Bihar and balance in the form of Bank Guarantee of any Scheduled bank, which is to be scanned and uploaded by the intending bidders.

The intending bidder has to fill all the details such as Banker's name, Demand Draft/ Banker's Cheque/Bank Guarantee number, amount and date.

The amount of EMD can be paid by multiple Demand Draft / Banker's Cheque / along with multiple Bank Guarantee of any Scheduled Bank.

The Earnest Money will be returned to the unsuccessful bidders within a week from the date of award of tender. Entry of Demand Draft received as earnest money with the tenders may be kept in the Tender Opening Register, and these need not be deposited in the bank except for the successful bidder. The Earnest Money will be

returned to the successful bidder after he furnishes Performance Guarantee and duly enters into the contract within such time as per Schedule-F**,** the successful bidder shall furnish the required Performance Guarantee and attend the office of the NU for execution of the contract documents.

Forfeiture of earnest money

If any bidder withdraws his tender before the expiry of the validity period, or before the issue of letter of acceptance, whichever is earlier, or makes any modification in the terms and conditions of the tender which are not acceptable to the NU, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the bidder shall not be allowed to participate in the retendering process of the work.

If contractor fails to furnish the prescribed performance guarantee within the prescribed period, the earnest money is absolutely forfeited automatically without any notice.

In case the bidder fails to commence the work specified in Schedule-F or such time period as mentioned in letter of award, after the date on which the Engineer-in-charge issues written orders to commence the work, or from the date of handing over of the site, whichever is later, the NU shall, without prejudice to any other right or remedy, be at liberty to forfeit whole of the earnest money absolutely.

If only a part of the work as shown in the tender is awarded, and the contractor does not commence the work, the amount of the earnest money to be forfeited should be worked out with reference to the estimated cost of the work so awarded.

In case of forfeiture of earnest money as prescribed in above, the bidder shall not be allowed to participate in the retendering process of the work.

CLAUSE.5.2 :Sub-Contractors

Where and when the appointment of Sub-Contractors for specialized job (in the opinion of Engineer In Charge) is indicated, such Sub-Contractors shall be appointed only with the prior written approval of the Owner upon recommendation of Engineer-in-Charge/PMC/Architect Consultants on the following conditions:

a) The Contractor shall enter into written agreements with Sub-Contractors and ensure that the Sub-Contractors perform their Work in accordance with and subject to the terms and conditions of these Contract Documents. A copy of each such Agreement shall be furnished to the Engineer-in-Charge and the Owner.

b) The Contractor shall remain fully responsible to the Owner for the performance and workmanship and all actions of all sub-Contractors and persons directly or indirectly employed by them.

c) The Contractor shall supply and permit all Sub-Contractors to avail of site facilities and services to enable them to complete their Work safely and without hindrance or delay and conducive to produce the highest quality of Work required.

d) The Contractor shall upon receipt of instruction from the Engineer-in-Charge, terminate and remove from site forthwith such Sub-Contractor or their person who's Work may be considered unsatisfactory.

e) The Contractor shall make regular and prompt payment to each Sub-Contractor not later than one week after receipt of payment from Owner for their measured Works certified by the Engineer-in-Charge. If the Contractor fails to make payments to Sub-Contractors as aforesaid, the Owner may, without any obligation or prejudice to its rights and with prior intimation to the Contractor may make direct payments to Sub-Contractors for and on behalf and from the account of the Contractor and recover such sums from the account of the Contractor out of the amounts due and payable under the bills raised by the Contractor. Such direct payments to Sub-Contractors shall be on behalf of the Contractor and shall in no way relieve the Contractor of his responsibilities or create a contractual relationship between the Owner and Sub-Contractor.

f) Any Subcontractor that has been approved by the Owner shall neither be removed nor replaced without the prior written consent of the Owner.

CLAUSE.5.3 :Site office

The Contractor shall at his cost provide a watertight, air-conditioned, lockable site office Approximately 200 Smt. with necessary communication facilities at a suitable location as approved by the Engineer-in-charge for the purpose and use by the Owner, Architect Consultants, Project Management Consultant and/or their authorized representative(s). The site-office shall be reasonably well furnished and to the preference and tastes of the Owner along with electricity and a telephone connection, Internet Connections at no extra cost payable to the Contractor by the Owner in this regard.

CLAUSE.5.4 :Reinforcement steel and structural steel

Use of Indian standard reinforcement steel and structural steel manufactured by Primary steel manufacturers only will be allowed for the work under this contract. For Non-standard steel sections, the steel manufactured by the producers other

than Primary steel manufacturers shall be allowed after prior approval of Engineer – in – Charge in writing.

CLAUSE. 5.5: Electricity

The Owner shall not provide electrical power. Contractor has to arrange with necessary permission from relevant authority if any at his own cost electrical power for construction or for general lighting and other usage

The Contractor shall, at his own cost, provide approved temporary electrical connections, cables, distribution boards and related equipment for construction, as required by the Engineer-in-Charge.

The Contractor shall permit and enable all sub-Contractors to use his power & distribution facilities. The Sub-Contractor shall pay such amount for the use of power & distribution facilities as may be determined between the Contractors.

The Contractor shall, at his own cost and in order to prevent interruption of the Work(s) due to power failures, provide for stand-by diesel generators of sufficient capacity as per the requirements to supply adequate electricity for the Works and for other uses.

Disruptions in power supply, whether due to power failures, load shedding, generator breakdowns, non-availability of Electric Supply or any other reason, shall not be accepted as a valid reason for delays and deficiencies in the Work or for claims for additional payments.

The Contractor shall, at his own cost supply the required electrical power supplies to the Site offices of the Owner as directed by the Engineer-In-Charge.

CLAUSE.5.6 :Fossils:

All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the Site shall, as between the Owner and the Contractor, be deemed to be the absolute property of the Owner. The Contractor shall take reasonable precautions to prevent his workmen or any other persons from removing or damaging any such article or thing and shall, immediately upon discovery thereof and before removal, acquaint the Engineer of such discovery and carry out the Engineer's instructions for dealing with the same. If, by reason of such instructions, the Contractor suffers delay and/or incurs costs then the Engineer shall, after due consultation with the Owner and the Contractor, determine:

CLAUSE.5.7 :Insurance

The Contractor shall at his own expense arrange for all insurance policies, including workmen compensation policy and Contractor's All Risk policy (CAR Policy) in the amount of the Contract effective from the date of commencement of Work(s) and until final completion of the Work(s) also taking into consideration the defects liability period, against all of the following risks.

a) Injuries and damage of persons, property, machinery, equipment, vehicles, animals or things, within or outside the site, arising out of his operations or of any sub-Contractors, nominated or otherwise, or out of any actions of his employees, agents or representatives, limited to Rs. 20,00,000 (Rupees Twenty Lakhs) per accident

b) Injuries to his or any Sub-Contractor's employees.

c) Damage to or loss of the property, equipment, and materials at site, of the Owner, Contractor and all Sub-Contractors, as a result of natural causes such as lightning, storm, flood, rain, fire, earthquake, explosion, landslide, etc.

d) Damage and injuries to persons, property and materials arising out of riot and civil commotion, theft, sabotage malicious acts, terrorist activities, flood, water logging etc.

The insurance policy or policies to cover risks of every nature shall be in the joint names of the Owner and Contractor, and the original of such policy/ policies shall be lodged with the Engineer-in-Charge. The Contractor shall also lodge the premium receipts with the Engineer-in-Charge, such standing jointly in the names of the Owner and the Contractor.

If the Contractor fails to arrange the requisite insurance or fails to renew the policies, the Owner shall arrange for obtaining the requisite insurance policies and or renew them and recover the cost of all premiums from the Contractor and/or subsequently deduct such amount from the payments due and payable by the Owner to the Contractor from the bills raised by the Contractor in respect of the Work(s) executed.

No certificate of payment shall be issued by the Engineer-in-Charge whether for an interim or of the final bill raised by the Contractor if the Contractor fails to arrange for total insurance cover.

The Contractor shall reinstate in a manner approved by the Engineer-in-Charge all damage of every sort caused entirely at his cost so as to deliver up to the Owner the whole of the Work(s) complete and perfect in all respects, and so certified by the Engineer-in-Charge and also make good or otherwise satisfy all claims for damage to property of third parties.

The Contractor shall be responsible for anything within his control and for all risks and consequences, which are not included in the purview of the insurance policies.

The insurance cover shall stand extended until final completion of the Works and the contract and shall also cover the defects liability period.

The Contractor undertakes not to cancel any insurance policy nor reduce its scope without the written consent of the Engineer-in-Charge.

The Contractor undertakes to file necessary insurance claims jointly with the Owner and also to join the Owner in filing any claim the Owner chooses to.

Payments against all insurance claims shall be received in the name of the Owner and commensurate adjustments shall be made in accounts with the Contractor.

The aforesaid insurance policy/policies shall not be cancelled till the Engineer-in-Charge has agreed to their cancellation.

The Contractor shall prove to the Engineer-in-Charge from time to time that it has taken out all insurance policies referred to above and has paid the necessary premium for keeping the policies alive till the end of the defects liability period.

The Contractor shall ensure that similar insurance policies are taken out by his Sub-Contractor (if any) and shall be responsible for any claims of losses to the Owner resulting from their failure to obtain adequate insurance protections in connection thereof. The Contractor shall also obtain the originals of the policies and the premium receipts from the Sub-Contractor and shall lodge the same with the Engineer-in-Charge.

CLAUSE.5.8:Good For Construction Drawings, Details and Clearance to Construct.

After the acceptance of the Letter of Intent, issued by the Owner – Nalanda University, The contractor will be issued "Good for construction" drawings for works. The contractor will arrange to mobilize his resources in very positive and judicious manner to start work on maximum possible fronts. The contractor will submit a detailed Execution Plan in the form of Bar Chart/PERET chart, for the

entire project based on the Tendered drawings and initial GFC drawings. This Execution Plan will be discussed with Project Management Consultants, Architect Consultants and NU in detail and will be finalized subject to changes, if any, and will be agreed to by all the stake holders. If the contractor fail to show reasonable progress for the works for which the drawings and details are already available, Then the Owner Nalanda University, through the Engineer In Charge, will take suitable punitive action like withholding the payments due to contractor, which is equivalent to the amount to be withheld for completion of nearest mile stone as per this Notice Inviting Tender. The withheld amount will be released as soon as the corrective action is taken by the Contractor, for making up the time lost due to delay.

CLAUSE.5.9 :Protection of Persons, Works and Property

Accident or Injury to Workmen

The Owner shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or any Subcontractor, other than death or injury resulting from any act or default of the Owner, his agents or servants**.**

Accident Prevention:

a) General:

In performing this contract, the Contractor shall provide for protecting the lives and health of employees and other persons preventing damage to or theft or loss of property, materials, supplies, and equipment; and avoiding Work interruptions. For these purposes, the Contractor shall- Provide appropriate safety barricades, signs, and signal lights.

Comply with the standards issued by any statutory bodies having jurisdiction over occupational health and safety and Ensure that any additional measures as required by the Engineer-in-Charge for this purpose.

b) Records.

The Contractor shall maintain an accurate record of exposure data on all accidents taken place incidental to performance of Work(s) under this contract resulting in death, traumatic injury, occupational disease, or damage to or theft /

loss of property, materials, supplies, or equipment. The Contractor shall report this data in the manner prescribed by the Engineer-in-Charge.

c) Sub-Contractors:

The Sub-Contractors shall be bound to comply with the clause in the same manner as complied with by the Contractor. In the event of non-compliance by the Sub-Contractor of such clause, the Contractor shall be responsible for compliance of the Sub-Contractor.

d) Written program:

Before commencing the Work, the Contractor shall submit to the Engineer-in-Charge a written proposal for implementing this clause,

Hazardous Material Identification.

a) Notification:

The Contractor shall notify the Engineer-in-Charge in writing of all hazardous material 5 days before delivery of the material. This obligation applies to all materials delivered under this contract, which will involve exposure to hazardous materials or items containing these materials.

b) Responsibility of Contractor:

Neither the requirement of this clause nor any act or failure to act by the Owner shall relieve the Contractor of any responsibility or liability for the safety of Owner, Contractor, or Sub-Contractor's personnel or property.

c) Compliance with laws:

The Contractor shall comply with applicable laws, including the Public Liability Insurance Act 1991, Fatal Accident Act 1855, codes, ordinances, and regulations (Including the obtaining of licenses and permits) in connection with hazardous materials. Contractor shall pay fees and other expenses for obtaining such permission or licenses.

d) Sub-Contractors:

The Contractor shall insert these above clauses, relating to hazardous material, with appropriate changes on entering into contracts or agreements with Sub-Contractors and the sub-contractors shall be bound and be liable to comply with the same, and in the event of non-compliance of the same, the Contractor shall be

held liable for damages or otherwise on the acts of the Sub-Contractor in this regard.

Protection of Property

a) Vegetation, structures and equipment:

The Contractor shall preserve and protect all structures, equipment, and vegetation on or adjacent to the Work site, and which do not unreasonably interfere with the Work required under this contract and shall not be removed by the Contractor. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place.

b) Utilities and improvements:

The Contractor shall protect from damage and have all existing improvements and utilities at or near the Work site and on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall be liable to repair any damage caused to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the Work. If the Contractor fails or refuses to repair the damage promptly, the Engineer-in-Charge may have the necessary Work performed and charge the cost to the Contractor or reduce such amounts from the bills of the Contractor due and payable by the Owner.

c) Contractor shall be required to work within specified areas and they shall be allowed to use only those areas around the works under their scope, for storage of their materials, construction of site offices, erection of batching plant etc. at predetermined locations as shown on the plans. The area so demarcated, shall be barricaded in such a way that the construction activities or the moving vehicular traffic involved in carriage of construction materials/ construction waste etc. do not create interference with any other areas within the premises or activities of the Institute or the activities of other contractor/s working within the premises.

d) The contractor shall provide suitable barricading approximately 2.0 m high, with suitably painted with three rows of G.I. Sheets about 2’-6” to 3’- 0” wide (75 cms to 90 cms.) nailed or bolted with wooden poles spaced 2 to 3 meter apart and each pole 1.6 m to 2 m long 8 cm. to 10 cm. dia. The poles will be

embedded in mobile iron pedestal rings suitably framed for giving stable support as per direction of the Engineer-in-charge. All management (including watch and ward) of barricades shall be the full responsibility of the contractor. The barricades shall be removed only after completion of the work or part of the work. The contractor's rate shall include all above items of work and nothing extra shall be paid to the contractor over and above his quoted rates.

e) The positioning of barricading will be reviewed from time to time and necessary shifting barricading as directed by Engineer - in – charges shall be done forthwith by the contractor. Payment of initial erection of barricading and the shifting thereof at a later date as per requirement shall be made under relevant tender items

f) Contractor will make his own arrangements for making temporary roads and approaches to various locations of work under their scope and up to disposal sites marked on the drawing. These internal approaches and temporary roads shall be made in such a way that they do not affect construction activities of permanent roads within the premises at any time.

Watchmen and Security

The Contractor shall provide sufficient personnel and materials to provide adequate protection to the property and personnel at the site, in transit and stored goods/materials including but not limited to measures specifically required by and under the Contract Documents and any security requirements under this contract.

Corrective Action

a) Authority to Stop Work:

The Engineer-in-Charge shall notify the Contractor of any non-compliance with the safety and property protection measures as required under this contract of which the Engineer-in-Charge becomes aware and of the corrective action required. This notice, when delivered to the Contractor or the Contractor's authorized representative at the site of the Work shall be deemed sufficient notice of non-compliance and corrective action required. After receiving the notice, the Contractor shall immediately take necessary steps to correct the action. If the Contractor fails or refuses to take corrective action promptly, the Engineer-in-Charge shall at his discretion after due consultation with the Owner may issue an order stopping all or part of the Work(s) until satisfactory corrective action has

been taken. The Contractor shall not base any claim or request for equitable adjustment for additional time or money on any stop Work order issued under these circumstances.

b) Rectification:

The Contractor shall be solely responsible to make good at his cost any damage to the Works, property of the Owner and/or any adjacent property, to the satisfaction of the Engineer-in-Charge. In case the contractor fails to do so within a reasonable time the Engineer-in-Charge shall get the same executed at the risk & cost of the contractor & deduct the same from his due payments.

CLAUSE.5.10 :Site Security:

The Contractor shall be deemed to be in possession of the Works site and shall be responsible for its total security, and shall ensure that all materials, sheds, equipment, plant, tools, etc.; whether his own or belonging to any Sub-Contractor, are well protected.

a) The Contractor shall at his own cost install and maintain sufficient security fences and gates and employ full time round-the-clock security personnel to prevent the Works site from and against the intrusion of the public or any other unauthorized persons or vehicles.

b) Total security of the site, property, and materials shall be the sole responsibility of the Contractor. The presence of his consultants representatives, or the NU ’s security personnel shall in no way relieve or absolve the Contractor of his responsibilities in ensuring the security and protection of the site and everything stored or lying thereon

CLAUSE.5.11 :Warranty/Guarantee

The Contractor shall be responsible for the proper performance of the Work(s), including installations and systems, as specified under the Contract Documents.

Subject to Clause the Contractor shall, at his own cost and in the shortest possible time, repair and remove any defect or deficiency in the Works, which may appear prior to or during the defect liability period, to the satisfaction of the Engineer-in-Charge.

A guarantee will be given by the Contractor for the complete installation of the Works including its functioning, replacement of parts etc. as specified under the Contract Documents.

The defect liability period will be minimum 24 months for the project from taking over of the system by the University. However, beyond the Defect Liability Period(i.e. after completion of 24 months), if the manufacturer provides the warranty of the appliances for more than two years, in that case, the warranty/guaranty of the system will be valid as per the OEM practice.

All the Guarantees referred above shall commence from the date of Completion Certificate.

CLAUSE.5.12 :Contractor's Responsibilities and Work Control

The Contractor shall have complete control of the Works and shall effectively and diligently control, direct and supervise his employees, supervisors, subordinates and Sub-Contractor(s) so as to ensure timely completion of the Works in order and in conformity with the Contract Documents. It shall be the sole responsibility of the Contractor for construction means, methods, techniques, sequences and procedures, and for coordinating the various parts of the Work, whether carried out by the Contractor or any Sub-Contractor.

The Contractor shall provide adequate, qualified and experienced personnel for the proper superintendence and execution of the Works until completion. The category and strength of such personnel shall be determined by the Engineer-in-Charge, and such approved site organization strength shall be maintained by the Contractor at all times until completion of Work(s), and also during defects liability period and as may be decided by the Engineer-in-Charge.

The Contractor shall be responsible for the design, erection, operation, maintenance and removal of temporary structures and other facilities at his own cost during completion of the Works. Any approval sought, given or implied, regarding sufficiency, stability and safety of temporary staging and facilities, shall in any way not relieve the Contractor of his responsibility.

a) The Contractor shall study all Contract Documents and promptly report to the Engineer-in-Charge any non-conformity, discrepancy, inconsistency or omission he may discover in the same. In the event of such discovery, the

Contractor shall not proceed with the affected Works until he has received due corrections and clearances from the Engineer-in-Charge.

b) The Contractor shall be deemed to have thoroughly studied and satisfied himself regarding Contract Documents and particularly all drawings before commencement of the Work(s). Should any discrepancy or error be discovered during execution of parts of the Work(s) necessitating demolition, repairs or reconstruction, all such remedial measures shall be carried out only with the approval of the Engineer-in-Charge and entirely at the cost of the Contractor. In such an event the Contractor shall neither claim any extra payment nor any extension of time for any delay caused by virtue of such demolition, repairs and reconstruction.

Any instructions given to the Contractor's supervisory staff by the Engineer-in-Charge shall be deemed to have been given to the Contractor. Instructions that involve any variations in design or specifications and which may have a bearing on time and cost shall be through a written Change Order by the Engineer-in-Charge and at rates agreed in writing prior to implementation

The Contractor shall at his own cost, obtain any permits or authorizations necessary for the execution of the Work and obtaining any permits or approvals for the works executed by him, from all concerned statutory and Owner Authorities/Authority's, including but not limited to Municipal bodies, Electrical Authority, Fire Service Authorities etc.,

The Contractor shall not be entitled to claim additional sums on account of having to work overtime in order to complete an operation that cannot be interrupted, for working in extended shifts / night shifts /holidays.

In the event the Contractor chooses to work overtime, in extended night shifts as and by way of overtime either by working extended/night shifts or morning or holidays in order to complete the Work(s) within the specified period or on holidays, he shall do so by obtaining prior written approval from the Engineer-in-Charge at least twenty-four hours in advance. The Contractor moreover shall ensure that in any of the above circumstances he maintains the full-agreed strength of his supervisory staff.

The Contractor shall take all necessary precautions to protect the site and Works, materials, plant and equipment, whether his own or belonging to the

Owner or any Sub-Contractors, against hazards of fire, rains, floods, landslides, underground water, accidents, etc.

The Contractor shall not be permitted to replace nor remove his Project Manager/Project Engineer / Site Engineer etc. from the site without the prior written approval of the Engineer-in-Charge.

Submittals

a) "Shop drawings" means those drawings or other documents, which are specifically prepared by or on behalf of the Contractor to illustrate details of construction for the purpose of fabrication or installation and are submitted to the Owner to indicate the Contractor's intended method of achieving the end result required by the Contract Drawings and Specifications.

b) "Project data" includes standard drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the Work required by the. Contract.

c) "Samples" are physical examples, which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

d) "Other submittals" includes progress schedules, setting drawings, testing and inspection reports, and other information required by the Contract Documents to be submitted by the Contractor for information or approval by the Owner.

Schedules of Submittals

Promptly after contract award the Contractor shall submit to the Engineer-in-Charge the submittal schedule showing when shop drawings, product data, samples and other submittals required by and under the Tender Documents would be submitted for the approval of the Engineer-in-Charge.

Review and approval of submittals by Contractor

The Contractor shall co-ordinate and compiles all submittals required by and under the Contract Documents, and thoroughly check them for accuracy, completeness, and compliance in accordance with contract requirements and shall indicate his approval thereon in the form required by the Contract Documents as evidence of such co-ordination and checking. Submittals to the Engineer-in-Charge without the

approval of the Contractor shall be returned by the Engineer-in-Charge for resubmission. Submission of shop drawings, product data or samples shall constitute a representation that the Contractor has agreed to, asserted and guaranteed that the assemblies, products or materials indicated therein will be available in a timely manner and in the quantities required for the project as set out under the Contract Documents.

Submission

All submittals shall be in English language, and any system of dimensions (i.e.; English or metric) shown shall be consistent with that used in the Contract Documents. The Contractor shall submit all Submittals in the form and number required by the Contract Documents within required time limits and sufficiently in advance of construction requirements to permit adequate review by the Owner for correction, approval and resubmission if required. No extension of time shall be allowed on account of any delay by the Owner in approving such submittals, if the Contractor has failed to act promptly and responsively in making his submissions. Each submittal shall be identified as required by the Contract Documents.

Action on Submittals

The Engineer-in-Charge will indicate an approval or disapproval of the Submittals for and on behalf of the Owner requiring approval by the Owner and if not approved as submitted shall indicate the Owner’s reasons thereof. Approval by the Engineer-in-Charge shall not relieve the Contractor from responsibility for any errors or omissions in his submittals, nor from responsibility for complying with the requirements of this contract, except with respect to variations described by the Contractor and approved in accordance with "Variations in Submittals" Clause. The approval of the Engineer-in-Charge on the submittals will be for general compliance with the intent of the Contract Documents and with the information given therein, and shall not be construed

a) As permitting any departure from the contract requirements

b) As relieving the Contractor of responsibilities for any error including details, dimensions, materials, etc. and

c) As approving departures from details appearing on Contract ‘Drawings and Specifications.

Where approval of Submittals is required, the Contractor shall perform the Work in accordance with such approved Submittals. Any Work performed by the Contractor prior to such approval by the Engineer-in-Charge shall be at the sole risk and liability of the Contractor.

Variation in Submittals

If Submittals contain any variations from the contract requirements, other than those requested on previous submittals, the Contractor shall specifically describe such variations in writing and the reasons thereof to the Engineer-in-Charge. If the approval of any such variation affects the Contract Price or the Completion time of the Contract, the Engineer-in-Charge shall issue an appropriate Contract modification. Otherwise, the variation may be approved by the Engineer-in-Charge, only by specific reference thereto in writing. The Contractor shall not be entitled to rely on general approval of a submittal as an approval of variations of requirements of the Contractor. If the Contractor fails to describe such variations and shall not be relieved from the responsibilities of executing the Work in accordance with the contract, notwithstanding a general approval of such submittals. Nothing contained herein shall relieve the Contractor of the responsibility of notifying the Engineer-in-Charge of any part of the Contract Drawings or Specifications, which the Contractor knows or reasonably should have known which could result in defects under construction.

Use of submittals

The Owner may duplicate, use, and disclose in any manner and for any purpose shop drawings, product data and other submittals delivered under this contract.

Placement of Orders

The Contractor shall place orders for items requiring a sample or product data submittal promptly after receiving the written approval of the submittal by the Engineer-in-Charge. No such materials or products shall be ordered or used in the Work until such written approval by the Engineer-in-Charge has been given. In the event such materials or products pre ordered or used in the Works without the written approval of the Engineer-in-Charge, the same shall be at the risks, consequences, liability and costs of the Contractor.

Use and testing of samples

a) Use:

Approved samples not destroyed in testing will be sent to Engineer-in-Charge. Those samples, which are in good condition, will be marked for identification and may be used in the Works. Materials and equipment incorporated in the Work shall match the approved samples within any specified tolerances. Other samples not destroyed in testing nor approved will be returned to the Contractor at the expense of the Contractor if so requested at the time of submission.

b) Failure of samples to pass specified tests:

Failure of any material to pass the specified tests will be sufficient cause for refusal to consider, under this contract, any further samples of the same brand or make of that material or equipment which previously has proved unsatisfactory in service.

c) Taking and testing of samples:

Samples of various materials or equipment delivered on the site or in place may be taken by the Engineer-in-Charge for additional testing by the Owner outside of those found not to have met contract requirements, unless the Engineer-in-Charge determines it to be in the Owner's interest to accept the non-conforming materials or equipment with an appropriate adjustment of the Contract Price/Value as determined by the Engineer-in-Charge.

d) Cost of additional testing:

Unless otherwise specified, when additional tests are made, only one test of each set of sample proposed for use will be made at the expense of the Contractor. Samples, which do not meet contract requirements, will be rejected. Further testing of additional samples, if required, will be made at the expense and costs of the Contractor.

CLAUSE.5.13 :Co-operation with other contractors/specialized agencies/sub-contractors

1) The Contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupants of the adjacent properties and to the public in general .The Contractor shall take all care, as not to damage any other adjacent property or other services running adjacent to the plot. If any damage is done, the same shall be made good by the Contractor at his own cost

and to the entire satisfaction of the Engineer-in-Charge. The Contractor shall use such methodology and equipment for execution of the work, so as to cause minimum environmental pollution of any kind during execution, to have minimum execution time and minimum inconvenience to road users and to the occupants of the buildings on the adjacent plot and public in general, etc. He shall make good at his own cost and to the entire satisfaction of the Engineer in Charge any damage to roads, paths, cross drainage works or public or private property whatsoever caused, due to the execution of the work or by traffic brought thereon, by the Contractor. Further, the Contractor shall take all precautions to attendee by the environmental related restrictions imposed by Govt. of Bihar as well as prevent any pollution of streams, ravines, river bed and waterways. All waste or superfluous materials shall be transported by the Contractor, entirely to the satisfaction of the Engineer-in-Charge. 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. No claim what so ever on account of site constraints mentioned above or any other site constraints, inadequate availability of skilled, semi-skilled or unskilled workers in the near vicinity, non-availability of machinery spare parts and any other constraints not specifically stated here, shall be entertained from the Contractor. Therefore, the Bidders are advised to visit site and get first-hand information of site constraints. Accordingly, they should quote their tenders. Nothing extra shall be payable on this account.

2) The Contractor shall cooperate with and provide the facilities to the sub-Contractors and other agencies working at site for smooth execution of the work. The contractor shall indemnify the Owner against any claim(s) arising out of such disputes. The Contractor shall:

3) Allow use of scaffolding, toilets, sheds etc.

4) Properly co-ordinate their work with the work of other Contractors.

5) Provide control lines and benchmarks to his Sub-Contractors and the other Contractors.

6) Provide electricity and water at mutually agreed rates.

7) Provide hoist and crane facilities for lifting material at mutually agreed rates.

8) Co-ordinate with other Contractors for leaving inserts, making chases, alignment of services etc. at site.

9) Adjust work schedule and site activities in consultation with the Engineer-in-Charge and other Contractors to suit the overall schedule completion.

10) Resolve the disputes with other Contractors/ sub-contractors amicably and the Engineer-in-Charge shall not be made intermediary or arbitrator.

11) The work should be planned in a systematic manner so as to ensure proper co-ordination of various disciplines viz. sanitary & water supply, drainage, rain water harvesting, electrical, and firefighting, information technology, communication & electronics and any other services.

12) Other agencies will also simultaneously execute and install the works of sub-station / generating sets, air-conditioning, lifts, etc. for the work and the contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings trenches etc. as may be required for such related works (for which inserts, sleeves, brackets, conduits, base plates, clamps etc. shall be supplied free of cost by the Owner unless otherwise specifically mentioned) and the contractor shall fix the same at time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.

13) The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer-In-Charge and shall as far as possible arrange his work and shall place and dispose of the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and in a proper co -ordination manner and shall perform it in proper sequence to the complete satisfaction of others.

CLAUSE.5.14 :Percentage Rates

(A) The percentage rates quoted by the Contractor are deemed to be inclusive of site clearance, setting out work, profile, setting lay out on ground, establishment of reference bench mark(s), installing various signage, taking spot levels, survey with total station, construction of all safety and protection devices, compulsory use of helmet and safety shoes, and other appropriate safety gadgets by workers, imparting continuous training for all the workers, barriers, preparatory works, construction of clean, hygienic and well ventilated workers housings in sufficient numbers as per drawing supplied by Engineer in charge, working during monsoon or odd season, working beyond normal hours, working at all depths, height, lead, lift, levels and location etc. and any other unforeseen but essential

incidental works required to complete this work. Nothing extra shall be payable on this account and no extension of time for completion of work shall be granted on these accounts.

(B) The rates quoted by the bidder, shall be firm and inclusive of all taxes and levies as applicable (including works contract tax and GST as per Clause 38). Labour cess applicable as per relevant Central/State laws will be deducted from every bill of the contractor and deposited to respective Government department. TDS for Income-tax and Works Contract tax as applicable will be deducted from contractors' bills and deposited to respective Government department. The ESI and EPF contributions on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-charge to the contractor on actual basis. Effect of any tax due to new legislation shall be adjusted accordingly as per actual on production of documentary proofs of payment of such tax to concerned Government departments.

(C) No foreign exchange shall be made available by the Owner for importing (purchase) of equipment, plants, machinery, materials of any kind or any other items required to be carried out during execution of the work. No delay and no claim of any kind shall be entertained from the Contractor, on account of variation in the foreign exchange rate.

(D) All ancillary and incidental facilities required for execution of work like labour camp, stores, fabrication yard, offices for Contractor, watch and ward, temporary ramp required to be made for working at the basement level, temporary structure for plants and machineries, water storage tanks, installation and consumption charges of temporary electricity, telephone, water etc. required for execution of the work, liaison and pursuing for obtaining various No Objection Certificates, completion certificates from local bodies etc., protection works, testing facilities / laboratory at site of work, facilities for all field tests and for taking samples etc. during execution or any other activity which is necessary (for execution of work and as directed by Engineer-in-Charge), shall be deemed to be included in rates quoted by the Contractor, for various items in the schedule of quantities. Nothing extra shall be payable on these accounts. Before start of the work, the Contractor shall submit to the Engineer-in-Charge, a site / construction yard layout, specifying areas for construction, site office, positioning of machinery,

material yard, cement and other storage, steel fabrication yard, site laboratory, water tank, etc.

(E) For completing the work in time, the Contractor might be required to work in two or more shifts (including night shifts). No claim whatsoever shall be entertained on this account, not with-standing the fact that the Contractor may have to pay extra amounts for any reason, to the laborers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the Contractor with them.

(F) All material shall only be brought at site as per program finalized with the Engineer-in-Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.

(G) Rate shall including of Liaison work required, if any, in this regard with the local bodies. Nothing extra shall be payable on this account. Statutory charges, fees etc. required to be paid to the local bodies in this connection shall only be payable by the Owner or shall be reimbursable to the contractor on production of proof of actual payment made by him.

(H) It is clarified that the contractor shall be responsible for obtaining all No-objection certificate (NOCs) and relevant licenses for services like lift installation, electrical installation, fire installation and like. Nothing extra shall be payable on this account.

CLAUSE.5.15 :Inspection and rectification of Works

Access:

The Owner and their authorized agents and representatives shall at all times have access to the site and other locations where parts of the Work are under preparation.

Contractor tests:

The Contractor shall notify the Engineer-in-Charge well in advance, of tests and inspections to be carried out, and shall obtain his written approval wherever so stipulated before proceeding with the Works.

Inspections:

The Contractor shall maintain an adequate inspection system and perform such inspections from time to time as will ensure that the Work called for by this contract conforms to contract requirements and does not result in any deviation. The Contractor shall maintain complete inspection records and make them available to the Owner. All Work shall be conducted under the general direction of the Contractor and is subject to Owner's inspection and test at all places and at all reasonable times before final completion and acceptance with a view to ensure strict compliance with the terms and conditions of the contract.

Owner's inspections and tests:

Inspections and tests conducted by or on behalf of the Owner are for the sole benefit of the Owner and do not: -

(A) Relieve the Contractor of responsibility for providing adequate quality control measures,

(B) Relieve the Contractor of responsibility for damage to or loss of the material before final completion and acceptance of the Work;

(C) Constitute or imply acceptance. Or.

(D) Affect the continuing rights of the Owner after acceptance of completed Work.

Owner inspectors:

The presence or absence of an Owner's inspector does not relieve the Contractor from any of the obligations under the contract nor is the inspector authorized to change any term or condition of the contract.

Performance of inspections and tests:

The Contractor shall promptly furnish, without an additional charge all facilities, labour, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Engineer-in-Charge as per the terms of the Contract. The Owner may charge to the Contractor any additional cost of inspection or testing when work is not ready at the time specified by the Contractor for inspection or testing, when prior rejection makes re inspection or retesting necessary. The Owner shall perform all its inspections and tests in a manner that will not unnecessarily delay the work. Special, full size, and performance tests shall be performed as described in the Contract Documents.

The Contractor shall be solely responsible for the protection of all finished surfaces and Works so as to avoid any repairs and shall deliver to the Owner upon final completion the Works free of any blemish, defect or damage.

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

(F) Inspection of the work by Architect Consultants appointed by the NU.

(i)The Architect Consultants appointed by NU shall be inspecting the works frequently to ensure that the works are in general being executed according to the design, drawings and specifications laid down in the contract.

(ii)The Architect Consultants appointed by NU shall certify on completion of particular building that it has been constructed according to the approved drawings design and specifications.

CLAUSE.5.16 :Rejected Work

The Architect Consultants and/or Engineer-in-Charge/or Owner shall be authorized to reject any Work, which in their/his opinion is not in conformity to the specifications set out in the Contract Documents. The decision of the Architect Consultants /Engineer-in-Charge in this regard shall be final and binding on the Contractor.

Defective Work whether caused due to poor workmanship, use of sub-standard materials, or on account of damage or for any other reason whatsoever, whether caused by the Contractor and/or the Sub-Contractor may be rejected by the Architect Consultants/Engineer-in-Charge and shall be demolished by the Contractor and removed promptly from the site and replaced or re-executed expeditiously by the Contractor at his own cost. The Owner, Architect Consultants and the Engineer-in-Charge shall in no event be responsible to bear any costs/liability arising on account of such defective workmanship.

If in the opinion of the Engineer-in-Charge/ Architect Consultants, it is not expedient nor feasible to correct the defective Work, the Owner shall be entitled to deduct from monies due to the Contractor, the difference in value between the executed Work and that required under the Contract, such amount of which shall be determined by the Engineer-in-Charge in due consultation with the Owner.

Clause.5.17 :On Account Payment of Interim Bills

The following percentage of contract rates for the various items included in the contract shall be payable against the stage of work shown herein.

i. 85% after initial inspection and delivery at site in good condition on pro-rata basis.
ii. 10% after completion of installation, testing and Commission in all respects.
iii. Balance 5% will be paid after successfully completion of minimum one month from taking over by the University for Beneficial Use.

The Owner shall release 75% of the value of the interim bill submitted by the contractor immediately on adhoc basis on preliminary scrutiny of the bill by Engineer-in-charge. Such adhoc payment shall be regarded as the advance payments against the submitted bill. The balance amount shall be released within 15 (Fifteen) working days after the verification in detail by the Engineer-in-charge and getting certification for the quality of the Work(s) from the **Architect Consultants** and **Project Management Consultants (PMC)** for which the Contractor shall provide assistance to the Engineer-in-charge in accordance with their direction. All payment will be subject to statutory or permissible deductions to be made by the Owner prior to the release of the amount to the Contractor.

Each bill shall be accompanied by the following documents.

Measurements and quantities of items of Work done since last bill.

Physical Progress Report along with relevant Photographs.

Copies of quality control tests in specified format covering the Work done since last bill.

Copies of Material Bills for equipment's and items procured at site after initial inspecting and approval from Engineer In Charge.

Copies of instructions recorded in the site instruction book containing the instructions and compliance made thereof, covering the Work done since last bill.

Clause.5.18 :Payment of Final Bill

On the intimation to the Engineer-in-charge by the contractor for the completion of the work, the Engineer-in-charge shall arrange for the inspection of works by his representative, PMC and the Architect Consultants. Upon the inspection of works Engineer-in-charge will hand over a list showing the defects in works, if there are any, to the contractor. The final Bill shall not be paid till all such defects are not rectified to the entire satisfaction of the Engineer-in-charge.

The final bill shall be accompanied by:

All-technical documents on the basis of which the Work was carried out.

1. As-built drawings. Three sets of construction and installation drawings for all Works, and Site development, showing therein modifications, corrections and additions signed and confirmed by the Engineer-in-Charge to be "as built" drawings. The entire documentation shall be submitted in Compact Discs (CD), using latest version of AUTOCAD software.

2. Completion certificates for embedded and covered-up Works issued by the Engineer-in-Charge.

3. Certificates for tests carried out for various items of Work.

4. Manufacture's operating and maintenance manuals as well as guarantee/warrantee papers, commissioning and handing over reports for whatever equipment/Materials installed.

5. Security Deposit of 2.5% (Two Decimal Five per cent) of the Contract Value in the form of bank guarantee valid for a Defect liability period from the date of certificate.

CLAUSE.5.19 : Limit of price Adjustment

Provided that, in determining all such price adjustment in accordance with the aforesaid sub-clauses:

(a) No account will be taken of any amount by which any cost incurred by the contractor has been increased by default or negligence of the contractor.

(b) If the contractor fails to complete the work within time for completion, increase or decrease of cost of specified materials shall be made using either the indices or prices relating to prescribed time for completion, or the current indices or prices, relating to prescribed time for completion, or the current indices or prices, whichever is more favourable to the Owner, provided that if an extension of time is granted, the above position shall apply to the adjustment made after expiry of such extension of time.

(c) On completion of the works and before final payment the contractor shall give a certificate that he has made full and complete disclosure to the Engineer-in-Charge of every increase or decrease in price obtained by him on materials affected by this clause.

CLAUSE.5.20 : Exemption from price Adjustment

The following items shall not be included in the price adjustment calculation:

(A) Liquidated damages:

(B) Retention withheld and released:

(C) Advance payments in the form of loans and their repayments:

(D) The value of any additional or varied work valued at current prices:

CLAUSE.5.21 :Specifications

In the case of any class of work for which there is no such specifications as referred to in detailed specification, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case there are no such specifications in Bureau of Indian Standards, the work shall be carried out as per manufacturers' specifications, if not available then as per C.P.W.D. /District/ state P.W.D. / Specifications. In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge. Specifications for a type of work are not covered by the detailed specifications/State P.W.D. specifications/I.S.I specifications or particular specifications, the same shall be decided by the engineer-in-charge and shall be binding on the contractor.

The engineer-in-charge shall have the power to insist upon the contractor to purchase and use such materials of particular approved make which may in this opinion be necessary for proper and reasonable compliance with the specifications and execution of work.

In the event of any variation/discrepancy in the drawings, specification and tender documents, the decision of the Engineer In charge shall be final, binding and conclusive on the contractor.

(A) As required by the Engineer-in-charge, the contractor shall provide all facilities at site or at manufactures work or an approved laboratory for testing of materials and/or workmanship, all the expenditure in respect of this shall be borne by the contractor unless specified otherwise in the contract. The contractor shall when required to do so by the engineer-in-charge submit that the materials have been tested in accordance with requirements of the specifications.

(B) Neither the confirmation by the engineer-in-charge not to test the materials nor the production of manufacturer(s) certificate etc. as aforesaid shall affect the right of the engineer-in-charge to reject, after delivery; the materials found not in accordance with the specifications.

CLAUSE.5. 22 :Setting Out

Deleted

CLAUSE.5.23 :Contractor shall submit fabrication/ shop drawings for obtaining approval

The contractor shall submit fabrication drawing based on GA drawings and design parameters given by the Architect Consultants, in triplicate for obtaining preliminary approval of the Engineer-in-Charge for all design drawing. One copy of this drawing duly corrected and signed wherever necessary by Architect Consultants will be returned to the contractor for preparing and resubmitting drawing after incorporating the said corrections again in triplicate for final approval. Along with the completion and approval of each drawing the contractor shall also submit the materials list for checking and approval to the Engineer-in-charge. No drawing shall be approved finally without material list. Once the drawing, if finally approved no request for any alternative section will be entertained. The contractor shall submit to Engineer in Charge 6 copies of all approved drawings out of which 3 copies will be issued back to the contractor for the execution of work. The contractor shall also submit copies of design calculations. Approval of shop drawings however will not absolve the contractor of his responsibility for the safety and correctness of the fabrication.

CLAUSE.5.24 :Quality Assurance

(A) The proposed project is a prestigious project and quality of work is of paramount importance. Contractor shall have to engage well-experienced skilled labour and deploy modern T&P and other equipment to execute the work. Many items like double slab structure with exposed finish form works, coarse rubble stone masonry specialized flooring work, Polysulphide sealant and backer rod fixing in expansion joints, factory made door- window shutters, proper slope maintaining in toilet units, sanitary- water supply installation, textured finishing, water proofing treatment with APP, Extruded Polystyrene insulation boards, china mosaic on terrace and chemical treatment in toilet drops will specially require engagement of skilled workers having experience particularly in execution of such items.

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

conforming to specifications shall be replaced / removed by the contractor at his own risk & cost.

In addition to the supervision of work by project management consultants, the Architect Consultants appointed by the NU shall also be carrying out regular and periodic inspection of the on-going activities in the work and deficiencies, shortcomings, inferior workmanship pointed out by them shall be communicated by engineer in charge to the contractor. Upon receipt of instructions from Engineer in Charge these are also to be made good by necessary improvement, rectification, replacement up to his complete satisfaction. Special attention shall be paid towards line and level of internal and external finishing, exposed smooth surface of RCC members by providing fresh shuttering plates, rubberized linings to all the shuttering joints, accurate joinery work in wooden doors and windows, thinnest joints in stone/ tiling / cladding work, non-hollowness in floor and dado tiles work, protection of scratches over flooring by impounding layer of plaster of Paris, water tight pipe linings, proper compaction of filled up earth etc. to achieve an Institution of International standards and up keeping of quality assurance shall be of paramount importance, as such.

(C) The Contractor shall submit, within 20 days after the date of award of work, a detailed and complete method statement for the execution, testing and Quality Assurance, of such items of works, as directed by the Engineer-in-Charge. All the materials to be used in the work, to give the finished work complete in all respects, shall comply with the requirements of the Specifications and shall pass all the tests required as per specifications as applicable or such specifications / standards as directed by the Engineer-in-Charge. However, keeping the Quality Assurance in mind, the Contractor shall submit, on request from the Engineer-in-Charge, his own Quality Assurance procedures for basic materials and such items, to be followed during the execution of the work, for approval of the Engineer-in-Charge.

(D) The Contractor shall procure and provide all the materials from the manufacturers / suppliers as per the list attached with the tender documents, as per the item description and particular specifications for the work. The equivalent brand for any item shall be permitted to be used in the work, only when the specified make is not available. This is, however, subject to documentary evidence produced by the contactor for non-availability of the brand specified and also

subject to independent verification by the Engineer-in-Charge. In exceptional cases, where such approval is required, the decision of Engineer-in-Charge as regards equivalent make of the material shall be final and binding on the Contractor. No claim, whatsoever, of any kind shall be entertained from the Contractor on this account. Nothing extra shall be payable on this account. Also, the material shall be procured only after written approval of the Engineer-in-Charge. All materials shall be got checked by the Engineer-in-Charge or his authorized supervisory staff on receipt of the same at site before use.

(E) The tests, as necessary, shall be conducted in the laboratory approved by the Engineer–in- Charge. The samples shall be taken for carrying out all or any of the tests stipulated in the particular specifications and as directed by the Engineer-in-Charge or his authorized representative.

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

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

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

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

(J) The Contractor shall maintain all the work in good condition till the completion of entire work. The Contractor shall be responsible for and shall make good, all damages and repairs, rendered necessary due to fire, rain, traffic, floods or any other causes. The Engineer-in- Charge shall not be responsible for any claims for injuries to person/workmen or for structural damage to property happening from any neglect, default, want of proper care or misconduct on the part of the Contractor or of any other of his representatives, in his employment during the execution of the work. The compensation, if any, shall be paid directly to the Department / authority / persons concerned, by the Contractor at his own cost.

CLAUSE.5.25 : Special Conditions – HVAC Works

1. GENERAL

1.1. Special Conditions of Contract shall be read in Conjunction with the General conditions of Contract, specification of work, Drawings and any other documents forming part of this Contract wherever the context so requires.

1.2. Notwithstanding the sub-division of the documents into these separate sections and volumes, every part of each shall be deemed to be supplementary to and complementary of every other part and shall be read with and into the Contract so far as it may be practicable to do so.

1.3. Where any portion of the General Condition of Contract is repugnant to or at variance with any provisions of the Special Conditions of Contract, unless a different intention appears, the provisions of the special Conditions of Contract shall be deemed to over-ride the provisions of the General Conditions of Contract and shall to the extent of such repugnancy, or variations, prevail.

1.4. Wherever it is mentioned in the specifications that the Contractor shall perform certain work or provide certain facilities, it is understood that the Contractor shall do so at his cost and the value of contract shall be deemed to have included cost of such performance and provisions, so mentioned.

1.5. The materials, design, and workmanship shall satisfy the relevant Indian Standards and CPWD specifications, the Job Specifications contained herein and Codes referred to. Where the job specification stipulate requirements in addition to those contained in the standard codes and specifications, these additional requirements shall also be satisfied.

1.6. It will be the Contractor's responsibility to bring to the notice of Engineer-in-Charge any irreconcilable conflict in the contract documents before starting the work (s) or making the supply with reference which the conflict exists.

1.7. In the absence of any Specifications covering any material, design of work (s) the same shall be performed / supplies / executed in accordance with Standard Engineering Practice as per the instructions / directions of the Engineer-in-Charge, which will be binding on the Contractor.

1.8. Drawings:
The HVAC Drawings, which may be issued with tenders, are diagrammatic only and indicate arrangement of various systems and the extent of work covered in the contract. These Drawings indicate the points of supply and of termination of services and broadly suggest the routes to be followed. Under no circumstances shall dimensions be scaled from these Drawings. The architectural/interiors drawings and details shall be examined for exact location of equipment's and cutouts.
The contractor shall follow the GFC drawings in preparation of his shop drawings, and for subsequent installation work. He shall check the drawings of other trades to verify spaces in which his work will be installed.
Maximum headroom and space conditions shall be maintained at all points. Where headroom appears inadequate, the contractor shall notify the Architect/Consultant/Owner's site representative before proceeding with the installation. In case installation is carried out without notifying, the work shall be rejected and contractor shall rectify the same at his own cost.

The contractor shall examine all architectural, structural, plumbing, HVAC and other services drawings and check the as-built works before starting the work and report to the Owner's site representative any discrepancies and obtain clarification. Any changes found essential to coordinate installation of his work with other services and trades, shall be made with prior approval of the Architect/Consultant/Owner's site representative without additional cost to the Owner.

1.9. Samples and Catalogues:
Before ordering/procurement of the material necessary for these installations, the contractor shall submit to the Engineer In charge/Consultants for approval of catalogues with their dimensional details. All equipment cut sheets along with required technical data shall be submitted for approval.

1.10. The installation shall be in conformity with the Byelaws, Regulations and Standards of the local authorities concerned, in so far as these become applicable to the installation. But if these Specifications and Drawings call for a higher standard of materials and / or workmanship than those required by any of the above regulations and standards, then these Specifications and Drawings shall take precedence over the said regulations and standards. However, if the Drawings and specifications

require something, which violates the Bye-laws and Regulations, then the Byelaws and Regulations shall govern the requirement of this installation.

1.11. Equipment Receipt Checklists:
On arrival of any Equipment's on site, Contractor has to inform Engineer In charge well in time and has to submit a material Inspection report stating the physical inspection and technical data. The report should be signed and documented as a part of project documents.

1.12. All HVAC works will have to be done in close co-ordination with all other disciplines and ELV/BMS service to avoid infringement with any of the MEP associated works.

1.13. Tools, Tackles, Equipment's & Scaffolding:
All tools, tackles & equipment necessary for installation and testing shall be provided by the contractor. The quoted rates shall take into account for providing any such equipment, which may not form part of the installation, but are necessary for the execution of the job. Contractor shall be responsible to make his own arrangement to provide scaffolding / supports etc., necessary for his work.

1.14. Manufacturers:
Where manufacturers have furnished specific instructions relating to the materials used in this job, covering points not specifically mentioned in these documents, these instructions should be followed in all cases.
Where manufacturer's names and/or catalogue numbers are given, this is an indication of the quality, standards and performance required.
For items not covered under the List of Approved Makes', contractor shall offer items of first class quality, standards and performance and obtain the approval of Engineer In charge/Consultants before procuring them.
Where interfacing occurs, equipment shall be mutually compatible in all respects.

1.15. Rating:
Rating of all items shall be appropriate for the conditions on the particular site on which the item will be used. All the equipment shall be fit for continuous work under the most severe weather conditions of site.

1.16. Codes and Standards
Any other codes or standards which are required but not mentioned in the technical specs should be considered as per the latest Indian standards & international standard.

1.17. Technical Data
All technical data to be filled by the bidders in Technical specs shall be accepted in metric system or after the approval from Consultant/ Engineer In charge only. Any bidder submitting the technical data in any other unit would render his bid liable for rejection. The technical data should be typed in capitals only.

1.18. Bye-laws and Regulations

The installation shall be in conformity with the Bye Laws, regulation and standards of the local authorities concerned in so far as these become applicable to the installation. But if these specifications and drawings call for a higher standard of materials and /or workmanship than those required by any of the above regulations and standards, than these specifications and drawings shall take precedence over the said regulation and standards. However, if the drawings and specifications require something which violates the Bye-laws and regulations, then the bye laws and regulations shall govern the requirements of this installation.

2. SITE LOCATION AND CONDITIONS:

The design conditions are based on ISHRAE weather data and statistics of the most recent data of 10 year period, published by the India Metrological Department and .epw weather data files from the DOE.

Description	Value (units)
Site Latitude/Longitude	25.017 °N, 85.416 °E
Site Sea level	73 m
Clearness number	0.95
Summer outdoor air DB/WB temperature	44.5°C (112 °F) /23.9 (75.02 °F)
Winter outdoor air DB/WB temperature	5°C (41.0 °F) / 3.5°C(38.3°F)
Monsoon outdoor air DB/WB temperature	35°C (95.0°F)/ 28.3°C (82.94)

The contractor shall be deemed to have inspected the site and thoroughly acquainted himself with the site conditions availability of water & electricity for construction, storage space for materials, work area available for construction, disposal/stacking of surplus materials etc. and to acquaint himself with the general nature of the site and its other features likely to affect tender and construction of works. No claim/extension of the time whatsoever shall be entertained on account of prevailing site conditions.

3. SCOPE OF WORK

The general character and the scope of work to be carried out under this contract is illustrated in DBR, Drawings, Specifications and Schedule of Quantities. The Contractor shall carry out and complete the said work under this contract in every respect in conformity with the contract documents and with the direction of and to the satisfaction of the Owner's site representative. The contractor shall furnish all labour, materials and equipment (except those to be supplied by the owner) as listed under Schedule of Quantities and specified otherwise, transportation and incidental necessary for supply, installation, testing and commissioning of the complete HVAC system as described in the

Specifications and as shown on the drawings. This also includes any material, equipment, appliances and incidental work not specifically mentioned herein or noted on the Drawings/Documents as being furnished or installed, but which are necessary and customary to be performed under this contract. The HVAC system shall comprise of (but not limited to) the following buildings:-

1. Outreach Centre with Extension - 1 Nos

a) All refrigerant, Chilled/ Hot water piping works including insulation, pressure testing, protection, hanging and support works for all the above mentioned buildings.
b) All ducting works including insulation, pressure testing, protection, hanging and support works for all the above mentioned buildings.
c) Supply and installation of BMS compatible electrical panel for HVAC equipment's.
d) Electrical and control wiring from panel to HVAC equipment in case of chilled water AHUs.
e) Electrical wiring from panel to Outdoor and control cabling from outdoor to indoor units. Electrical wiring of indoor units.
f) Earthing (Grounding) System.
g) SITC of all High side/ Low Side equipment that includes,
    a. Screw Chillers
    b. Cooling Towers
    c. Pumps – Primary, secondary and Condenser
    d. Boiler
    e. D-AHU
    f. FCU's
    g. Expansion Tanks
    h. Any other in plant room
h) SITC of site level infra Chilled/ Hot water hydronic piping including trenching, filling and laying of pipe with Valves, chambers etc. to complete the work
i) Supply, installation and commissioning of D-AHUs, FCUs, Ventilation Fans, condensing units and any other HVAC equipment/ accessories mentioned in BOQ or necessary to successfully complete the project as per clients requirements
j) Supply, installation and commissioning of Pumps and related accessories.
k) SITC of all DEVAP and its interlocking with D-AHUs, and indoor unit etc.
l) Foundations for equipments including foundation bolts and vibration isolation spring/pads,
m) Suspenders, brackets and floor/wall supports for suspending/supporting ducts and pipes.
n) Suspenders and/or cable trays for laying the cables,

o) Excavation and refilling of trenches in soil wherever the pipes are to be laid directly in ground, including necessary base treatment and supports. Included in the scope of Lead Contractor.
p) Sealing of all floor slab/ wall openings provided by the lead contractor or contractor for pipes and cables, from fire safety point of view, after laying of the same.
q) Painting of all exposed metal surfaces of equipment's and components with appropriate color.
r) Making openings in the Walls/Floors/Slabs or modification in the existing openings wherever provided for carrying pipe line, ducts, cables etc.
s) Providing wooden/ metallic frames for fixing grills/diffusers.
t) Making good all damages caused to the structure during installation and restoring the same to their original finish.
u) All electrical associated works as per BOQ and drawings, specifications.

4. PAYMENT TERMS:

Payment against supply of equipment's items shall be regulated as given below:

S No	Stage of Work	Machinery & Equipment	All other Items
1)	After initial inspection(Wherever specified) & delivery at site in good condition on pro rata basis	80%	70%
2)	On completion of Pro-rata Installation	10%	20%
3)	On commissioning and completion of successful running period not less than one month after taking over.	5%	5%
4)	On completion of major Seasonal Test	5%	5%

When the major seasonal test cannot be carried out on commissioning of the installation due to any reason not attributable to the contractor, the installation will he handed over to the Department for beneficial use after completion of successful running in test of 7 days subject to a minimum aggregate of 120 hours as per para 1.15 above. The balance payment shall be released to the contractor on his furnishing a bank guarantee in the specified format from a scheduled bank for an equivalent amount. The bank guarantee shall be valid for a period of 6 months. However it will be extended till the successful completion of the major seasonal test. This bank guarantee shall be independent of the one furnished for performance guarantee.

The following shall be considered major seasonal test for the purpose of the above payment terms: -

a) Air-conditioning system : Summer or monsoon
b) Central heating system : Winter
c) ETAC : Summer
d) Cold room/ Walk in cooler : Summer

5. ASSOCIATED CIVIL WORKS

Note that all civil works associated with HVAC works are included in HVAC Contractor's scope of work, like wall chasing by wall chaser, making holes etc. for installation of piping/ducting and making good. These shall be executed in accordance with approved shop drawings of HVAC contractor.

Excavation, Trenches including duct/ pipe supports for laying/ installation of piping/ duct, Repair of all disturbed surfaces/openings made by HVAC Contractor shall be included in the scope of work and accounted for in the relevant HVAC work item. No extra payment / claim shall be made on this account.

6. CO-ORDINATION WITH OTHER WORKS

The Contractor during the execution of the Works shall co-ordinate with other Works, and other Agencies associated with the Project and shall work in harmony with them without causing any hindrance or obstruction or impeding the progress of their work in any way. Shafts/cutouts (sizes) confirmation that specified can be accommodated within the available size of shafts etc.

In respect of the work of other Services and Agencies, where the commencement or progress of such work of any other Service, or Agency is dependent upon the completion of particular portions of the Contractor's Works or generally upon the Contractor maintaining progress in accordance with the approved co-ordinate construction programmed, it shall be the responsibility of the Contractor to complete such portions and maintain such progress.

Should any differences arise between the Contractor and the other Works, and Agencies, these shall immediately be brought to the attention of the Construction Manager/Consultants who after reviewing the matters causing the differences will give his decision which shall be final and binding on the Contractor.

7. CO-ORDINATION WITH FIRE PROTECTION SYSTEM WORKS

To collect all relevant information regarding contracts etc. for the operation condition of HVAC under fire conditions.

8. CO-ORDINATION WITH CIVIL WORKS

To prepare detailed shop/ working drawings for related works in accordance with the civil construction drawings.

9. CO-ORDINATION WITH ELECTRICAL, PHE WORKS

To co-ordinate all relevant information regarding power and exact location of panels.

10. CO-ORDINATION WITH BUILDING AUTOMATION AND SECURITY SYSTEM WORKS

To co-ordinate & provide all the relevant information to the Building Automation and Security System Works.

11. PROJECT EXECUTION AND MANAGEMENT

The Contractor shall ensure that senior planning and erection personnel from his organization are assigned exclusively for this project. The Contractor shall appoint one Project Manager holding senior management position in the organization. He shall be assisted on full time basis by a minimum of two HVAC engineer & three senior supervisors. The entire staff shall be posted at site on full time basis. Separate ID card to be given by the Contractor to each worker working on site.

The project management shall be through modern technique. The Contractor's office at site shall be fully equipped with fax, computers & plotter and shall prepare proper bar chart and completion schedules to be submitted & ensure timely completion. Erection engineer and supervisors shall be provided with mobile communication system so that they can always be reached.

For quality control & monitoring of workmanship, contractor shall assign at least one full-time engineer who would be exclusively responsible for ensuring strict quality control, adherence to specifications and ensuring top class workmanship for the HVAC and realted installation. Contractor shall furnish details of licenses of supervisors/workmen to be employed at site.

12. SHOP DRAWINGS

a) All the shop drawings shall be prepared on computer through AutoCAD System based on Architectural Drawings, site measurements and Interior Designer's Drawings. Within eight weeks of the award of the contract, contractor shall furnish, for the approval of the Architect/Consultant, two sets of detailed shop drawings of all equipment and materials including layouts for chilled water/ condenser

water / Hot water piping, refrigerant piping, valve locations and any other requirement to be fabricated or purchased by the contractor.

b) These shop drawings shall contain all information required to complete the Project as per specifications and as required by the Architect/Consultant/Owner's site representative. These Drawings shall contain details of construction, size, arrangement, operating clearances, performance characteristics and capacity of all items of equipment, also the details of all related items of work by other contractors. Each shop drawing shall contain tabulation of all measurable items of equipment/materials/ works and progressive cumulative totals from other related drawings to arrive at a variation-in-quantity statement at the completion of all shop drawings.

   Each item of equipment/material proposed shall be a standard catalogue product of an established manufacturer strictly from the manufacturers list given in the tender document.

   When the Architect/Consultant makes any amendments in the above drawings, the contractor shall supply two fresh sets of drawings with the amendments duly incorporated along with check print, for approval. The contractor shall submit further twelve sets of shop drawings to the Owner's site representative for the exclusive use by the Owner's site representative and all other agencies. No material or equipment may be delivered or installed at the job site until the contractor has in his possession, the approved shop drawing for the particular material/equipment/installation.

c) Shop drawings shall be submitted for approval sufficiently in advance of planned delivery and installation of any material to allow Architect/Consultant ample time for scrutiny. No claims for extension of time shall be entertained because of any delay in the work due to his failure to produce shop drawings at the right time, in accordance with the approved programme.

d) Manufacturer's drawings, catalogues, pamphlets and other documents submitted for approval shall be in four sets. Each item in each set shall be properly labeled, indicating the specific services for which material or equipment is to be used, giving reference to the governing section and clause number and clearly identifying in ink the items and the operating characteristics. Data of general nature shall not be accepted.

e) Samples of all materials like diffusers, grills, piping, insulation, valves, wires, shall be submitted to the Owner's site representative prior to procurement. These shall be submitted in two sets for approval and

retention by Owner's site representative and shall be kept in their site office for reference and verification till the completion of the Project.

f) Approval of shop drawings shall not be considered as a guarantee of measurements or of building dimensions. Where drawings are approved, said approval does not mean that the drawings supersede the contract requirements, nor does it in any way relieve the contractor of the responsibility or requirement to furnish material and perform work as required by the contract.

g) Where the contractor proposes to use an item of equipment, other than that specified or detailed on the drawings, which requires any redesign of the structure, partitions, foundation, wiring or any other part of the mechanical, electrical or architectural layouts; all such re-design, and all new drawings and detailing required therefore, shall be prepared by the contractor at his own expense and gotten approved by the Architect//Consultant/ Owner's site representative.

h) The Architect shall prepare the initial coordinated drawings for all the services. Main contractor shall extend full cooperation to HVAC contractor in preparation of Detailed Coordinated services drawings. He shall issue floppies and hard prints of his shop drawings to HVAC contractor well in advance to complete the co-ordinated services drawings in accordance with schedule prepared by the Owner site representatives. Where the work of the contractor has to be installed in close proximity to, or will interfere with work of other trades, he shall assist in working out space conditions to make a satisfactory adjustment. If so directed by the Owner's site representative, the contractor shall prepare composite working drawings and sections at a suitable scale, not less than 1:50, clearly showing how his work is to be installed in relation to the work of other trades. If the Contractor installs his work before coordinating with other trades, or so as to cause any interference with work of other trades, he shall make all the necessary changes without extra cost to the Owner.

i) Within four (4) weeks of approval of all the relevant shop drawings, the contractor shall submit four copies of a comprehensive variation in quantity statement, and itemized price list of recommended (by manufacturers) imported and local spare parts and tools, covering all equipment and materials in this contract. The Project Manager, from Clients side, shall make recommendation to Owner for acceptance of anticipated variation in contract amounts and also advise Owner to initiate action for procurement of spare parts and tools at the completion of project.

j) Contractor has to submit all the shop drawings as per the tender completion schedule.

13. COMPLETION (AS BUILT) DRAWINGS

Upon completion of the work and before issuance of certificate of virtual completion the contractor shall submit to the Owner's site representative four sets of layout drawings in progressive manner for individual systems drawn at approved scale indicating the complete system as installed. Drawings shall be prepared on AUTO-CAD (latest version). Along with the hard copies, the contractor shall submit copies of all drawings on CD and one set of all drawings on Rich Text Format shall also be submitted. These drawings must provide:

a) Single line chilled/ hot water and refrigerant piping diagram including control wiring and other relevant accessories etc.
b) Chilled/ hot water and refrigerant piping and duct routing layout plan including cable tray/ trench or burying details.
c) Internal grill and diffuser, grill and louver Layout/ location plan with all fixture details, & with all relevant sections.
d) Any HVAC equipment related details like foundation, accessory, Project specific typical details and general details.
e) Plant Room layout showing all chillers, pumps, panels and other associated works.
f) External Infra piping drawings showing all piping arrangement along with valves, chambers etc per site condition.
g) Instruction, maintenance and operation manuals including maintenance schedule for all equipment. Testing & commissioning reports of all HVAC equipment.

14. POWER & WATER FOR CONSTRUCTION AND OTHER PURPOSES

Contractor has to make his own arrangement for water and power required during construction at his own cost.
Contractor will arrange for Power back up through DG set in case power from electricity board is not available / supplied. All expenses pertaining to operating and running of DG Set will be borne by the contractor.

15. SCAFFOLDING:

The contractor shall make his own arrangement for provisions of necessary scaffolding for the work and include the same in the rates quoted by them. No additional cost shall be payable other than specified in the specified tender schedule.

16. INSPECTION, TESTING, BALANCING AND COMMISSIONING:

1 SCOPE

This chapter covers initial inspection and testing of compressor, condenser,chiller& AHUs at manufacturer's works, initial inspection of other equipments/materials on receipt at site, final inspection testing & commissioning of allequipment at site & description of testing requirements & procedure.

2 INITIAL INSPECTION AT MANUFACTURER'S WORKS

2.1 Centrifugal / Screw Compressor) Salient features such as model, capacity control, type of lubrication etc.shall be verified against the requirements visually without opening the compressors.

i) Manufacturer's internal test certificates shall be scrutinised to check compliance with the requirements as specified in the contract.
ii) Free running test shall be carried out at the speed for which the motor is available with manufacturer but the speed shall not be less than that specified in contract. This test shall be carried out for 30 minutes in open space. During this running test following operations are to be noted :

a. Manual operation of capacity control
b. Lubrication oil pressure
c. Pneumatic test pressure test at 21 Kgf/sq.cm for casing of compressor.
d. Vacuum test for the compressor for 0.5mm of Hg.

2.2 Reciprocating compressor

i) Salient features such as model, No. of cylinders, capacity control, provision of crank case heaters, type of lubrication etc. shall be verified against the requirements visually without opening the compressors.
ii) Manufacturer's internal test certificates shall be scrutinised to check compliance with the requirements as specified in the order.
iii) Rate of leak test shall be checked by developing 7kg/sq.cm (gauge)pressure on HP side and 1 kg/ sq.cm on LP side using dry Nitrogen airor carbon dioxide. The leakage through the valves, shaft seal, cylinder heat gasket etc should not be more than 0.3 kg/sq.cm per cylinder in 4minutes time. Alternatively this may be demonstrated through vacuum.
iv) Pneumatic pressure test shall be carried out at 22 kg/ sq.cm and by submerging the compressor in water for 1 hour & there shall be no leakage.
v) Free running test shall be carried out at the rated speed specified in contract. This test shall be carried out for 30 minutes in open space. During this running test following operations are to be noted :

a. Manual loading / unloading of capacity control
b. Lubrication oil pressure
c. Safety valve operation
vi) Vacuum test for the compressor for 0.5mm Hg.

2.3 Condenser

i) Salient features like number of tubes, inside diameter of tubes (from which the gauge of the tube can be verified), no. of passes, material offins, length of condenser, provision of fittings like safety valve,

water, gas connection shall be verified during stage inspection. The tube thickness shall be checked.

ii) Manufacturer's internal test certificates shall be furnished and it shall be verified against contract requirements.
iii) Pneumatic pressure test at twice the normal condensing pressure for gas side of condenser shall be carried out.
iv) Hydraulic test at 10 Kgf/ sq.cm. for water side of the condenser shall be carried out.

2.4 Chiller

i) Salient features like type of chiller, number and inside diameter of tubes(from which gauge of the tubes can be verified), material of tubes, type, material and the number of fins, wherever applicable, diameter and length of chiller and provision of fittings be verified against requirements specified in the contract during stage inspection. Tube thickness shall be checked.
ii) Manufacturer's internal test certificate shall be furnished and same shall be checked as per contract requirements.
iii) Pneumatic pressure test at twice the normal condensing pressure for gas side of condenser shall be carried out.
iv) Hydraulic test at 10 Kgf/sq.cm. for the water side of chiller shall be carried out.

2.5 Chilling unit (Water cooled only)

Full load test shall be carried out to verify the capacity and IKW / Ton. (For air cooled chilling units this test shall be carried out at site)
Note: In case of imported centrifugal chilling machine, initial inspection shall be carried out at site before installation in respect of items needing physical inspection and verification. The test certificates for all the specified tests shall be produced which shall be accepted if found in order.

Factory Testing:
The complete unit shall be factory tested at 25%, 50%, 75% and 100%capacity at constant condenser water temperature and witnessed by *PMC and University Engineer* for performance at the rated conditions by simulating the actual design conditions. One unit of each capacity shall be tested.
All controls and switchgear shall be tested for proper functioning and set of design values.
The capacity in TR / kcal/hr shall be calculated from measurements of temperature difference and flow rate of water, in condenser and chiller. The power consumption shall be checked from current measurement of the motor.
All calculated and checked results shall match the specified data with intolerances as stipulated by ARI.
All instruments and personnel for tests shall be provided by the contractor.
Contractor shall inform the client about the chiller testing schedule min. 10 to15 days before the chiller is ready for factory testing.

2.6 Air Handling Units :

i) Salient features such as model, size, physical dimensions, and other details of various sections, fan motor details, fan dia, static pressure etc. shall be verified against the contract requirements.
ii) Manufacturer's internal test certificates for the motor and air handling unit shall be furnished and scrutinized as per contract requirements.
iii) Test certificate for static and dynamic balancing of the fan/ blower should be furnished. Fan balancing may be witnessed by Engineer-in-Charge or his authorised representative.
iv) Salient features like, type, material, no. and gauge of fins and tubes and no. of rows of cooling coil shall be furnished and verified with reference to contract requirements during stage inspection.
v) Hydraulic pressure to the extent of 10 Kgf/sq.cm or pneumatic pressure of 21 kgf/ sq.cm shall be applied to cooling coil and this pressure should be maintained for 1 hour and no drop should be observed indicating any leaks.

3 INITIAL INSPECTION AT SITE

3.1 Ducting:

i) The sheet used for ducting shall be checked for physical test at site. The physical test should include the sheet thickness and bend test asper relevant IS specifications.
ii) Zinc coating of GSS sheet as mentioned in the tender documents maybe got tested from a laboratory to verify that same meets the contract requirements.

3.2 Pumps:

i) Salient features such as model and make shall be checked as per contract requirements.
ii) The manufacturer's test certificates with Sr. No., head, discharge will be furnished and verified against contract requirements.

3.3 Cooling tower

i) Salient features such as make, model, dimensions, materials used, constructional details, number and size of nozzles, headers, size of tank, etc. should be verified against the requirements. Inspection of cooling tower in knocked down condition would be carried out at the site.
ii) Manufacturer's test certificate certifying the capacity of cooling tower and static balancing of fan should be furnished.

3.4 Switch Gear, Control Gear, and Measuring Instruments

These should be of specified make. For air circuit breaker manufacturer's test certificate shall be furnished by contractor and the same shall be verified asper contract requirements.

3.5 Electric Motors

Electric motors should be of specified make, manufacturer's test certificate for electric motor shall be furnished.

3.6 Pipes and Valves

i) It should be checked that the same is as per makes specified in contract.
ii) Dimensions including weight shall be checked for pipes against the requirements of contract.
iii) Manufacturer's test certificates for valves for testing of pressure withstand.

3.7 Insulation and acoustic lining

i) Physical verification for thickness and make should be made as per contract before application of insulation.
ii) Manufacturer`s test certificate for density, **thermal conductivity ,sound absorption and class of fire retardation wherever applicable** should be furnished.

Note: Accuracy of testing instruments shall be as mentioned in the final inspection procedure.

4 FINAL INSPECTION

i) After completion of the entire installation as per specification in all respects, the AC contractor shall demonstrate trouble free running of the AC equipment's and installation for a period of minimum 120 hours of running as detailed under para 1.15 of CPWD HVAC Specifications 2017.
ii) After the trial run as in para 1.15 above, the AC contractor shall offer the plant for the seasonal test, namely test for summer or monsoon season whichever occurs earlier. The test results as per Appendix G given in of CPWD HVAC Specifications 2017 shall be furnished.
iii) The equipment capacity computations as per para `B` under notes of the Annexure `G` shall be carried out.
iv) The Input KW of the unit / TR at full load shall also be checked against contract requirements, if any.
v) Pressure drops across chiller and condenser at specified flow rates shall be checked against the contract requirements.
vi) All instruments for testing shall be provided by the AC contractor. These shall be as per Note `A` of Appendix G. The accuracy of the instruments shall be as follows:
a. Temperature: Liquid in glass thermometer having accuracy + 1 deg. Cas per IS: 4825.

b. Wet bulb Temperature : Sling psychrometer conforming to IS:6017.

Scale Error:

For less than 0 deg. C : 0.3 deg C + 0.2 deg. C.

For over 0 deg. C : 0.2 deg. C + 0.1 deg. C.

c. Pressure Gauge: With the accuracy of + 1% for maximum scale value from 10 to 90%, and + 1.9% for maximum scale value for rest of the scale conforming to IS: 3695.

d. Water flow meter : Water flow shall be measured using the arrangement installed as per schedule of work. In case the tendering firms do not have testing instruments of the accuracy mentioned above, they should specify the accuracy of the instrument available with them for testing at the tender stage.

5 TESTING REQUIREMENTS AND PROCEDURES

5.1 Balancing of all air and water systems and all tests as called for in the specification shall be carried out by the HVAC contractor in accordance with the specifications and relevant local codes if any. Performance tests of individual equipment and control shall be carried out as per manufacturer's recommendation. All tests and balancing shall be carried out in the presence of
Engineer-in-charge or his authorized representative.
The whole system balancing shall be tested with microprocessor based hi-tech instruments with an accuracy + 0.5%.The instrument shall be capable of storing data and then down loading into aP. C. The HVAC contractor shall provide a minimum but not limited to the following instruments:

i) Microprocessor based calculation meter to measure DB and WB temperature, RH and Dew point
ii) Velo meter to measure air volume and air velocity
iii) Pitot tube
iv) Electronic rotary vane Anemometer
v) Accu balance flow measuring hood

The contractor shall be responsible to provide necessary sockets and connections for fixing of the testing instruments, probes etc.

5.2 Air Systems:
Systems are to be balanced by first adjusting the total flow at the fan, then by adjusting main dampers and branch dampers. Only final minor adjustments are to be made with register and diffuser dampers. Balancing of the air system shall be accomplished without causing objectionable air noise. Baffles and orifice plates required for proper air balance shall be furnished and installed by the contractor. Basically the following tests and adjustments are required.

i) Test all fan systems to provide proper cfm/ cmh.
ii) Adjust fresh air, return air and exhaust dampers to provide proper air quantities in all modes of control.
iii) Test and record fresh air, return air and mixed air temperature at all air handling units. Test and record data at all coils after air and hydronic systems are balanced. Measure wet and dry bulb temperature on cooling coils.
iv) Make point tube transverse at all main supply and return ducts to set proper air quantities. Adjust all zone and branch dampers to proper cfm/cmh.
v) Test and adjust each register, grills, diffuser or other terminals equipment to within 5% of design air quantity. Each opening shall be defined on the test report by size, manufacturer's model, room location, design cfm and actual cfm. Outlets shall be adjusted to minimize objectionable drafts.
vi) Test and record static pressure drop across all filters and major coils.

vii) High velocity duct systems shall be tested for leakage. If excessive or audible leakage is detected, the defect shall be repaired by the contractor. Sufficient static pressure readings shall be taken from the air handling units to the terminal units to establish system static pressure.

5.3 Water System:
Systems are to be balanced by opening all valves, closing all by-pass and setting all mixing valves to full coil flow. Water systems shall be cleared of air. Verify that the system has been properly cleaned, flushed and treated before testing. Basically, the following tests and adjustments are required.

i) Test and adjust all pumps to deliver the proper gpm. Record rpm, motor amperage, discharge and suction pressure. Pumps shall operate without objectionable noise or cavitation. Plot actual pump and system performance points on manufacturer's pump curves.
ii) Check all expansion tanks for proper filling pressurization. Verify operation of automatic fill and relief valves.
iii) Check the operation of all automatic valves.
iv) Test and adjust correct water flow through chiller, major items of equipment and main water circuits. The balancing valves, provided on the equipment shall be used for adjustment.
v) Check capacity output of chillers and set water flow rate for proper data.
vi) Check and adjust each coil to provide proper gpm. Record water and air temperature changes and water pressure drop.
vii) Set pressure drops across coil by-pass to match coil full-flow pressure drop.

5.4 Unit capacity in Tons Refrigeration shall be computed from the temperature readings, pressure readings and water/ brine flow measurements. Flow measurements shall be preferably through flow meters. Pumps shall be tested for the discharge head, flow and BHP. Where it is not possible to measure the flow, at least the discharge head and BHP (on the input side) shall be field tested.

5.5 Balancing Tolerance:
Systems shall be balanced within the following tolerances ;

i) Duct leakage Rates (at operating pressures) :
Low pressure ducts 5% of full flow
(0 to 0.5 kPa)
Medium Pressure Ducts 1% of full flow
(0.5 to 3 kPa)
High Pressure Ducts 1% of full flow
(Greater than 3 kPa)

ii) Air flow rates :
Under 70 L/S 10% of flow
Over/ at 70 L/S 5% of flow

iii) Water flow rates :
Chilled Water 2% of flow
Other 5% of flow

iv) Heat flow rates :
Heat exchangers 5% of design capacity

Procedure:

Review all pertinent plans, specifications, shop drawings and other documentation to become fully familiar with the systems and their specified and intended performance.

Furnish equipment and instruct sheet metal trade on proper use for conducting duct leakage tests. Conduct first test as a way of instructing the above trades in the presence of the University's representative.

Test relative barometric pressures in various building area, as deemed necessary by the University's representative and at least in all are as served by different systems.

Test performance and continuously record on a 24 hour basis, temperature and humidity levels where control equipment is provided for that purpose in certain critical areas.

Before commissioning of the equipment, the entire electrical installation shall be tested in accordance with relevant BIS codes and test report shall be furnished by a qualified and authorised person.

5.6 Reports

Provide 3 copies of the complete balancing and testing reports to the university. Report shall be neatly typed and bound suitable for a permanent record. Report forms shall contain complete test data and equipment data as specified and safety measures provided as per para 1.14.3 of CPWD HVAC SPECIFICATIONS 2017.

5.7 Final documentation

The contractor shall leave the system operating in complete balance with water and air quantities as shown on drawings. Set stops on all balancing valves and lock all damper quadrants in proper position. Secure all automatic damper and valve linkages in proper positions to provide correct operating ranges.

Proper damper positions shall be marked on ducts with permanent indication. Notify the university of any areas marginal or unacceptable system performance.

The above tests and procedures are mentioned herein, for general guidance eand information only, but not by way of lamination to the provisions of conditions of contract and design/ performance criteria.

Upon commissioning and final handover of the installation, the HVAC contractor shall submit (within 4 weeks) to the engineer-in-charge/ university

6 (six) portfolios of the following indexed and bound together in hard cover ring binder (300 x 450 mm) in addition to the completion drawings as per para1.18.3.

i) Comprehensive operation and maintenance manual
ii) Test certificates, consolidated control diagram and technical literature on all controls.

iii) Equipment warranties from manufacturers.
iv) Commissioning and testing reports
v) Rating charts for all equipment
vi) Log books as per equipment manufacturer's standard format
vi) List of recommended spares and consumables
viii) Any special tools required for the operation or the maintenance of the plant shall be supplied free with the plant. At the close of the work and before issue of final certificate of completion by the Engineer-in-charge, the contractor shall furnish a written guarantee indemnifying the University against defective materials and workmanship for the Defects liability period.

The contractor shall hold himself fully responsible for reinstallation or replace free of cost to the university.

i) Any defective material or equipment supplied by the contractor
ii) Any material or equipment supplied by the university which is proved to be damaged or destroyed as a result of defective workmanship by the contractor.

17. SAFETY:

The safety conditions shall not be regarded as exhaustive. These have been issued for the guidance of the Contractor and will not in any way absolve the Contractor from any such obligations or liabilities he might incur or transfer such obligations or liabilities to the Owner.

a) The Contractor shall obtain a Work Permit from the Engineer in Charge before starting any work on site. The work permit is issued to prevent contractors working in unauthorized areas and will be valid for specific area for a limited period as mentioned on the permit. Contractor shall duly return the work permit after the completion of the job or on expiry of the permit.
b) Extra care need to be taken for jobs being carried out after normal working hours with due revalidated work permit.
c) Head and eye protection and safety equipment are to be worn at all times as per job requirements.
d) The Contractor shall remove all the waste material and rubbish from and around the work site and leave the job thoroughly cleaned up, ready for use. No combustible material is to be stored on or near any source of heat, and before leaving the work place contractors employees should ensure that nothing is left which could start a fire. Contractor shall indemnify Owner from any and all claims, damages or penalties and will remain liable for the losses caused to Owner as result of Contractors non-compliance of the said requirements.
e) All precautions necessary for not only for the safe working of the contractors workmen at site shall be taken by the contractor, but he shall also deploy all precautions to safeguard existing structures, equipment and persons of other agencies in and around the job site

18. TEST CERTIFICATES

The contractor shall submit test certificates for all the equipment and system installed Type tests shall be carried out as per relevant standards mentioned in technical specifications. For other items, such test certificates issued by Government recognized inspection office certifying that all equipment, materials, construction and functions are in compliance with the requirements of these specifications and accepted standards of BIS/International standards.

19. PERFORMANCE GUARANTEE

The contractor shall carry out the work in accordance with the Drawings, Specifications, Schedule of Quantities and other documents forming part of the Contract.

The contractor shall be fully responsible for the performance of the selected equipment (installed by him) at the specified parameters and for the efficiency of the installation to deliver the required end result. The replacement warrantee of different items is as mentioned in specification.

The contractor shall guarantee that the HVAC system as installed shall perform to complete satisfaction of the owner.

Complete set of architectural drawings is available in the Architect/Consultant's office and reference may be made to same for any details or information. The contractor shall also guarantee that the performance of various equipment individually, shall not be less than the quoted capacity; also actual power consumption shall not exceed the quoted rating, during testing and commissioning, taking over and guarantee period.

At the close of the work and before issue of final certificate of virtual completion, the contractor shall furnish written performance guarantee against defective materials and workman-ship for a period of two years from date of testing, commissioning and taking over.

The Contractor shall hold himself fully responsible for reinstallation or replacement, free of cost to Owner the following:

a. Any defective work or material supplied by the Contractor.

b. Any material or equipment damaged or destroyed as a result of defective workmanship by the Contractor.

20. UPTIMEGUARANTEE

The contractor shall guarantee for the installed system an uptime of 98%. In case of shortfall in any month during the defects liability period, the Defects Liability period shall get extended by a month for every month having shortfall. In case of shortfall beyond the defects liability period, the contract for Operation and Maintenance shall get extended by a month for every month having the shortfall and no reimbursement shall be made for the extended period.

The Contractor shall provide log in the form of diskettes and bound printed comprehensive log book containing tables for daily record of all temperatures, pressures, humidity, power consumption. starting and stopping times for various equipment, daily services rendered for the

system alarms, maintenance and record of unusual observations etc. Contractor shall also submit preventive maintenance schedule.
Each tenderer shall submit along with the tender, a detailed operation assistance proposal for the Owner's site representatives/Consultant's review. This shall include the type of service planned to be offered during Defects Liability Period and beyond. The operation assistance proposal shall give the details of the proposed monthly reports to the Management.
The tenderer shall include a list of other projects where such an Operation Assistance has been provided.

21. QUIET OPERATION AND VIBRATION ISOLATION

All equipment shall operate under all conditions of load without any sound or vibration which is objectionable in the opinion of the owner's site representative. In case of rotating machinery sound or vibration noticeable outside the room in which is installed. Or annoyingly noticeable inside its own room, shall be considered objectionable. Such conditions shall be corrected by the contractor at his own expense. The contractor shall guarantee that the equipment installed shall maintain the specified db/NC levels.

22. MAINTENANCE AND OPERATION DURING DEFECTS LIABILITY PERIOD

Contractor is responsible to provide a comprehensive maintenance for the system installed and commissioned by him for a minimum of **Two (2) years** and is covered under this defect liability period. The defect liability period shall start from the **Date of Taking over** of the system by the University. Contractor shall take actions as described below but not limited to:

1. Complaints

The Contractor shall receive calls for any and all problems experienced in the operation of the system under this contract, attend to these within 2 hours of receiving the complaints and shall take steps to immediately correct any deficiencies that may exist. Corrective actions to problem experienced, if takes longer time, shall be complied 100% by during next business hours.

2. Repairs

All equipment that requires repairing shall be immediately serviced and repaired. Since the period of Mechanical Maintenance runs concurrently with the defects liability period, all replacement parts and labour shall be supplied promptly free-of-charge to the Owner.

3. Log Book

The contractor shall provide four (4) copies of bound printed comprehensive log book containing tables for daily record of all temperature pressures, humidity, power consumption, starting and stopping times for various equipment, and record of unusual

observations. This log book shall contain pages for one year's records of above observations.

5. Operation of equipment
   i) 10 hours a day, year round during working office hours for full load
   ii) 14 hours a day, year round during non-work hours for part load.
   iii) All stand-by equipment to be operated as per mutually agreed program.
   iv) Proper entry and upkeep of relevant log books.
   v) Maintain complaints register. Submit weekly report.
   vi) Proper housekeeping of all areas under the contract.
   vii) Prepare daily consumption report and summary of operation.

23. INSTRUCTION, OPERATION AND MAINTENANCE MANUAL

The Contractor shall prepare and produce instruction, operation and maintenance manuals in English for the use, operation and the maintenance of the supplied equipment and installations, and submit to the Engineer In charge/ Consultants in three (3) copies at the time of taking over. In addition one set with editable version will be given on compact disc. The manual shall generally consist of the following:

a) Description of the project.
b) Operating instructions.
c) Maintenance instructions including procedures for preventive maintenance.
d) Manufacturers catalog.
e) Spare parts list.
f) Trouble shooting charts.
g) Drawings.
h) Type and routine test certificates of major items.

24. TRAINING

The concerning vendor shall be liable to impart training to the field personnel or Engineer appointed by Owner responsible for daily operations and maintenance. Such trainings shall consist of but not limited to following:

a) Providing classroom training as well as field training. The duration of classroom training shall be minimum of**3**hours and that of field training shall be **05** hours and shall be repeated for all buildings or systems.
b) The concerning vendor shall provide such training for each building and systems.
c) Training syllabus shall be submitted and approved in prior by "The Consultant/Engineer In charge".
d) Providing video recording of every such training and shall submit 4 copies of training videos in CD/DVD/Pen drive to "The Client".
e) Wherever required representatives of respective OEM shall be present at the time of imparting training and ensuring all necessary information shall be imparted to the owner’s representative.
f) The concerning vendor shall be liable to arrange required representatives of respective OEM during training.

25. OPERATING INSTRUCTIONS

The contractor shall submit a draft copy of comprehensive operating instructions and maintenance schedule for all systems and equipment included in this contract. This shall be supplementary to manufacturer's operating and maintenance manuals. Upon approval of the draft, the contractor shall submit four (4) complete bound sets of typewritten operating instructions, maintenance schedules, and log books.
The manual shall be carefully indexed and shall include sections on:

a) General description of equipment's & systems.
b) Handbooks operation & maintenance instructions of manufacturers.
c) Lubrication Schedule
d) Drive List
e) Technical Particulars of Equipment's
f) Startup& stopping procedure.
g) Procedure & setting of Controls
h) List of as built drawings
i) Complete single line diagram of the A.C work and associated Wiring diagrams
j) Schedule of spare parts essential & others.
k) Test results & certificates.
l) Log Book format.

26. COMPLETION CERTIFICATE

On completion of the installation a certificate shall be furnished by the contractor countersigned by the licensed supervisor, under whose direct supervision the installation was carried out. This certificate shall be in the prescribed form as required by the local statutory authority. The contractor shall be responsible for getting the installation inspected and approved by the local concerned authorities and for obtaining the necessary clearance certificates from the authorities.

27. COMREHENSIVE ANNUAL MAINTENANCE & OPERATION SERVICE

Contractor shall be required to carry out the operation of the HVAC installation for the defects liability period and if found satisfactory by the university then this may be extended by the University**.** However, during the operation, a snag list may be issued to contractor for further modification without any cost implication.

a) Operation contract
   i) 10 hours a day, year round during working office hours for full load
   ii) 14 hours a day, year round during non-work hours for part load.
   iii) All stand-by equipment to be operated as per mutually agreed program.
   iv) Proper entry and upkeep of relevant log books.
   v) Maintain complaints register. Submit weekly report.
   vi) Proper housekeeping of all areas under the contract.

b) All Inclusive Maintenance Contract
   i) Scope.

The AMC shall cover all the items installed by the contractor including but not limited to replacement of all refrigerant/chilled/hot water piping, valves, fittings, filters, fans and motors etc.

ii) Routine Preventive Maintenance Schedule to be submitted
- Schedule to cover manufacturer's recommendation and/or common engineering practice (for all plant and machinery under contract).
- Plant and machinery history card giving full details of equipment and frequency of checks and overhaul.
- Monthly status report.
- Entire HVAC installation to be repainted in fourth year (from commissioning) before the expiry of operation and maintenance contract.

c) Uptime during maintenance contract
i) 99% uptime of all systems under contract.
ii) Up time shall be assessed every month and in case of shortfall during any month the contract shall be extended by a month.
iii) There shall be no reimbursement for the extended period.
iv) Break-downs shall be attended to within ten hours of reporting.

d) Manpower
i) Adequate number of persons to the satisfaction of the Owner's site representative shall be provided including relievers.
ii) Statutory requirements of EPF, ESIC and other applicable labour legislations to be complied with; and monthly certification to that effect to be submitted.
iii) Duty allocation and Roaster control shall be contractor's responsibility.
iv) No overtime shall be payable by Owner for any reason whatsoever.

e) Shut Downs
i) Routine shut downs shall be permitted only as allowed by the Chief Engineer.
ii) Contractor shall be at liberty to carry out routine maintenance as and when required but with prior permission of the Owner.

28. DISPUTE IN MODE OF MEASUREMENT

Where Works have to be measured for any purpose whatsoever, it shall be in accordance with item specifications as per relevant Indian Standards unless otherwise specifically indicated in the Contract Specifications. All measurements will be recorded in metric units only. In case of absence of mode of measurement of any item not covered by both the methods mentioned above, the Engineer-in- Charge's decision shall be final and binding. The required number of bills, measurement sheets, registers, bill forms, level/field books, materials/ account registers, testing registers, site order books and any other stationary

item pertaining to this contract shall be printed and provided for by the contractor, at his own cost in the format prescribed and approved by the Engineer-in-Charge in writing.

29. TIME FOR COMPLETION

Time for completion for all the works shall be as per the Project Time Line Matrix from the date of issue of Letter of Intent (LOI).

The work shall be executed strictly as per the Time Schedule, working drawings and specification of the items included into the schedule of items. The period of work given includes the time required for mobilization and completion in all respects to the entire satisfaction of the Engineer-in-Charge.

a) Weekly programs of work will be drawn up by the Contractor to be approved by the Engineer-in- Charge. The Contractor shall scrupulously adhere to these schedules by deploying adequate personnel and construction tools and tackles. In all matters concerning the extent of targets set out for weekly programs and degree of achievements, the decision of Engineer-in-Charge shall be final and binding.
b) The time for completion mentioned above shall be inclusive of any monsoon following within the aforesaid time for completion. Delay/ held up of work on account of monsoon/ rain will not be considered for granting of additional time to complete the work.

30. WARRANTIES AND GUARANTEES

All manufacturers' warranties & guaranties for the equipment supplied by the contractor shall be passed on to the owner.

31. MEASUREMENTS

The Engineer-in-Charge shall, except as otherwise stated ascertain and determine by measurement the value of Work done, in accordance with the Contract and as per actual Work done. The Engineer-in-Charge shall, when he requires any part or parts of the Works to be measured, give notices to the Contractor's authorized agent or representative who shall forthwith attend or send a qualified agent to assist the Engineer-in-Charge in making such measurement and shall furnish all particulars required by either of them. Should the Contractor not attend or neglect or omit to send such representative then the measurement made by the Engineer- in-Charge shall be taken to be the correct measurement of the Work. For all measurements, figured dimensions given in the drawings shall be followed. Measurement of all hidden items shall be carried out by the Engineer-in-Charge. The Contractor or his representative who attends may at the time of measurement take such notes and measurements as he may desire.

Where Works have to be measured for any purpose whatsoever, it shall be in accordance with item specifications as per relevant Indian Standards unless otherwise specifically indicated in the Contract

Specifications. All measurements will be recorded in metric units only. In case of absence of mode of measurement of any item not covered by both the methods mentioned above, the Engineer-in- Charge's decision shall be final and binding. The required number of bills, registers, bill forms, level/field books, materials/ account registers, testing registers, site order books and any other stationary item pertaining to this contract shall be printed and provided for by the contractor, at his own cost in the format prescribed and approved by the Engineer-in-Charge in writing.

32. CONTRACTOR PERSONNEL AT SITE:

List of persons employed by Contractor for the subject work mentioning their residential address shall be submitted to Nalanda University. In case of any revision, the same shall be informed to NU from time-to-time.
The Contractor shall be directly responsible for any/all disputes arising between him and his personnel and keep indemnified NU against all losses, damage and claims arising thereof.

Within the Nalanda University premises, the Contractor’s personnel shall not do any private work other than their normal duties.

The contractor may also be required to provide photo passes to the personnel required by him, for security and safety reasons and furnish the details of the same when asked for.

Contractor shall be fully responsible for theft, burglary, fire or any mischievous deeds by his staff and any loss to Nalanda University shall be recovered from the immediate bill of the Contractor.

Contractor shall provide all necessary tools and tackles, equipment’s, safety belt, wheel burrow, scaffolding, ladders, drilling m/c & safety equipment etc. required to carry out job at his cost and material used by Contractor shall be of standard make and approval of Engineer-In-Charge shall be taken for the same.

Engineer In-charge also reserves the right to ask the Contractor to remove particular person(s) from site with immediate effect if his behavior/performance is not up to the mark and/or found indulging in unlawful activities, Contractor shall immediately comply with such instructions.
It will be the responsibility of contractor’s engineer to ensure that their personnel behave in a proper manner and behavior and not to undergo the argument with the employees. It will be the responsibility of the Contractor’s Engineer to deal with such complaints or co- ordinate with the University Engineer.

33. Compliance of various rules and regulations during execution of HVAC Works and other works in line with Green Building norms as per GRIHA.

All measures will need to be complied with by the HVAC CONTRACTOR and supervised by the PMC in order to assure that the right information is obtained on the required manners and time. This information will have to be sent to the Owner/Architect, on a forth night basis. The PMC will supervise the collated information and records to asses any discrepancy or improvement required in order to prepare the submittal to GRIHA for Green Building Certification.
A photographic and paper record as required will have to be provided of all below mentioned measures to the Architects/Sustainability Consultant.

CLAUSE.5.26 : Store :

The site store of the Contractor shall be verified at the end of every month by the concerned University's officials certifying the level of minimum inventory, as specified. The Contractor is required to replace the defective equipment within 12 hours of its failure. A monthly breakdown report shall be submitted to the owner.

CLAUSE 5.27 : Inspection:

Bidder/manufacturer shall indicate the various specified sources of the items being procured. Type of checks, quantum of checks and acceptance norms shall be intimated and random test and check results should be made available for inspection whenever so desired.

CLAUSE 5.28 : Pre Dispatch Inspection:

The contractor will intimate to owner well in advance or with sufficient notice period for readiness of material at manufactures' works. The Employer/his representative may carry out stage inspection of the plant/equipment during manufacturing/ assembling stage. The Employer shall have absolute right to reject the raw material/ component/ sub-assemblies or complete equipment not found to be conforming to the specification or being of poor quality/ workmanship. The stage inspection will particularly include tests specified for any particular plant or equipment in the technical specification, general routine tests and physical measurements to be conducted during manufacturing stages as per manufacturer's standard practice.

The Bidder/manufacturer shall give fifteen (15) days advance notice to enable the Employer to arrange for inspection. Inspection and testing shall be conducted at the place of manufacture. Inspection and testing of any material under this specification by the Employer shall not relieve the Bidder/manufacturer of his obligation to supply the plant/equipment in accordance with the specification and shall not prevent subsequent rejection if it is found to be defective.

The Bidder/manufacturer shall afford the Employer's representative all reasonable facilities, without charge, to satisfy him that the plant/ equipment is being manufactured in accordance with the specifications. The Bidders/manufacturer must have adequate set of instruments for conducting tests as per IS specification. Instruments for testing shall be duly calibrated and calibration certificate should not be older than one year on the date of inspection. Calibration shall be done by NABL accredited laboratories. A comprehensive list of testing equipment/ instruments indicating make, Sr. No, type, class of accuracy, calibrating agency, calibration date etc. should be furnished, as and when desired. Calibrated instruments shall be duly sealed by calibrating agency to avoid any tampering with calibration and the details thereof shall be clearly mentioned in the calibration certificate(s).

CLAUSE 5.29 : Material Supply Lot :

Only Type tested material shall be supplied in compliance of relevant IS. The Type Test should be issued by NABL or NABL accredited laboratory and it should not be older than 3 years.

CLAUSE 5.30 : Fake Inspection Call :

In case of fake inspection call announced by the inspecting officer or University's authority, a penalty of Rs. 25000/- against Contractor shall be imposed and such amount shall be deducted from the running bill of the contractor.

CLAUSE.5.31 : Commercial and Additional Conditions

1 INTRODUCTION

1.1 Scope

1.1.1 These specifications cover the following types of air-conditioning, heating, and ventilation works:

i) Central air-conditioning system
ii) Mechanical ventilation system
iii) AHU's and FCU

1.1.2 Central air-conditioning system included in these specifications is by means of reciprocating / **Scroll** or centrifugal or screw type compressors. Therefore, only vapour compression type refrigeration equipment's are covered herein. Absorption type refrigeration equipment's are excluded from the scope of these specifications.

1.1.3 Water coolers / desert coolers and water softening plants for treatment of water are also excluded from the scope of these specifications.

1.1.4 These General Specifications cover the equipment's and materials for the system, their testing and/ or inspection as may be necessary before their dispatch from their respective works, their delivery at site, all preparatory works, assembling, installation and adjustments, commissioning, final testing, putting into operation, equipment capacity computation and handing over of the complete system.

1.1.5 These General Specifications are subject to revision from time to time.
1.1.6 Each air-conditioning work has its own particular requirements. These General Specifications shall be supplemented with tender specifications as may be required for a particular work. The tender specifications, wherever they differ from these General Specifications, shall have over- riding value and shall be followed for that particular work.

1.2 **Related Documents**
These General Specifications shall be read in conjunction with the General conditions of contract. These General Specifications shall also be read in conjunction with the tender specifications, schedule of work, drawings and other documents connected with the work.

1.3 Terminology
The definition of terms used in these specifications shall be in accordance with IS: 3615- —Glossary of terms used in refrigeration and air-conditioning‖. Some of the commonly used terms are defined in Appendix `A' of CPWD HVAC SPECIFICATIONS 2017.

1.4 Site Information
The tenderer should, in his own interest, visit the site and familiarise himself with the site conditions before tendering. For any clarification, tenderer

1.5 Heat Load Calculations and Equipment Selection
i) The successful bidder/ contractor should give detailed heat load calculations , immediately after award of work as per Appendix`D' of CPWD HVAC SPECIFICATIONS 2017 separately for all the seasons in which, the specified conditions are tobe maintained.
ii) The successful Bidder/Contractor should also give the above heat load calculations wherever required separately for the areas served by each AHU in a central air conditioning/ heating system.
iii) The equipment selection and duct design shall be made on the basis of the above heat load calculations wherever required.
iv) The Contractor can refer and utilize the design done by the department/consultants for the department, however, there shall be no commitment to provide the same to the contractor, nor the contractor shall be absolved of the responsibility of correct design and performance of the air-conditioning system provided by him.

2 CONFORMITY WITH STATUTORY ACTS, RULES, STANDARDS ANDCODES

i) All components shall conform to relevant Indian Standard Specifications, wherever existing, amended to date. A list of such standards is appended in Appendix `B' of CPWD HVAC SPECIFICATIONS 2017.
ii) All works shall conform to National Building code as well as relevant BIS codes.
iii) All electrical works shall be carried out in accordance with the provisions of Indian Electricity Act, 2003 and Indian Electricity Rules,1956 amended to date. They shall also conform to CPWD General Specifications for Electrical works, Part-I: Internal, 2013 and Part-II: External, 1994 and Part IV (Sub-station), 2013, as amended to date.

iv) **All components shall conform to Energy Conservation Building Code 2007 of India as amended or revised up to date.**

3 SAFETY CODES AND LABOUR REGULATIONS

i) All the safety procedures outlined in the safety codes listed in Appendix`C' of CPWD HVAC SPECIFICATIONS 2017 shall be complied with.
ii) In respect of all labour employed directly or indirectly on the work for the performance of the air conditioning contractor's part of work, the contractor at his own expense, will arrange for the safety provisions asper the statutory provisions, B.I.S recommendations, factory act,
workman's compensation act, CPWD code and instructions issued from time to time. Failure to provide such safety requirements would make the tenderer liable for penalty as provided in the labour laws/ GCC for each violation. In addition the Engineer-in-charge, shall be at liberty to make arrangements and provide facilities as aforesaid and recover the cost from the contractor.
iii) The contractor shall provide necessary barriers, warning signals and other safety measures while laying pipelines, ducts cables etc. or wherever necessary so as to avoid accident. He shall also indemnify NU against claims for compensation arising out of negligence in this respect. Contractor shall be liable, in accordance with the Indian Law and Regulations for any accident occurring due to any cause. The university shall not be responsible for any accident occurred or damage incurred or claims arising there from during the execution of work. The contractor shall also provide all insurance including third party insurance as may be necessary to cover the risk. No extra payment would be made to the contractor due to the above provisions thereof.

4 WORKS TO BE ARRANGED BY THE UNIVERSITY

Unless otherwise specified in the tender documents, the following works shall be arranged by the University:
(i) Space for accommodating all the equipments and components involved in the work,
(ii) False ceiling and/ or return air enclosure excluding return air duct wherever provided as required,
(iii) Make up water tank for condenser water,
(iv) Power supply, Water supply and Drain points as per para 1.6 of CPWD HVAC SPECIFICATIONS 2017,
(v) Masonry ducts/ service trench within and outside the building for carrying pipe lines and cables wherever specified.
(vi) If top floor is air conditioned, over-deck insulation.

5 WORKS TO BE DONE BY THE CONTRACTOR

Unless otherwise mentioned in the tender documents, the following works shall be done by the contractor and therefore, their cost shall be deemed to be included in their tendered cost whether specifically indicated in the schedule of work or not: -
i) Foundations for equipments including foundation bolts and vibration isolation spring/ pads,
ii) Support columns and beams for cooling towers,
iii) Suspenders, brackets and floor/ wall supports for suspending/supporting ducts and pipes,
iv) Suspenders and/ or cable trays for laying the cables,

v) Excavation and refilling of trenches in soil wherever the pipes are to be laid directly in ground, including necessary base treatment and supports,
vi) Sealing of all floor slab/ wall openings provided by the University or contractor for pipes and cables, from fire safety point of view, after laying of the same,
vii) Painting of all exposed metal surfaces of equipments and components with appropriate colour as per para 1.13 of CPWD HVAC SPECIFICATIONS 2017.
viii) Making openings in the walls/ floors/ slabs or modification in the existing openings wherever provided for carrying pipe line, ducts, cables etc.
ix) Providing wooden/ metallic frames for fixing grills/ diffusers.
x) Making good all damages caused to the structure during installation and restoring the same to their original finish.
xi) Balancing of all HVAC systems in accordance with generally accepted engineering standards. A written balance report shall be provided(wherever asked for) to the Engineer-in-Charge or his representative for HVAC systems serving zones with a total conditioned area exceeding 500m2.
xii) A set of three copies of operations manual shall be provided to the Engineer-in-Charge or his representative containing following information at a minimum)HVAC equipment capacity,
b) Equipment operation and maintenance manuals,
c) HVAC system control maintenance and calibration information, including wiring diagrams, schedules, and control sequence descriptions,
d) A complete written narrative of how each system is intended to operate.

6 POWER SUPPLY, WATER SUPPLY AND DRAINAGE

6.1 Power Supply

No Power supply shall be provided by the University. Contractor has to make his own arrangement for power supply.

6.2 Water Supply

No water supply shall be provided by the University. Contractor has to make his own arrangement for Water supply.

6.3 Drainage

i) Drain traps in A.C. plant room, AHU room, Air washer room, hot water generator and near cooling tower shall be arranged by the university.

ii) All drainage arrangements from the drain traps in the A.C. plant room, AHU room, air washer room, hot water generator room etc. to the drain line shall be arranged by the University as required.

iii) Piping Connections from the equipment to the drain trap including providing valves at the drain points shall be done by the contractor. These items of work shall be separately measured and paid as per contract.

7 MACHINERY FOR ERECTION

All tools and tackles, heavy machinery handling equipment, etc. required for unloading/ handling of equipments and materials at site, their assembly, erection, testing and commissioning shall be the responsibility of the contractor.

8 COMPLETENESS OF THE TENDER, SUBMISSION OF PROGRAMME,APPROVAL OF DRAWINGS AND COMMENCEMENT OF WORK

i) Completeness of the tender
All sundry equipments, fittings, assemblies, accessories, hardware items, gaskets, masonry platforms/ foundation for Chilling Units, pumps, Cooling Towers etc., supports for pipes foundation bolts, supports, termination lugs for electrical connections, cable glands, junction boxes and all other items which are useful and necessary for proper assembly and efficient working of the various equipments and components of the work shall be deemed to have been included in the tender, irrespective of the fact whether such items are specifically mentioned in the tender or not.

ii) Submission of programme
Within fifteen days from the date of receipt of the letter of acceptance, the successful tenderer shall submit his programme for submission of drawings, supply of equipment, installation, testing, commissioning and handing over of the installation to the Engineer-in-Charge. This programme shall be framed keeping in view the milestones stipulated in the contract, building progress. Items like ducting, piping etc. that directly affect the building progress shall be given priority.
iii) Submission of Drawings

The contractor shall submit the drawings to the Engineer-in-Charge as perpara1.18.2 of CPWD specification of HVAC works 2017 for approval before start of work.

iv) Commencement of Work
The contractor shall commence work as soon as the drawings submitted by him are approved.

9 DISPATCH OF MATERIALS TO SITE AND THEIR SAFE CUSTODY

The contractor shall dispatch materials to site in consultation with the Engineer-in-Charge. Suitable lockable storage accommodation shall be made available free of charge temporarily. Watch & ward however, shall be the responsibility of contractor. Programme of dispatch of material shall be framed keeping in view the building progress. Safe custody of all machinery and equipment supplied by the contractor shall be the responsibility of the contractor till final taking over by the university.

10 CO-ORDINATION WITH OTHER AGENCIES

The contractor shall co-ordinate with all other agencies involved in the work so that the work of other agencies is not hampered due to delay in his work.

Ducting, piping, cabling or any other work, which directly affect the progress of building work, shall be given priority.

11 QUALITY OF MATERIALS AND WORKMANSHIP

i) The components of the installation shall be of such design so as to satisfactorily function under all conditions of operation.

ii) The entire work of manufacture/ fabrication, assembly and installation shall conform to sound engineering practice. The entire installation shall be such as to cause minimum transmission of noise and vibration to the building structure.
iii) All equipments and materials to be used in work shall be manufactured in factories of good repute having excellent track record of quality manufacturing, performance and proper after sales service.
iv) None of the equipment/ machines supplied shall be more than Six months old from date of supply at site, Copy of Excise Gate Pass/Invoice/ Shipment /Custom Clearance certificate/ details (in case of Imported equipments) shall be submitted to prove the date of manufacture & genuineness of the equipments/ machines supplied.

12 CARE OF THE BUILDING

Care shall be taken by the contractor during execution of the work to avoid damage to the building. He shall be responsible for repairing all such damages and restoring the same to the original finish at his cost. He shall also remove all unwanted and waste materials arising out of the installation from the site of work from time to time.

13 COLOUR SCHEME FOR THE EQUIPMENTS AND COMPONENTS

i) Colour scheme for equipment like chilling unit, pumps, AHUs, cooling tower etc. shall be as per manufacturer's standard colour scheme.
ii) The scheme of colour code painting of pipe work services for air conditioning installation shall be as per National building code and is indicated below:

Description	Ground colour	Lettering colour	First colour band
Condenser water piping	Sea Green	Black	French Blue
Chilled water piping	Sea Green	Black	Black
Central heating piping Below 60 deg C	Sea Green	Black	Canary Yellow
Central heating piping 60 deg C to 100 deg C	Sea Green	Black	Dark Violet
Drain pipe	Black	White	
Vents	White	Black	
Valves and pipe line fittings	White with black handles	Black	
Belt guard	Black & Yellow diagonal strips		
Machine Bases, Inertia Bases and Plinth	Charcoal Grey		

iii) Colour bands shall be 150mm wide, superimposed on ground colour to distinguish type and condition of fluids. The spacing of band shall not exceed 4.0m.
iv) In addition to the colour bands specified above all pipe work shall be legibly marked with black or white letters to indicate the type of service and the direction of flow identified as follows:-

High temperature Hot water : HTHW
Medium temperature Hot water : MTHW
Low temperature Hot water : LTHW
Chilled water : CHW
Condenser water : CDW
Steam : ST
Condensate : C

14 INSPECTION AND TESTING

14.1 Initial Inspection & testing

i) Initial inspection of materials & equipments at manufacturer's as per details given in chapter 17 will be done by the engineer-in-charge or his representative. For item/ equipment requiring initial inspection at manufacturer's works, the contractor will intimate the date of testing of equipments at the manufacturer's works before dispatch. The contractor shall give sufficient advance notice regarding the dates proposed for such tests to the university's representative(s) to facilitate his presence during testing. The Engineer-in-charge at his discretion may witness such testing. Equipments will be inspected at the manufacturer/authorised dealer's premises, before dispatch to the site by the contractor. For equipment sourced from abroad, the contractor shall include in his bid the costs of journey & stay, other costs if any, for sending his technically competent representative to witness the performance and pre-dispatch tests at the manufacturer's works.

Evidence to this effect by way of travel documents etc. shall be produced before the payment against delivery is released. The Engineer-in-charge, at his discretion, may also witness such testing subject to Government Orders at that time.

ii) The university also reserves the right to inspect the fabrication job at factory and the successful tenderer has to make arrangements for the same.

v) The materials duly inspected by Engineer-in-Charge or his authorised representative shall be dispatched to site by the contractor.

vi) No additional payment shall be made to the contractor for initial inspection /testing at the manufacturer's works by the representative of the Engineer-in-Charge. However, the university will bear the expenses of its representative deputed for carrying out initial inspection/testing.

14.2 Final Inspection & Testing

Final Inspection & testing will be done by the Engineer-in-Charge or his representative as per details indicated in Chapter 17 of CPWD HVAC SPECIFICATIONS 2017.

14.3 Safety measures

All equipments shall incorporate suitable safety provisions to ensure safety of the operating personnel at all times. The initial and final inspection reports shall bring out explicitly the safety provisions incorporated in each equipment.

15 RUNNING IN PERIOD & DATE OF ACCEPTANCE

i) After the installation work has been completed by the contractor, he will conduct tests and make adjustments as may be necessary to satisfy himself that the plant including low side equipments is capable of continuous running. There after he will offer to the university a running in period of 7 days subject to a minimum aggregate of 120 hrs at hiscost. The duty cycle of the plant during this running in period shall be same as that specified in the tender documents. In case of multiple compressor installations, all the compressors should be run by rotation. The plant will be operated and a log of all parameters will be maintained during this period. The contractor will be free to carry out necessary adjustments etc. during this period without stopping the plant. Record of inside conditions will be made during this period to check that the same are as per NIT requirements. The plant will be said to have successfully completed the running-in-period, if no break down or abnormal/unsatisfactory operation of any machinery occurs during this period. After this the plant will be made available for beneficial use. After the planthas

operated without any major break down/ trouble and inside conditions are maintained as per NIT requirements for the above specified running in period, it shall be taken over by the university subject to guarantee clause mentioned below. This date of taking over of plant after trouble free operation during the running in period shall be the date of acceptance.
ii) Any loss of refrigerant or oil during the running in period shall be made good by the contractor free of charge.
iii) Capacity test of the chilling unit & other major equipments shall be carried out as and when conditions become stabilized as per details given under Appendix `G' of CPWD HVAC Specs 2017.
iv) Seasonal testing may be carried out as & when outside conditions become suitable for the Major Season Test.

16 GUARANTEE

i) The contractor shall guarantee the complete system to maintain the specified conditions under all conditions of ambience and internal loads subject to the condition that designed outside conditions & designed internal loads are not exceeded. Also the inlet/ outlet temperatures at the specified flow of water in the chiller unit shall be guaranteed.
ii) All equipments shall be guaranteed for a period of 12 months from the date of acceptance and taking over of the installation by the University against unsatisfactory performance and/or breakdown due to defective design, material, manufacture, workmanship or installation.
The equipment or component or any part thereof so found defective during the guarantee period shall be repaired or replaced free of cost to the satisfaction of the Engineer-in-Charge. In case it is felt by the university that undue delay is being caused by the contractor in doing this, the same will be got done by the university at the risk & cost of the contractor. The decision of Engineer-in-Charge in this regard shall be final.
iii) Any leakage of refrigerant and/or oil due to defective design, manufacture, workmanship or installation during the guarantee period shall be made good by the contractor free of charge.

17 PAYMENT TERMS (to be read along with clause 5.25 Special Conditions)

1.17.1 The following percentage of contract rates shall be payable against the stages of work shown herein:

S No	Stage of Work	Machinery & Equipment	All other Items
1)	After initial inspection(Wherever specified) & delivery at site in good condition on pro rata basis	80%	70%
2)	On completion of Pro-rata Installation	10%	20%
3)	On commissioning and completion of Successful running in a period not less than one month after taking over by the University.	5%	5%
4)	On completion of major Seasonal	5%	5%

	Test		

1.17.2 When the major seasonal test cannot be carried out on commissioning of the installation due to any reason not attributable to the contractor, the installation will he handed over to the University for Beneficial Use after completion of successful running in test of 7 days subject to a minimum aggregate of 120hours as per para15 above. The balance payment shall be released to the contractor on his furnishing a bank guarantee in the specified format from a scheduled bank for an equivalent amount. The bank guarantee shall be valid for a period of 6 months. However it will be extended till the successful completion of the major seasonal test. This bank guarantee shall be independent of the one furnished for performance guarantee.
1.17.3 The following shall be considered major seasonal test for the purpose of the above payment terms: -
a) Air-conditioning system : Summer or monsoon
b) Central heating system : Winter
c) ETAC : Summer
d) Cold room/ Walk in cooler : Summer

18 TENDER DRAWINGS, DRAWINGS FOR APPROVAL & COMPLETIONDRAWINGS

18.1 Tender Drawings
The drawings appended/ uploaded with the tender documents are intended to show the areas to be conditioned, space allotted for various equipment's, tentative duct, cable and pipe routes. The equipment's offered shall be suitable for installation in the spaces shown in these drawings.

18.2 Drawings for approval on award of the work (Not applicable in case of Window and Split AC)
The contractor shall prepare & submit three sets of hard copy & one Digital/soft copy in AutoCAD format of following drawings and get them approved from the Engineer-in-Charge before the start of the work. The approval of drawings however does not absolve the contractor not to supply the equipment's/ materials as per agreement, if there is any contradiction between the approved drawings and agreement.

i) Lay out drawings of the equipment's to be installed in various room such as plant room, AHU rooms, hot water generator room, cooling tower and other equipments.

ii) Drawings including section, showing the details of erection of entire equipments including their foundations, water basin for the cooling towers /air washers, etc.

iii) Plumbing drawings showing the layout of entire piping, dia& length of pipes, valves and isometric drawings showing connections to various equipment.

iv) Ducting drawings showing sizes, locations of dampers, grilles & diffusers.

v) Electrical wiring diagrams for all electrical equipments and controls including the sizes and capacities of the various cables and equipments,

vi) Dimensioned drawings of all electrical and control panels,

vii) Drawings showing the details of all insulations and vapour barrier works,

viii) Drawings showing details of supports for pipes, cable trays, ducts etc.

ix) Any other drawings relevant to the work.

The university shall, at its discretion, use the soft copy of such drawings to prepare and examine the integrated services layout, resolve conflicts, and advise the contractor to modify the execution drawings suiting & adjusting to all the services requirements. The contractor shall be bound to modify &execute accordingly.

18.3 Completion Drawings (Not applicable in case of Window and Split AC)

One set of Digital/ soft Copy and one set of the following laminated drawings shall be submitted by the contractor while handing over the installation to the University. Out of this one of the sets shall be laminated on a hard base for display in the A.C. plant room. In addition one set will be given on compact disc.

(i) Plant installation drawings giving complete details of all the equipments, including their foundations,

(ii) AHU room installation drawings,

(iii) Plumbing layout drawings including insulation giving sizes and lengths of all the pipes and the sizes and locations of all types of valves, and including isometric drawings for the entire piping including the pipe connections to the various equipments and insulation details wherever required,

(iv) Duct layout drawings with their sizes and locations, and sizes and ocations of all dampers, grills & diffusers,

(v) Line diagram and layout of all electrical control panels giving switch gear ratings and their disposition, cable feeder sizes and their layout,

(vi) Control wiring drawings with all control components and sequence of operations to explain the operation of control circuits,

(vii) BMS drawings (wherever applicable)

19 AFTER SALES SERVICES

The contractor shall ensure adequate and prompt after sales service in the form of maintenance, spares and personnel as and when required and shall minimise the breakdown period. In case of equipment supplied by other manufacturers the firm shall furnish a guarantee from the manufacturer for the same before the plant is taken over.

20 DOCUMENTS TO BE FURNISHED ON COMPLETION OF INSTALLATION

Three sets of the following documents shall be furnished to the university by the contractor on completion of work:-

a) Completion drawings as per 18.3,

b) One set in Digital form and 1 set in printed form of manufacturer‘s technical catalogues of all equipments and accessories,

c) Operation and maintenance manual of all major equipments, detailing all adjustments, operation and maintenance procedure.

CLAUSE.5.32 :Special Conditions For Directives Of Hon'ble National Green Tribunal 04.12.2014 & 10.04.2015 And EIA Guidance Manual

1. The contractor shall not store/dump construction material or debris on metalled road.

2. The contractor shall get prior approval from Engineer-in-Charge for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic/inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.

3. The contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot/area using CGI sheets or plastic and /or other similar material to ensure that no construction material dust fly outside the plot area.

4. The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purposes/or are carrying construction material like cement, sand and other allied material are fully covered. The contractor shall take every necessary precautions that the vehicles are properly cleaned and dust free to ensure that en-route their destination, the dust, sand or any other particles are not released in air/contaminate air.

5. The contractor shall provide mask to every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.

6. The contractor shall provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emission.

7. The contractor shall ensure that C&D waste is transported to the C & D Waste site only and due record shall be maintained by the contractor.

8. The contractor shall compulsory use of wet jet in grinding and stone cutting.

9. The contractor shall comply all the preventive and protective environmental steps as stated in the MoEF guidelines, 2010.

10. The contractor shall carry out on-Road- Inspection for black smoke generating machinery. The contractor shall use cleaner fuel.

11. The contractor shall ensure that all DG sets comply emission norms notified by MoEF.

12. The contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 kmph. Speed bumps shall be used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, the contractor shall divert traffic to nearby paved areas.

13. The contractor shall ensure that the construction material is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.

14. The paving of the path for plying of vehicles carrying construction material is more permanent solution to dust control and suitable for longer duration projects. The NIT approving authority shall carry out cost benefit ratio analysis of the same.

SLA (Service Level Agreement) during AMC period:

The SLA is being defined to get the quick/prompt response and effective Defect Lability Period. Therefore, the AMC with onsite support is being given together with the Defect liability period to avoid any kind of the allegations, delay and excuses from the contractor. The SLA will be signed after execution of the Supply, Installation, Testing and Commissioning of all the HVAC work as per the BOQ of the NIT. The SLA shall be executed after successful completion and handing over/taking over formality. The effective start date of AMC period shall be declared jointly after taking over formalities. The main works shall be closed after successful completion of the execution period of main the work and a supplementary agreement shall be signed. The Format of the agreement will be as provided in the CPWD works manual. The date of the agreement shall be reckoned from the date of handing/taking over formalities. The period of the AMC agreement will be initially for the defect liability period after DLP the AMC and onsite manpower support may be extended on mutually agreed upon.

SLA Objectives

The contractor is required to provide utmost service satisfaction and minimum 99 % overall uptime. Contractor shall provide support on-site in terms of AMC along with warranty and operation support services.

SCOPE OF SLA:

The Defect liability period of the all the equipment is 24 months after completion of execution of SITC job i.e. and final taking over by the University.

The contractor has to provide at least one certified Technician round the clock (24X7) however the requirement shall be in two shifts only and one helper in general shift. The same Technician shall not be deployed in all three shift other than emergency case.

The deployed engineer on behalf of the agency/contractor shall maintain a logbook of the Substation and register all the faults & incidents, if occurred. The contractor will draft the logbook format for its approval before the Engineer in-Charge in accordance of the manufacturer guidelines. The engineer on behalf of the contractor shall maintain the neat and clean Plant room.

The contractor has to attain all the faults during operation period/services. In case of any defect shall be attended and replacement of the equipment shall be performed during the Defect Liability Period. No any extra cost shall be bear by the University during the DLP for the replacement of the equipment.

If any kind fault observed in the system, the staff deputed by the contractor shall inform to the reporting officer/Engineer of the University and shall attend within minimum possible time. Herein minimum time means the supply cannot be hold or shutdown or affected more than 15 minutes due to any kind of breakdown. This will be responsibility of the agency to make alternative/shift arrangement to restore the supply till faulty equipment replaced by them.

The safety measures shall be taken care by the contractor to ensure the safety of human and equipment.

The contractor has to make payment as per the minimum wage rule as per the applicable category and area on monthly basis, and he proof shall be submitted along with the bill invoice.

The rate shall be quoted for the year, however, payment shall be released after successfully completion of the two months and on receipt of bill invoice along with payment proof to the manpower deployed at site and logbook report of the HVAC plant room.

The contractor will submit the details with a copy of the qualifications, Experience proof, identity proof and police verification report to the University. In case of any changes in the deployment of the manpower staff at site minimum one week of common period shall be maintained by the contractor under intimation of the reporting officer of the University. The engineer must be experienced and well conversant of the operating and maintenance procedure.

The University reserve right to expel or recommend to the contractor to remove the particular or all deployed staff on the observation of any malpractice, illegal involvement. Unsatisfactory works, unsatisfactory and miss-behaviours, delay in response and unethical practise. The contractor shall be bounded to replace the staff in such cases.

The University will not be responsible for any case or illegal involvement, compliance of the labour court/University's, accidental support/claim or any. The contractor will be solely responsible for all the affairs related to the deployed manpower at the site. If any engineer will be absent during the concerned shift then INR 1000/- per shift per Technician and INR 800/ per shift per helper shall be recovered.

If any recovery amount (either due to deduction in manpower and its compliance or due to defect liability of material) exceed than the AMC amount then same amount shall be recovered from the security deposited with the University. The maximum allowable time for the replacement of the appliances will be 48 Hours. However, meanwhile the makeshift arrangement shall be made by the contractor and no any extra payment shall be made.

In the compelling circumstances, if required then the University may also replace the damaged material and recovery shall be made from the AMC and if required then from the Security deposited with NU and even after this the expenditure exceeds then contractor has deposited the balance amount. In case of non-responsive event from the contractor, the University may debarred or blacklist to the contractor. During the handing over of the system, the address of the local and central service & repair centre shall be provided by the contractor.

Tie up with OEM/Manufacture

The contractor shall have a back-to-back arrangement with OEM/Manufacturer for warranty support for a period of 2 years.

It is the responsibility of the contractor to provide certification of OEM/Manufacturer for complete support in case of product upgrades or discontinue of product and has sufficient for spares.

SERVICE LEVEL AGREEMENT FORMAT

THIS AGREEMENT is made on **[Month, day, year]**

BETWEEN

1. **Nalanda University** to be called (the "Buyer"); and
2. **[_____]** of (the "Service Provider"),

collectively referred to as the "Parties". **RECITALS**

The Buyer wishes to be provided with the Services (defined below) by the Service Provider and the Service Provider agrees to provide the Services to the Buyer on the terms and conditions of this Agreement.

1. **Key Terms**

1.1 **Services**

The Service Provider shall provide the following services ("Services") to the Buyer in accordance with the terms and conditions of this Agreement:

Contractor shall be required to carry out the operation and maintenance of the HVAC installation for the defects liability period of 24 months and if the services are found satisfactory then the AMC period may be extended**.** However, during the operation, a snag list may be issued to contractor for further modification without any cost implication.

a) Operation contract
   vii) 10 hours a day, year round during working office hours for full load
   viii) 14 hours a day, year round during non-work hours for part load.
   ix) All stand-by equipment to be operated as per mutually agreed program.
   x) Proper entry and upkeep of relevant log books.
   xi) Maintain complaints register. Submit weekly report.
   xii) Proper housekeeping of all areas under the contract.

b) All Inclusive Maintenance Contract
   iii) Scope.
   The AMC shall cover all the items installed by the contractor including but not limited to replacement of all refrigerant/chilled/hot water piping, valves, fittings, filters, fans and motors etc.

   iv) Routine Preventive Maintenance Schedule to be submitted

- Schedule to cover manufacturer's recommendation and/or common engineering practice (for all plant and machinery under contract).
- Plant and machinery history card giving full details of equipment and frequency of checks and overhaul.
- Monthly status report.
- Entire HVAC installation to be repainted in fourth year (from commissioning) before the expiry of operation and maintenance contract.

c) Uptime during maintenance contract
   v) 99% uptime of all systems under contract.
   vi) Up time shall be assessed every month and in case of shortfall during any month the contract shall be extended by a month.
   vii) There shall be no reimbursement for the extended period.
   viii) Break-downs shall be attended to within ten hours of reporting.

d) Manpower
   v) Adequate number of persons to the satisfaction of the Owner's site representative shall be provided including relievers.
   vi) Statutory requirements of EPF, ESIC and other applicable labour legislations to be complied with; and monthly certification to that effect to be submitted.
   vii) Duty allocation and Roaster control shall be contractor's responsibility.
   viii) No overtime shall be payable by Owner for any reason whatsoever.

e) Shut Downs
   iii) Routine shut downs shall be permitted only as allowed by the Chief Engineer.
   iv) Contractor shall be at liberty to carry out routine maintenance as and when required but with prior permission of the Owner.

1.2 **Delivery of the Services**

a. **Start date:** The Service Provider shall commence the provision of the Services From the **date of taking over of the installation by the University.**
b. **Completion date:** The Service Provider shall complete/cease to provide the Services **by the end of Two years from the date of taking over of the installation by the University**

1.3 **Site**

The Service Provider shall provide the Services at the following site(s): Outreach center

1.4 **Price**

a. As consideration for the provision of the Services by the Service Provider, the price for the provision of the Services for the defect liability period is included in the tender cost.

b. The Buyer shall not pay for any of the Service Provider's out-of-pocket expenses as it shall be all considered in the above mentioned price. The price shall be inclusive of all taxes, duties, GST, approval costs etc required by the bidder to render the services effectively for the contract.

1.5 **Payment**

a. The rate shall be quoted for the year, however, payment shall be released after successfully completion of the two months and on receipt of bill invoice along with payment proof to the manpower deployed at site and logbook report of the HVAC plant room.

b. The method of payment of the Price by the Buyer to the Service Provider shall be by:
   i. Cheque

c. Any charges payable under this Agreement are inclusive of any applicable taxes, tariff surcharges or other like amounts assessed by any governmental entity arising as a result of the provision of the Services by the Service Provider to the Buyer under this Agreement and such shall be payable by the Buyer to the Service Provider in addition to all other charges payable hereunder.

2. **General terms**

2.1 **Intellectual Property Rights**

The Service Provider agrees to grant to the Buyer a non-exclusive, irrevocable, royalty free licence to use, copy and modify any elements of the Material not specifically created for the Buyer as part of the Services. In respect of the Material specifically created for the Buyer as part of the Services, the Service Provider assigns the full title guarantee to the Buyer and any all of the copyright, other intellectual property rights and any other data or material used or subsisting in the Material whether finished or unfinished. If any third party intellectual property rights are used in the Material the Service Provider shall ensure that it has secured all necessary consents and approvals to use such third party intellectual property rights for the Service Provider and the Buyer. For the purposes of this Clause 2.1, "Material" shall mean the materials, in whatever form, used by the Service Provider to provide the Services and the products, systems, programs or processes, in whatever form, produced by the Service Provider pursuant to this Agreement.

2.2 **Warranty**

a. The Service Provider represents and warrants that:
   i. it will perform the Services with reasonable care and skill; and
   ii. the Services and the Materials provided by the Service Provider to the Buyer under this Agreement will not infringe or violate any intellectual property rights or other right of any third party.

2.3 **Limitation of liability**

a. Subject to the Buyer's obligation to pay the Price to the Service Provider, either party's liability in contract, tort or otherwise (including negligence) arising directly out of or in connection with this Agreement or the performance or observance of its obligations under this Agreement and every applicable part of it shall be limited in aggregate to the Price.
b. Nothing in this Clause 2.3 will serve to limit or exclude either Party's liability for death or personal injury arising from its own negligence.

2.4 **Term and Termination**

a. This Agreement shall be effective on the date hereof and shall continue, unless terminated sooner in accordance with Clause 2.4(b), until the Completion Date.
b. Either Party may terminate this Agreement upon notice in writing if:
   i. the other is in breach of any material obligation contained in this Agreement, which is not remedied (if the same is capable of being remedied) within 30 days of written notice from the other Party so to do; or
   ii. a voluntary arrangement is approved, a bankruptcy or an administration order is made or a receiver or administrative receiver is appointed over any of the other Party's assets or an undertaking or a resolution or petition to wind up the other Party is passed or presented (other than for the purposes of amalgamation or reconstruction) or any analogous procedure in the country of incorporation of either party or if any circumstances arise which entitle the Court or a creditor to appoint a receiver, administrative receiver or administrator or to present a winding-up petition or make a winding-up order in respect of the other Party.
c. Any termination of this Agreement (howsoever occasioned) shall not affect any accrued rights or liabilities of either Party nor shall it affect the coming into force or the continuance in force of any provision hereof which is expressly or by implication intended to come into or continue in force on or after such termination.

2.5 **Relationship of the Parties**

The Parties acknowledge and agree that the Services performed bythe Service Provider, its employees, agents or sub-contractors shall be as an independent contractor and that nothing in this Agreement shall be deemed to constitute a partnership, joint venture, agency relationship or otherwise between the parties.

2.6 **Confidentiality**

Neither Party will use, copy, adapt, alter or part with possession of any information of the other which is disclosed or otherwise comes into its possession under or in relation to this Agreement and which is of a confidential nature. This obligation will not apply to information which the recipient can prove was in its possession at the date it was received or obtained or which the recipient obtains from some other person with good legal title to it or which is in or comes into the public domain otherwise than through the default or negligence of the recipient or which is independently developed by or for the recipient.

2.7 **Notices**

Any notice which may be given by a Party under this Agreement shall be deemed to have been duly delivered if delivered by hand, registered post, facsimile transmission or electronic mail to the address of the other Party as specified in this Agreement or any other address notified in writing to the other Party. Subject to any applicable local law provisions to the contrary, any such communication shall be deemed to have been made to the other Party, if delivered by:

a. Registered Post, 2 days from the date of posting;
b. hand or by facsimile transmission, on the date of such delivery or transmission; and
c. electronic mail, when the Party sending such communication receives confirmation of such delivery by electronic mail.

2.8 **Miscellaneous**

a. The failure of either party to enforce its rights under this Agreement at any time for any period shall not be construed as a waiver of such rights.
b. If any part, term or provision of this Agreement is held to be illegal or unenforceable neither the validity or enforceability of the remainder of this Agreement shall be affected.
c. Neither Party shall assign or transfer all or any part of its rights under this Agreement without the consent of the other Party.
d. This Agreement may not be amended for any other reason without the prior written agreement of both Parties.
e. This Agreement constitutes the entire understanding between the Parties relating to the subject matter hereof unless any representation or warranty made about this Agreement was made fraudulently and, save as may be expressly referred to or referenced herein, supersedes all prior representations, writings, negotiations or understandings with respect hereto.
f. Neither Party shall be liable for failure to perform or delay in performing any obligation under this Agreement if the failure or delay is caused by any circumstances beyond its reasonable control, including but not limited to acts of god, war, civil commotion or industrial dispute. If such delay or failure continues for at least 7 days,

the Party not affected by such delay or failure shall be entitled to terminate this Agreement by notice in writing to the other.

g. This Clause 2.8(g) and Clauses 2.3, 2.5, 2.6, 2.7 and 2.8 of this Agreement shall survive any termination or expiration.
h. This Agreement shall be governed by the laws of the jurisdiction in which the Buyer is located (or if the Buyer is based in more than one country, the country in which its headquarters are located) (the "Territory") and the parties agree to submit disputes arising out of or in connection with this Agreement to the non-exclusive of the courts in the Territory.

2. **Additional clauses**

AS WITNESS the hands of the Parties hereto or their duly authorized representatives the day and year first above written.

SIGNED by)

for and on behalf of)

[the Buyer])

SIGNED by)

for and on behalf of)

[the Service Provider])

SECTION 6

ADDITIONAL CONDITIONS FOR GREEN BUILDING PRACTICES

6.1 The campus is proposed to be registered for obtaining GRIHA LD Rating from GRIHA Secretariat under MNRE scheme. The contractor is required to execute the work in a befitting manner to obtain the targeted GRIHA rating by Owner.

6.2 Special conditions for GRIHA rating:-

6.2.1 The contractor shall prepare scheme for the approval of Engineer-in-charge for obtaining GRIHA rating in the criteria relevant to the execution of work.

6.2.2 The contractor shall plan and execute the work in a manner to preserve and protect the landscape during construction and shall arrange the materials/equipment and follow the procedure as per criterion 2 of the GRIHA rating as applicable.

6.2.3 The contractor shall appoint/engage consultant/ consultancies to provide technical guidance and supervise the work, pertaining to the criterion related to the execution of work, so that it finally achieves the targeted GRIHA rating.

The contractor shall preserve the topsoil layer for supporting vegetative growth as per the guidelines given in chapter 4, Section 1, Part 10, NBC 2005.

The contractor shall comply with NBC norms on construction safety, health and sanitation as per criterion.

The construction activity shall be done in a befitting manner and the contractor shall adopt measures to prevent air pollution at site in compliance with criterion 9 of GRIHA rating as applicable.

The contractor shall comply with all the instructions and schemes for execution of green building.

Nothing shall be paid extra for fulfilment of all these conditions except for the items existing in the schedule of quantities. For such items work done shall be paid on the basis of the agreement rates.

6.3 Pre- construction stage

Construction Vehicles, Equipment and Machinery

All vehicles, equipment and machinery to be procured for construction shall conform to the relevant Bureau of India Standard (BIS) norms.

Emission from the vehicles must conform to environmental norms.

Dust produced from the vehicular movement and other site activities is to be mitigated by sprinkling of water. Noise limits for construction equipment shall not exceed 75 dB(A), measured at one meter from the edge of the equipment in free area, as specified in the Environment Protection Act,1986, schedule VI part E, as amended on 9th May,1993. The maximum noise levels near the construction site should be limited to 65 dB (A) Leq (5 min) in project area. Contractor has to make a confined boundary to restrict construction activities within it. Contractor is

required to prepare the Construction waste management plan for segregation, storage and safe disposal of construction waste for the approval of engineer in charge.

6.4 Construction Stage

6.4.1 Construction Wastes Disposal

The pre-identified dump locations will be a part of solid waste management plan OR construction waste management plan or safe handling, storage and recycling of construction waste to be prepared by the Contractor in consultation with Engineer-in-charge. Contractor needs to designate the area for construction waste storage. Inert and hazardous waste should be collected and stored separately on site.

The other construction waste should be either reused on site or safely dispose them off to designed agencies for recycling. The procedure of waste disposal either on-site reuse or selling for recycling purpose should be documented by photographs / log books / receipt copies and evidences needs to be submitted to the Engineer In charge. Contractor shall get approved the location of disposal site prior to commencement of the excavation on any section of the project location.

Contractor shall ensure that any spoils of material will not be disposed of in any municipality solid waste collection bins.

6.4.2 Procurement of Construction Materials

All vehicles delivering construction materials to the site shall be covered to avoid spillage of materials and maintain cleanliness of the roads.

Wheel Tires of all vehicles used by of the contractor, or any of his sub-contractor or materials supplies shall be cleaned and washed clear of all dust/mud before leaving the project premises. This shall be done by routing the vehicles through tire washing tracks.

Contractor shall arrange for regular water sprinkling at least twice a day (i.e. morning and evening) for dust suppression of the construction sites and unpaved roads used by his construction vehicles.

6.4.3 Water Pollution

The Contractor shall take all precautionary measures to prevent the wastewater during construction to accumulate anywhere. The wastewater arising from the project is to be disposed of in the manner that is acceptable to the Engineer-in-charge.

6.4.4 Air and Noise Pollution

Contractor shall use dust screens and sprinkle water around the construction site to arrest spreading of dust in the air and surrounding areas.

Contractor shall ensure that all vehicles, equipment and machinery used for construction are regularly maintained and confirm that emission levels comply with environmental emission standards/norms.

For controlling the noise from Vehicles, Plants and Equipment, the Contractor shall confirm the following:

All vehicles and equipment used in construction will be fitted with exhaust silencers.

Servicing of all construction vehicles and machinery will be done regularly and during routine servicing operations, the effectiveness of exhaust silencers will be checked and if found defective will be replaced.

Noise emission from compactors (rollers) front loaders, concrete mixers, cranes (movable), vibrators and saws should be less than 75 dB(A).

As per the standards/guidelines for control of Noise Pollution from Stationary Diesel Generator (DG) sets, noise emission in dB(A) from DG Set (15-500 KVA) should be less than 94+10 log 10 (KVA). The standards also suggest construction of acoustic enclosure around the DG Set and provision of proper exhaust muffler with insertion loss of minimum 25 dB (A) as mandatory.

6.4.5 Personal Safety Measures for Labour

Contractor will provide the following items for safety of workers employed by contractor and associate agencies:
Protective footwear and gloves to all workers employed for the work on mixing, cement, lime mortars, concrete etc. and openings in water pipeline/sewer line.
Welders' protective eye-shields for all workers who are engaged in welding works.
Safety helmet and Safety harness/ belt.

6.5 The following provisions shall be maintained by the contractor at site:

6.5.1 Provide adequate sanitation/safety facilities for construction workers to ensure the health and safety of the workers during construction, with effective provisions for the basic facilities such as sanitation, drinking water and safety equipment or machinery.

All the workers should be wearing helmet and shoes all the time on site.

Masks and gloves should be worn whenever and wherever required.

Adequate drinking water facility should be provided at site, adequate number of decentralized latrines and urinals to be provided for construction workers.

Full time workers residing on site should be provided with clean and adequate temporary hutment. Crèche/Day-care facility should be provided to young children of laborers residing on site. Child labour should be banned on site.

First aid facility should also be provided.

Overhead lifting of heavy materials should be avoided. Barrow wheel and hand-lift boxes should be used to transport materials onsite.

Tobacco and cigarette smoking should be prohibited onsite.

All dangerous parts of machinery are well guarded and all precautions for working on machinery are taken.

Maintain hoists and lifts, lifting machines, chains, ropes and other lifting tackles in good condition.

Use of durable and reusable formwork systems to replace timber formwork and ensure that formwork where used is properly maintained.

Ensure that walking surfaces or boards at height are of sound construction and are provided with safety rails and belts. Provide protective equipment such as helmets.

Provide measure to prevent fire. Fire extinguisher and buckets of sand to be provided in fire-prone area and elsewhere.

Provide sufficient and suitable light for working during night.

Ensure that measures to protect workers from materials of construction, transportation, storage and other dangers and health hazards are taken.

Ensure that the construction firm/division/company have sound safety policies.

Comply with the safety procedure, norms and guidelines (as applicable) as outlined in NBC 2005 (BIS 2005c).

Adopt additional best particles and prescribed norms as in NBC 2005 (BIS 2005).

6.5.2 Identify roads on-site that would be used for vehicular traffic. Update vehicular roads (if these are unpaved) by increasing the surface strength by improving particle size, shape and mineral type that make up the surface base. Add surface gravel to reduce source of dust emission. Limit amount of fine particles (smaller than 0.075mm) to 10-20%. Limit vehicular speed on site 10km/h.

6.5.3 All material storages should be adequately covered and contained so that they are not exposed to situations where winds on site could lead to dust/particulate emissions.

6.5.4 Spills of dirt or dusty materials shall be cleaned up promptly so the spilled material does not become a source of fugitive dust and also to prevent of seepage of pollutant laden water into the ground aquifers. When cleaning up the spill, ensure that the clean-up process does not generate additional dust. Similarly, spilled concrete slurries or liquid wastes should be contained/cleaned up immediately before they can infiltrate into the soil/ground or runoff in nearby areas.

6.5.5 Ensure that water spraying is carried out by wetting the surface by spraying water on:

Any dusty material.

Areas where demolition works is carried out.

Any unpaved main-haul road and.

Areas where excavation or earth moving activities is to be carried out.

6.6 The contractor shall ensure the following:

Cover and enclose the site by providing dust screen, sheeting or netting to scaffold along the perimeter of a building.

Covering stockpiles of dusty material with impervious sheeting.

Covering dusty load on vehicles by impervious sheeting before they leave the site.

Transferring, handling/storing dry loose materials like bulk cement and dry pulverized fly ash inside a totally enclosed system.

Spills of dirt or dusty materials shall be cleaned up promptly so that the spilled material does not become a source of fugitive dust and also to prevent seepage of pollutant-laden water into the ground aquifers. When cleaning up the spill, ensure that the clean-up process does not generate additional dust. Similarly, spilled concrete slurries or liquid wastes should be contained/cleaned up immediately before they can infiltrate into the soil/ground or runoff in nearby areas.

Clear vegetation only from areas where work will start right away.

Vegetate/mulch areas where vehicles do not ply.

Apply gravel/landscaping rock to the areas where mulching/paving is impractical.

6.6.1 Adopt measures to prevent air pollution in the vicinity of the site due to construction activities. There is no standard reference for this. The best practices should be followed (as adopted from international best practice documents and codes).

6.6.2 Provide hoardings of not less than 3m height along the site boundary, next to a road or other public area.

6.6.3 The contractor shall provide experienced personnel with suitable training to ensure that these methods are implemented. Prior to the commencement of any work, the method of working, plant equipment and air pollution control system to be used on-site should be made available for the inspection and approval of the Engineer-in-Charge to ensure that these are suitable for the project.

6.6.4 Employ measures to segregate the waste on-site into inert, chemical or hazardous wastes. Recycle the unused chemical/hazardous wastes such as oil, paint, batteries and asbestos. The inert waste is to be disposed of to Municipal Corporation/local bodies dump yard and landfill sites.

6.7 Preserve and protect landscape during construction

6.7.1 Following provisions shall be made at site by the contractor to preserve and protect landscape. Nothing shall be paid on this account unless specifically provided for in the schedule of quantities.

6.7.2 To preserve the existing landscape and protect it from degradation during the process of construction. Select proper timing for construction activity to minimize the disturbance such as soil pollution due to spilling of the construction material and its mixing with rainwater. The construction management plan including soil erosion control management plan shall be prepared accordingly for each month. The application of erosion control measures includes construction of gravel pits and tyre washing bays of approved size and specification for all vehicular site entry/ exits, protection of steep slopes. Sedimentation Collection System and run-off diversion systems shall be in place before the commencement of construction activity. Preserve and protect the existing vegetation by not disturbing or damaging to specified site areas during construction. The trees that are identified to be retained on site are protected during the construction period using the following measures:

The damage to roots is prevented during trenching, placing backfill, driving or parking heavy equipment. The dumping of trash, oil, paint and other material is detrimental to plant health. These activities should be restricted to the areas outside of the canopy of the trees.

The trees are not used for support; their trunks should not be damaged by cutting and carving by nailing posters and advertisements or in any other way.

The lighting of fires or carrying out heat or gas emitting construction activity within the ground covered by canopy of the trees is not permitted.

The young trees of saplings identified for preservation within the construction site must be protected using tree guards of approved specification.

The grades of soil should be maintained around existing vegetation. Lowering or raising the levels around the vegetation should not be allowed unless specifically directed by the Engineer –in – Charge.

Maintenance activities should be performed, as and when needed, to ensure that vegetation remain healthy.

6.8 Staging is dividing a construction area into two or more sections to minimize the area of soil that will be exposed at any given time. Staging should be done to separate undisturbed land from land disturbed by construction activity and material storage. A vector drawing plan to be submitted identifying the areas of sites, which shall be disturbed for the construction activity and apart from these other areas on site should not be disturbed. Measures should be followed for collecting drainage water run-off from construction areas and material storage sites and diverting water flow away from such polluted areas. Temporary drainage channels and perimeter dike/swale should be constructed to carry the pollutant-laden water directly to the treatment device or facility (municipal sewer line). The plan should indicate how the above was accomplished on site well in advance of the commencement of the construction activity.

6.8.1 The Contractor should follow the construction plan as proposed by the Architect Consultants/landscape consultant to minimize the site disturbance such as

soil pollution due to spilling. Use staging and spill prevention and control plan to restrict the spilling of the contaminating material on site. Protect top soil from erosion by collection storage and reapplication of top soil, constructing sediment basin, contour trenching, mulching etc.

6.8.2 Spill prevention and control plans should clearly state measures to stop the source of the spill. Measures to contain the spill and measures to dispose the contaminated material and hazardous wastes. It should also state the designation of personnel trained to prevent and control spills. Hazardous wastes include pesticides, paints, cleaners and petroleum products.

6.9 A soil Erosion and Sedimentation Control Plan (ESCP) should be prepared prior to construction and should be applied effectively. Measures for prevention of top soil are given below:

6.9.1 Top Soil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas and external services. It should be stockpiled to a maximum height of 40 cm in designated areas and reapplied during plantation of the proposed vegetation. The topsoil should be separated from the sub soil debris and stones larger than 50 mm in diameter. The stored topsoil may be used as finished grade for planting areas post construction or cordoned off undisturbed areas on site. Stockpiled topsoil should not be compacted to help process of aeration. It should be stabilized on the top by temporary seeding or plastic sheets to avoid wind and water erosion. During construction period contractor has to preserve and protect existing nalas or natural drainage channel at site of work.

6.9.2 Sedimentation basin, a temporary dam or basin at the lowest convenient point of the site should be constructed for collecting, trapping and storing sediment produced by the construction activities. A flow detention facility must also be constructed for reducing peak run-off rates. This would also allow most of the sediments to settle before the run-off is directed towards the outfall.

6.9.3 Contour trenching is to be provided which an earth embankment or ridge-and-channel arrangement constructed parallel to the contours, along the face of the slope, at regular intervals on the lengths and steep slopes. They are used for reducing run-off velocity, increasing the distance of overland run-off flow. They are also used to hold moisture and minimize sediment loading of surface run-off.

6.10 Prepare the list of trees to be felled with reference to the tree survey, Compensate the loss of vegetation (trees) due to the construction activity by compensatory plantation. Replant same native and/or non-invasive species, which existed on the site before elimination, in the proportion of 1:3 (as per the suggestion of the landscape consultant).

6.11 The contractor shall prepare and submit 'Spill prevention and control plans' before the start of construction, clearly stating measures to stop the source of the spill, to contain the spill, to dispose the contaminated material and hazardous wastes, and stating designation of personnel trained to prevent and control spills. Hazardous wastes include pesticides, paints, cleaners, and petroleum products.

6.12 The contractor shall ensure that no construction leaches (Ex: cement slurry) is allowed to percolate into the ground. Adequate precautions are to be taken to safeguard against this including reduction of wasteful curing processes, collection, basic filtering and reuse. The contractor shall follow requisite measures for collecting drainage water run-off from construction areas and material storage sites and diverting water flow away from such polluted areas. Temporary drainage channels, perimeter dike/swale, etc. shall be constructed to carry the pollutant-laden water directly to the treatment device or facility (municipal sewer line).

6.13 All lighting installed by the contractor around the site and at the labour quarters during construction shall be CFL bulbs of the appropriate illumination levels. This condition is a must, unless specifically prescribed.

6.14 All paints, adhesives and sealants should comply with the VOC limits prescribed by GRIHA, as follows:

6.15 All the building materials and systems used on site must be as per the specifications and approved makes by the consultants.

6.16 All required certificates explaining the properties of the building material/system needs to be obtained from the manufacturer/vendor as required by the green building rating authority.

The final certificates would be produced after the approval of green building consultant with necessary due diligence.

The purchase orders of all the materials made with the manufacturers/authorized vendors should be maintained and shall be provided for the process with due diligence upon request.

6.17 Water saving measures as suggested by the consultants need to be followed on site.

6.18 The contractor / subcontractor shall prepare and submit a Site Management Plan (SMP) within 10 days of start, for approval by the Engineer-in-charge. This SMP shall indicate the locations of godown, stockpiles, barricading, waste storage, offices, vehicular movement routes etc. In short this SMP would comprehensively represent how the site activities shall be managed conforming to GRIHA guidelines.

6.19 Any other site management measures suggested by the Engineer-in-charge / green building consultant shall be followed on site.

6.20 The contractor shall submit to the Engineer-in-Charge after construction of the buildings, a detailed as built quantification of the following:

Total materials used,

Total top soil stacked and total reused,

Total earth excavated,

Total waste generated,

Total waste reused,

Total water used,

Total electricity consumed, and

Total diesel consumed.

6.21 The contractor shall submit to the engineer-in-charge, before the start of construction, a site plan along with a narrative to demarcate areas on site from which top soil has to be gathered, designate area where it will be stored, measures adopted for top soil preservation and indicate areas where it will be reapplied after construction is complete.

6.22 Evidence for the implementation of the all the above required measures shall be provided to the green building consultant in the form of photographs and templates (as provided), which is required for the submission to the green building rating authority (GRIHA).

6.23 Nothing extra shall be payable for above provisions unless otherwise specified in Schedule of Quantities.

6.24 SPECIAL CONDITIONS FOR ENVIRONMENT MANAGEMET PLAN

A. The contractor shall obtain approval for laying electrical lines from the concerned SE of BERC/BSPHCL/SBPDCL and comply with the provisions as per Terms and condition for determination of Tariff Regulation, 2007 of for construction purpose as well as for final connection.

B. The contractor shall ensure taking necessary steps on urgent basis to improve the living conditions of the labour at site and provide necessary facility to the labour.

C. Contractor has to construct housing colony for labour within the site with all necessary infrastructure and facilities such as health facility, sanitation facility, and fuel for cooking, along with safe drinking water, medical camps, and toilets for women, crèche for infants. The housing may be in the form of temporary structures to be removed after the completion of the project. Details of provisions should be submitted to Engineer In charge for them to submit it to Bihar State Pollution Control Board at the time of obtaining Consent to Establish.

D. During construction period mobile STP of capacity 60 & 20 KLD shall be provided by the contractor for the labour colony. The drains should be of adequate capacity and be lined till the final disposal points. Provision for disinfection of wastewater after treatment and before reuse to be ensured by the contractor.

E. All required sanitary and hygienic measures shall be in place before starting construction activities. The safe disposal of wastewater and solid waste generated during the Construction phase shall be ensured.

F. All the laborers engaged for construction shall be screened for health and adequately treated before engaging them to work at the site.

G. All the topsoil excavated during the construction shall be stored for use in horticulture/landscape development within the project site.

H. Disposal of muck during construction phase shall not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people only in approved sites with approve competent authority.

I. The contractor to ascertain that, there is no threat to the ground water quality by leaching of heavy metals and other toxic contaminants during construction will test soil and ground water samples.

J. Construction spoils, including bituminous material and other hazardous materials must not be allowed to contaminate water courses and the dump sites for such material must be secured so that they do not leach into the ground water.

K. The diesel generator sets to be used during construction phase shall be of low-sulphur- diesel type and shall conform to Environment (Protection) Rules for air and noise emission standards.

L. Vehicles hired for bringing construction material and laborers to the site shall be in good conditions and shall conform to applicable air and noise emission standards and shall be operated during non-peak/approved hours.

M. Ambient noise levels shall conform to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase.

N. NOC shall be obtained from National State Disaster Management Authority, · wherever applicable.

O. Water demand during construction shall be reduced by the use of pre-mixed concrete, curing agents and other best practices.

P. Total domestic water requirement shall not exceed 94 KLD during construction stage.

Q. Adequate measures shall be taken to reduce air and noise pollution during construction as per CPCB norms.

R. A First Aid Room should be provided at the project site during construction phase of the project.

S. Any hazardous waste generated during construction phase shall be disposed of as per applicable rules and norms with necessary authorization of the BSPCB.

T. Regular supervision of the above and other measures for monitoring shall be done by Engineer In charge throughout the construction phase, so as to avoid nuisance to the surroundings.

SECTION 7

C.P.W.D. SAFETY CODES AND RULES

1. Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper than ¼ to 1(¼ horizontal and 1 vertical.)

2. Scaffolding of staging more than 3.6 m (12ft.) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guardrail properly attached or bolted, braced and otherwise secured at least 90 cm. (3ft.) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends there of with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.

3. Working platforms, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6 m (12ft.) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (2) above.

4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of person or materials by providing suitable fencing or railing whose minimum height shall be 90 cm. (3ft.)

5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m. (30ft.) in length while the width between side rails in rung ladder shall in no case be less than 29 cm.(11½") for ladder up to and including 3 m. (10 ft.) in length. For longer ladders, this width should be increased at least ¼" for each additional 30 cm. (1 foot) of length. Uniform step spacing of not more than 30 cm shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit; action or proceedings to any such person or which may, with the consent of the contractor, be paid to compensate any claim by any such person.

6. Excavation and Trenching - All trenches 1.2 m. (4ft.) or more in depth, shall at all times be supplied with at least one ladder for each 30 m. (100 ft.) in length or fraction thereof, Ladder shall extend from bottom of the trench to at least 90 cm. (3ft.) above the surface of the ground. The side of the trenches which are 1.5 m. (5ft.) or more in depth shall be stepped back to give suitable slope or securely

held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 m. (5ft.) of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances, undermining or undercutting shall be done.

7. Demolition - Before any demolition work is commenced and also during the progress of the work,

(i) All roads and open areas adjacent to the work site shall either be closed or suitably protected.

(ii) No electric cable or apparatus which is liable to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged. (iii) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.

8. All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned:- The following safety equipment shall invariably be provided.

i) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.

ii) Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes, shall be provided with protective goggles.

iii) Those engaged in welding works shall be provided with welder’s protective eye-shields.

iv) Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.

v) When workers are employed in sewers and manholes, which are in active use, the contractors shall ensure that the manhole covers are opened and ventilated at least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public. In addition, the contractor shall ensure that the following safety measure are adhered to :-

a) Entry for workers into the line shall not be allowed except under supervision of the safety officer or any other higher official.

b) At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manhole for working inside.

c) Before entry, presence of Toxic gases should be tested by inserting wet lead acetate paper which changes colour in the presence of such gases and gives indication of their presence.

d) Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with Oxygen kit.

e) Safety belt with rope should be provided to the workers. While working inside the manholes, such rope should be handled by two men standing outside to enable him to be pulled out during emergency.

f) The area should be barricaded or cordoned off by suitable means to avoid mishaps of any kind. Proper warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.

g) No smoking or open flames shall be allowed near the blocked manhole being cleaned.

h) The malba obtained on account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account of slippery natureof the malba.

i) Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer-in-Charge may decide the time up to which a worker may be allowed to work continuously inside the manhole.

j) Gas masks with Oxygen Cylinder should be kept at site for use in emergency.

k) Air-blowers should be used for flow of fresh air through the manholes. Whenever called for, portable air blowers are recommended for ventilating the manholes. The Motors for these shall be vapour proof and of totally enclosed type. Non-sparking gas engines also could be used but they should be placed at least 2metres away from the opening and on the leeward side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.

l) The workers engaged for cleaning the manholes/sewers should be properly trained before allowing to work in the manhole.

m) The workers shall be provided with Gumboots or non-sparking shoes bump helmets and gloves non sparking tools safety lights and gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.

n) Workmen descending a manhole shall try each ladder stop or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well.

o) If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.

p) The extent to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard in an individual case will be final.

vi) The Contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precaution should be taken:-

a) No paint containing lead or lead products shall be used except in the form of paste or readymade paint.

b) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped.

c) Overalls shall be supplied by the contractors to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on the cessation of work.

9. The Contractor shall not employ women and men below the age of 18 on the work of painting with product containing lead in any form, wherever men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use :

i) White lead, sulphate of lead or product containing these pigment, shall not be used in painting operation except in the form of pastes or paint ready for use.

ii) Measures shall be taken, wherever required in order to prevent danger arising from the application of a paint in the form of spray.

iii) Measures shall be taken, wherever practicable, to prevent danger arising out of from dust caused by dry rubbing down and scraping.

iv) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.

v) Overall shall be worn by working painters during the whole of working period.

vi) Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.

vii) Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man appointed by competent authority.

viii) Competent authority may require, when necessary medical examination of workers.

ix) Instructions with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.

10. When the work is done near any place where there is risk of drowning, all necessary equipment should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision, should be made for prompt first aid treatment of all injuries likely to be obtained during the course of the work.

11. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions :-

i) (a) These shall be of good mechanical construction, sound materials and adequate.

(b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.

ii) Every crane driver or hoisting appliance operator, shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to operator.

iii) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load each safe working load and the condition under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.

iv) In case of Owner machines, the safe working load shall be notified by the Electrical Engineer deputed by the Engineer-in-Charge. As regards contractor's machines the contractors shall notify the safe working load of the machine to the Engineer-in-Charge whenever he brings any machinery to site of work and get it verified by the Electrical Engineer concerned.

12. Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimize the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carry keys or other materials which are good conductors of electricity.

13. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be

altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.

14. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.

15. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by Engineer-in-Charge or their representatives.

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

17. SIGN BOARDS**:** The Contractor shall provide and erect a display board of size and shape as required and paint over it, in a legible and workman like manner, the details about the salient features of the project, as required by the Engineer-in-Charge. The Contractor shall fabricate and put up a sign board in an approved location and to an approved design indicating name of the project, Owner / owner, architects, structural consultants, University etc. besides providing space for names of other Contractors, Sub-Contractors and specialized agencies. Nothing extra shall be payable on this account. Necessary protective and safety equipment shall be provided to the Site Engineer, Supervisory staff, labour and technical staff of the contractor by the Contractor at his own cost and to be used at site. No inflammable materials including P.O.L shall be allowed to be stored in huge quantity at site. Only limited quantity of P.O.L may be allowed to be stored at site subject to the compliance of all rules / instructions issued by the relevant authorities and as per the direction of Engineer -in- Charge in this regard. Also all precautions and safety measures shall be taken by the Contractor for safe handling of the P.O.L products stored at site. All consequences on account of unsafe handling of P.O.L shall be borne by the Contractor.

18. The PMC of the project has prepared an EHS manual and exhaustive process and guidelines for the EHS implementation plan at site. The documents and the manual containing these process and guidelines are enclosed separately with the tender documents as "EHS Manual". Contractors are expected to go through all the provisions of this EHS manual and apprise themselves of these requirements before submitting their tenders as they would be required during the execution of the project to strictly adhere to those guidelines, provisions and processes.

SECTION 8

Model Rules for the Protection ofHealth and Sanitary Arrangements forWorkers Employed by Nalanda University (As per Standard Central P.W.D.Procedure)or its Contractors

1. APPLICATION

These rules shall apply to all buildings and construction works in charge of Nalanda University (Central Public Works University/ PWD (DA))in which twenty or more workers are ordinarily employed or are proposed to be employed in any day during the period during which the contract work is in progress.

2. DEFINITION

Work place means a place where twenty or more workers are ordinarily employed in connection with construction work on any day during the period during which the contract work is in progress.

3. FIRST-AID FACILITIES

(i) At every work place, there shall be provided and maintained, so as to be easily accessible during working hours, first-aid boxes at the rate of not less than one box for 150 contract labour or part thereof ordinarily employed.
(ii) The first-aid box shall be distinctly marked with a red cross on white back ground and shall contain the following equipment:-

(a) For work places in which the number of contract labour employed does not exceed 50-

Each first-aid box shall contain the following equipment's:-

1. 6 small sterilized dressings.
2. 3 medium size sterilized dressings.
3. 3 large size sterilized dressings.
4. 3 large sterilized burn dressings.
5. 1 (30 ml.) bottle containing a two per cent alcoholic solution of iodine.
6. 1 (30 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
7. 1 snakebite lancet.
8. 1 (30 gms.) bottle of potassium permanganate crystals.
9. 1 pair scissors.
10. 1 copy of the first-aid leaflet issued by the Director General, Factory Advice Service and Labour Institutes, Government of India.
11. 1 bottle containing 100 tablets (each of 5 gms.) of aspirin.
12. Ointment for burns.
13. A bottle of suitable surgical antiseptic solution.

b) For work places in which the number of contract labour exceed 50.

Each first-aid box shall contain the following equipment's.

1. 12 small sterilized dressings.
2. 6 medium size sterilized dressings.
3. 6 large size sterilized dressings.
4. 6 large size sterilized burn dressings.
5. 6 (15 gms.) packets sterilized cotton wool.
6. 1 (60 ml.) bottle containing a two per cent alcoholic solution iodine.
7. 1 (60 ml.) bottle containing salvolatile having the dose and mode of Administration indicated on the label.
8. 1 roll of adhesive plaster.
9. 1 snake bite lancet.

10. 1 (30 gms.) bottle of potassium permanganate crystals.
11. 1 pair scissors.
12. 1 copy of the first-aid leaflet issued by the Director General Factory Advice Service and Labour Institutes /Government of India.
13. A bottle containing 100 tablets (each of 5 gms.) of aspirin.
14. Ointment for burns.
15. A bottle of suitable surgical antiseptic solution.

(iii) Adequate arrangements shall be made for immediate recoupment of the equipment when necessary.
(iv) Nothing except the prescribed contents shall be kept in the First-aid box.
(v) The first-aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the work place.
(vi) A person in charge of the First-aid box shall be a person trained in First-aid treatment in the work places where the number of contract labour employed is 150 or more.
(vii) In work places where the number of contract labour employed is 500 or more and hospital facilities are not available within easy distance from the works. First-aid posts shall be established and run by a trained compounder. The compounder shall be on duty and shall be available at all hours when the workers are at work.
(viii) Where work places are situated in places which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or person suddenly taken ill to the nearest hospital.

4. DRINKING WATER

(I) In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking.
(II) Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.
(III) Every water supply or storage shall be at a distance of not less than 50 feet from any latrine drain or other source of pollution. Where water has to be drawn from an existing well which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door which shall be dust and waterproof.

(IV) A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

5. WASHING FACILITIES

I. In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of contract labour employed therein

II. Separate and adequate cleaning facilities shall be provided for the use of male and female workers.

III. Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition

6. LATRINES AND URINALS

I. Latrines shall be provided in every work place on the following scale namely :-

a. Where female are employed, there shall be at least one latrine for every 25 females.
b. Where males are employed, there shall be at least one latrine for every 25 males

Provided that, where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females as the case may be upto the first 100, and one for every 50 thereafter.

II. Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings.

III. Construction of latrines: The inside walls shall be constructed of masonry or some suitable heat-resisting nonabsorbent materials and shall be cement washed inside and outside at least once a year, Latrines shall not be of a standard lower than borehole system.

IV. (A) Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice in the language understood by the majority of the workers "For Men only" or "For Women Only" as the case may be.

(b) The notice shall also bear the figure of a man or of a woman, as the case may be.

V. There shall be at least one urinal for male workers upto 50 and one for female workers upto fifty employed at a time, provided that where the number of male or female workmen, as the case may be exceeds 500, it shall be sufficient if there is one urinal for every 50 males or females upto the first 500 and one for every 100 or part thereafter.

VI. (a) The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times.

(b) Latrines and urinals other than those connected with a flush sewage system shall comply with the requirements of the Public Health Authorities.

VII. Water shall be provided by means of tap or otherwise so as to be conveniently accessible in or near the latrines and urinals.

VIII. Disposal of excreta: - Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternately excreta may be disposed of by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm. layer of

waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn to manure).

IX. The contractor shall at his own expense, carry out all instructions issued to him by the Engineer-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the contractor's workmen or employees on the site. The contractor shall be responsible for payment of any charges which may be levied by Municipal or Cantonment Authority for execution of such on his behalf.

7. PROVISION OF SHELTER DURING REST

At every place there shall be provided, free of cost, four suitable sheds, two for meals and the other two for rest separately for the use of men and women labour. The height of each shelter shall not be less than 3 metres (10 ft.) from the floor level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 sq.m. (6 sft) per head.

Provided that the Engineer-in-Charge may permit subject to his satisfaction, a portion of the building under construction or other alternative accommodation to be used for the purpose.

8. CRECHES

I. At every work place, at which 20 or more women worker are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a play room for the children and the other as their bedroom. The rooms shall be constructed with specifications as per clause 19H (ii) a,b& c.

II. The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.

III. The contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the bed room.

IV. The contractor shall provide one ayaa to look after the children in the crèche when the number of women workers does not exceed 50 and two when the number of women workers exceed 50.

V. The use of the rooms earmarked as creches shall be restricted to children, their attendants and mothers of the children.

9. CANTEENS

I. In every work place where the work regarding the employment of contract labour is likely to continue for six months and where in contract labour numbering one hundred or more are ordinarily employed, an adequate canteen shall be provided by the contractor for the use of such contract labour.

II. The canteen shall be maintained by the contractor in an efficient manner.

III. The canteen shall consist of at least a dining hall, kitchen, and storeroom, pantry and washing places separately for workers and utensils.

IV. The canteen shall be sufficiently lighted at all times when any person has access to it.

V. The floor shall be made of smooth and impervious materials and inside walls shall be lime washed or colour washed at least once in each year. Provided that the inside walls of the kitchen shall be lime-washed every four months.

VI. The premises of the canteen shall be maintained in a clean and sanitary condition.

VII. Waste water shall be carried away in suitable covered drains and shall not be allowed to Accumulate so as to cause a nuisance.

VIII. Suitable arrangements shall be made for the collection and disposal of garbage.

IX. The dining hall shall accommodate at a time 30 per cent of the contract labour working at a time.

X. The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs shall not be less than one square metre (10 sft) per diner to be accommodated as prescribed in sub-Rule 9.

XI. (a) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number.

(b) Washing places for women shall be separate and screened to secure privacy.

XII. Sufficient tables stools, chair or benches shall be available for the number of diners to be accommodated as prescribed in sub-Rule 9.

XIII. (a) 1. There shall be provided and maintained sufficient utensils crockery, furniture and any other equipment's necessary for the efficient running of the canteen.

2. The furniture utensils and other equipment shall be maintained in a clean and hygienic condition.

(b) 1. Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.

2. A service counter, if provided, shall have top of smooth and impervious material.

3. Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipment's.

XIV. The food stuffs and other items to be served in the canteen shall be in conformity with the normal habits of the contract labour.

XV. The charges for food stuffs, beverages and any other items served in the canteen shall be based on 'No profit, No loss' and shall be conspicuously displayed in the canteen.

(xvi) In arriving at the price of foodstuffs, and other article served in the canteen, the following items shall not be taken into consideration as expenditure namely:-

(a) The rent of land and building.

(b) The depreciation and maintenance charges for the building and equipment's provided for the canteen.

(c) The cost of purchase, repairs and replacement of equipment's including furniture, crockery, cutlery and utensils.

(d) The water charges and other charges incurred for lighting and ventilation.

(e) The interest and amounts spent on the provision and maintenance of equipment's provided for the canteen.

(xvii) The accounts pertaining to the canteen shall be audited once every 12 months by registered accountants and auditors.

10. ANTI-MALARIAL PRECAUTIONS

The contractor shall at his own expense, conform to all anti-malarial instructions given to him by the Engineer-in-Charge including the filling up of any borrow pits which may have been dug by him.

11. The above rules shall be incorporated in the contracts and in notices inviting tenders and shall form an integral part of the contracts.

12. AMENDMENTS

Government may, from time to time, add to or amend these rules and issue directions - it may consider necessary for the purpose of removing any difficulty which may arise in the administration thereof.

SECTION 9

Nalanda university Contractor's Labour Regulations as per Standard (C.P.W.D.) Regulation

C.P.W.D. Contractor's Labour Regulations

1. SHORT TITLE

These regulations may be called the C.P.W.D./PWD (DA) Contractors Labour Regulations.

2. DEFINITIONS

i) Workman means any person employed by the Owner or its contractor directly or indirectly through a subcontractor with or without the knowledge of the Owner to do any skilled, semiskilled or unskilled manual, supervisory, technical or clerical work for hire or reward, whether the terms of employment are expressed or implied but does not include any person :-

a. Who is employed mainly in a managerial or administrative capacity : or

b. Who, being employed in a supervisory capacity draws wages exceeding five hundred rupees per mensem or exercises either by the nature of the duties attached to the office or by reason of powers vested in him, functions mainly of managerial nature: or3

c. Who is an out worker, that is to say, person to whom any article or materials are given out by or on behalf of the principal employers to be made up cleaned, washed, altered, ornamental finished, repaired adopted or otherwise processed for sale for the purpose of the trade or business of the principal employers and the process is to be carried out either in the home of the out worker or in some other premises, not being premises under the control and management of the principal employer.

No person below the age of 14 years shall be employed to act as a workman.

ii) Fair Wages means wages whether for time or piece work fixed and notified under the provisions of the Minimum Wages Act from time to time.

iii) Contractors shall include every person who undertakes to produce a given result other than a mere supply of goods or articles of manufacture through contract labour or who supplies contract labour for any work and includes a subcontractor.

iv) Wages shall have the same meaning as defined in the Payment of Wages Act.

3.

i) Normally working hours of an adult employee should not exceed 9 hours a day. The working day shall be so arranged that inclusive of interval for rest, if any, it shall not spread over more than 12 hours on any day.

ii) When an adult worker is made to work for more than 9 hours on any day or for more than 48 hours in any week, he shall be paid over time for the extra hours put in by him at double the ordinary rate of wages.

iii) a) Every worker shall be given a weekly holiday normally on a Sunday, in accordance with the provisions of the Minimum Wages (Central) Rules 1960 as amended from time to time irrespective of whether such worker is governed by the Minimum Wages Act or not.

b) Where the minimum wages prescribed by the Government under the Minimum Wages Act are not inclusive of the wages for the weekly day of rest, the worker shall be entitled to rest day wages at the rate applicable to the next preceding day, provided he has worked under the same contractor for a continuous period of not less than 6 days.

c) Where a contractor is permitted by the Engineer-in-Charge to allow a worker to work on a normal weekly holiday, he shall grant a substituted holiday to him for the whole day on one of the five days immediately before or after the normal weekly holiday and pay wages to such worker for the work performed on the normal weekly holiday at overtime rate.

4. DISPLAY OF NOTICE REGARDING WAGES ETC.

The contractor shall before he commences his work on contract, display and correctly maintain and continue to display and correctly maintain in a clear and legible condition in conspicuous places on the work, notices in English and in the local Indian languages spoken by the majority of the workers giving the minimum rates of wages fixed under Minimum Wages Act, the actual wages being paid, the hours of work for which such wage are earned, wages periods, dates of payments of wages and other relevant information as per Appendix 'III'.

5. PAYMENT OF WAGES

i) The contractor shall fix wage periods in respect of which wages shall be payable
ii) No wage period shall exceed one month.
iii) The wages of every person employed as contract labour in an establishment or by a contractor where less than one thousand such persons are employed shall be paid before the expiry of seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.
iv) Where the employment of any worker is terminated by or on behalf of the contractor the wages earned by him shall be paid before the expiry of the second working day from the date on which his employment is terminated.
v) All payment of wages shall be made on a working day at the work premises and during the working time and on a date notified in advance and in case the work is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.
vi) Wages due to every worker shall be paid to him direct or to other person authorized by him in this behalf.
vii) All wages shall be paid in current coin or currency or in both.
viii) Wages shall be paid without any deductions of any kind except those specified by the Central Government by general or special order in this behalf or permissible under the Payment of Wages Act 1956.
ix) A notice showing the wages period and the place and time of disbursement of wages shall be displayed at the place of work and a copy sent by the contractor to the Engineer-in-Charge under acknowledgment.
x) It shall be the duty of the contractor to ensure the disbursement of wages in the presence of the authorized representative of the Engineer-in-Charge who will berequired to be present at the place and time of disbursement of wages by the contractor to workmen.
xi) The contractor shall obtain from the authorized representative of the Engineer-in-Charge as the case may be, a certificate under his signature at the end of the entries in the "Register of Wages" or the "Wage-cum-Muster Roll" as the case may be in the following form:-

"Certified that the amount shown in column No .....has been paid to the workman concerned in my presence on ..... at ....."

6. FINES AND DEDUCTIONS WHICH MAY BE MADE FROM WAGES

(i) The wages of a worker shall be paid to him without any deduction of any kind except the following:-
   (a) Fines

(b) Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.

(c) Deduction for damage to or loss of goods expressly entrusted to the employed person for custody, or for loss of money or any other deduction which he is required to account, where such damage or loss is directly attributable to his neglect or default

(d) Deduction for recovery of advances or for adjustment of overpayment of wages, advances granted shall be entered in a register.

(e) Any other deduction which the Central Government may from time to time allow.

(i) No fines should be imposed on any worker save in respect of such acts and omissions on his part as have been approved of by the Chief Labour Commissioner.

Note: - An approved list of Acts and Omissions for which fines can be imposed is enclosed at Appendix-X

(ii) No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.

(iii) The total amount of fine which may be imposed in any one wage period on a worker shall not exceed an amount equal to three paise in a rupee of the total wages, payable to him in respect of that wage period.

(iv) No fine imposed on any worker shall be recovered from him by instalment, or after the expiry of sixty days from the date on which it was imposed.

(v) Every fine shall be deemed to have been imposed on the day of the act or omission in respect of which it was imposed.

7. LABOUR RECORDS

(i) The contractor shall maintain a Register of persons employed on work on contract in Form XIII of the CL (R&A) Central Rules 1971 (Appendix IV)

(ii) The contractor shall maintain a Muster Roll register in respect of all workmen employed by him on the work under Contract in Form XVI of the CL (R&A) Rules 1971 (Appendix V).

(iii) The contractor shall maintain a Wage Register in respect of all workmen employed by him on the work under contract in Form XVII of the CL (R&A) Rules 1971 (Appendix VI).

(iv) Register of accident - The contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include the following particulars:

a) Full particulars of the labourers who met with accident.
b) Rate of Wages.
c) Sex
d) Age
e) Nature of accident and cause of accident.
f) Time and date of accident.
g) Date and time when admitted in Hospital,
h) Date of discharge from the Hospital.
i) Period of treatment and result of treatment.
j) Percentage of loss of earning capacity and disability as assessed by Medical Officer.
k) Claim required to be paid under Workmen's Compensation Act.
I) Date of payment of compensation.
m) Amount paid with details of the person to whom the same was paid.
n) Authority by whom the compensation was assessed.
o) Remarks

(v) The contractor shall maintain a Register of Fines in the Form XII of the CL (R&A) Rules 1971 (Appendix-XI)

The contractor shall display in a good condition and in a conspicuous place of work the approved list of acts and omissions for which fines can be imposed (Appendix-X)

(vi) The contractor shall maintain a Register of deductions for damage or loss in Form XX of the CL (R&A) Rules 1971 (Appendix-XII)
(vii) The contractor shall maintain a Register of Advances in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XIII)
(viii) viii) The contractor shall maintain a Register of Overtime in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XIV)

8. ATTENDANCE CARD-CUM-WAGE SLIP

(i) The contractor shall issue an Attendance card-cum-wage slip to each workman employed by him in the specimen form at (Appendix-VII)
(ii) The card shall be valid for each wage period.
(iii) The contractor shall mark the attendance of each workman on the card twice each day, once at the commencement of the day and again after the rest interval, before he actually starts work.
(iv) The card shall remain in possession of the worker during the wage period under reference.
(v) The contractor shall complete the wage slip portion on the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.
(vi) The contractor shall obtain the signature or thumb impression of the worker on the wage slip at the time of disbursement of wages and retain the card with himself.

9. EMPLOYMENT CARD

The contractor shall issue an Employment Card in Form XIV of the CL (R&A) Central Rules 1971 to each worker within three days of the employment of the worker (Appendix-VIII).

10. SERVICE CERTIFICATE

On termination of employment for any reason whatsoever the contractor shall issue to the workman whose services have been terminated, a Service certificate in Form XV of the CL (R&A) Central Rules 1971 (Appendix-IX)

11. PRESERVATION OF LABOUR RECORDS

All records required to be maintained under Regulations Nos. 6 & 7 shall be preserved in original for a period of three years from the date of last entries made in them and shall be made available for inspection by the Engineer-in-Charge or Labour Officer or any other officers authorized by the Ministry of Urban Development in this behalf.

12. POWER OF LABOUR OFFICER TO MAKE INVESTIGATIONS OR ENQUIRY

The Labour Officer or any person authorized by Central Government on their behalf shall have power to make enquires with a view to ascertaining and enforcing due and proper observance of Fair Wage Clauses and the Provisions of these Regulations. He shall investigate into any complaint regarding the default made by the contractor or subcontractor in regard to such provision.

13. REPORT OF LABOUR OFFICER

The Labour Officer or other persons authorized as aforesaid shall submit a report of result of his investigation or enquiry to the Engineer-in-Charge indicating the extent, if any, to which the default has been committed with a note that necessary deductions from the contractor's bill be made and the wages and other dues be paid to the labourers concerned. In case an appeal is made by the contractor under Clause 13 of these regulations, actual payment to labourers will be made by the Engineer-in-Charge after the Competent Authority has given his decision on such appeal.

i) The Executive Engineer shall arrange payments to the labour concerned within 45 days from the receipt of the report form the Labour Officer or the Superintending Engineer as the case may be.

14. APPEAL AGAINST THE DECISION OF LABOUR OFFICER

Any person aggrieved by the decision and recommendations of the Labour Officer or other person so authorized may appeal against such decision to the Superintending Engineer concerned within 30 days from the date of decision, forwarding simultaneously a copy of his appeal to the Executive Engineer concerned but subject to such appeal, the decision of the officer shall be final and binding upon the contractor.

15. **PROHIBITION REGARDING REPRESENTATION THROUGH LAWYER**

i) A workman shall be entitled to be represented in any investigation or enquiry under these regulations by:-

a) An officer of a registered trade union of which he is a member.

b) An officer of a federation of trade unions to which the trade union referred to in clause (a) is affiliated.

c) Where the employer is not a member of any registered trade union, by an officer of a registered trade union, connected with the industry in which the worker is employed or by any other workman employed in the industry in which the worker is employed.

ii) An employer shall be entitled to be represented in any investigation or enquiry under these regulations by :-

a) An officer of an association of employers of which he is a member.
b) An officer of a federation of associations of employers to which association referred to in clause (a) is affiliated.
c) Where the employers is not a member of any association of employers, by an officer of association of employer connected with the industry in which the employer is engaged or by any other employer, engaged in the industry in which the employer is engaged.
iii) No party shall be entitled to be represented by a legal practitioner in any investigation or enquiry under these regulations.

16. INSPECTION OF BOOKS AND SLIPS

The contractor shall allow inspection of all the prescribed labour records to any of his workers or to his agent at a convenient time and place after due notice is received or to the Labour Officer or any other person, authorized by the Central Government on his behalf.

17. SUBMISSIONS OF RETURNS

The contractor shall submit periodical returns as may be specified from time to time.

18. AMENDMENTS

The Central Government may from time to time add to or amend the regulations and on any question as to the application/Interpretation or effect of those regulations the decision of the Superintending Engineer concerned shall be final.

SECTION 10

LIST OF ACTS AND OMISSONS FOR WHICH FINES CAN BE IMPOSED

LIST OF ACTS AND OMISSONS FOR WHICH FINES CAN BE IMPOSED

In accordance with rule 7(v) of the CPWD Contractor's Labour Regulations to be displayed prominently at the site of work both in English and local Language

1. Willful insubordination or disobedience, whether alone or in combination with other.
2. Theft fraud or dishonesty in connection with the contractors beside a business or property of CPWD.
3. Taking or giving bribes or any illegal gratifications
4. Habitual late attendance.
5. Drunkenness lighting, riotous or disorderly or indifferent behavior
6. Habitual negligence.
7. Smoking near or around the area where combustible or other materials are locked
8. Habitual indiscipline.
9. Causing damage to work in the progress or to property of the CPWD or of the contractor.
10. Sleeping on duty.
11. Malingering or slowing down work.
12. Giving of false information regarding name, age father's name, etc.
13. Habitual loss of wage cards supplied by the employers.
14. Unauthorized use of employer's property of manufacturing or making of unauthorized particles at the work place.
15. Bad workmanship in construction and maintenance by skilled workers which is not approved by the University and for which the contractors are compelled to undertake rectifications.
16. Making false complaints and/or misleading statements.
17. Engaging on trade within the premises of the establishments.
18. Any unauthorized divulgence of business affairs of the employees.
19. Collection or canvassing for the collection of any money within the premises of an establishment unless authorized by the employer.
20. Holding meeting inside the premises without previous sanction of the employers.

21. Threatening or intimidating any workman or employer during the working hours within the premises.

Form H CHECK LIST FOR BIDDER			
Sr.No.	**Check Item**	**Yes/No**	**No of Pages**
	Received and studied the following documents		
	Main Tender Document including the NIT, General Conditions of Contract, Special Conditions of Contract, Technical Specifications and Tender Forms & Formats in the soft copy .pdf form containing a total number of ----- pages excluding the cover page		
	Bill of Quantities in the. xlsx format containing ….. Work sheets in one workbook. The last row number with relevant data in various sheets in the work book are …...		
	Total number of tender drawings received and studied are -----		
	Cover letter is complete on the company letterhead and signed by the authorized signatory and stamped with company seal.		
	The tender being filled is in total compliance with the terms specified and there is no assumption of any special condition in addition to what has been specified in the tender documents by the owners		
Envelope 1: Earnest Money and E Tender processing fee			
	EMD for the total amount		
	Demand Draft for E-Tender Processing Fee		
	Envelope marked as Envelope 1 on Top and titled as "Earnest Money and E Tender processing fee"		
	Envelop 1 is sealed and signed		
	Scanned copy of the EMD and Tender Processing fees uploaded on the e-tendering portal		

Envelope 2 will contain the following documents in two separate envelopes 2A, & 2B and will be titled "Eligibility Documents"			
	Envelope 2: Technical Tender		
	Envelope 2A : Technical Eligibility Documents		
	Documents certified by a chartered accountant in support of Average Annual Financial Turnover during the last 3 years, ending 31st March of the previous financial year has been submitted and the average annual financial turnover is more than or equal to 50% of the estimated cost		
	Balance sheet duly audited and Certified by a Chartered Accountant showing that the bidder has not incurred any loss (profit after tax should be positive) in more than two (2) years during the available last five consecutive financial years, ending 31st March 2018.		
	Documents in support of having successfully completed similar works during last 7 years as mentioned below Three similar completed works costing not less than the amount equal to RS. 2.05 Crores or two similar completed works costing not less than the amount equal to Rs. 3.08 Crores or one similar completed work costing not less than the amount equal to Rs. 4.10 Crores.		
	Solvency Certificate for at least Rs. 2.05 Crores. The certificate shall not be of a date, which is more than six months prior to the last date of submission of the tender.		
	Form A to E completed, signed, stamped and put together along with all the relevant documentary proof solicited in the Form A to H shall be put in envelope 2A		
	Envelope marked as Envelope 2A on Top and titled as "Technical eligibility documents"		

	Envelop 2A is sealed and signed		
	Scanned copy of the Technical eligibility documents uploaded on the e-tendering portal		
	Envelope 2 B : Signed Tender Documents		
	Signed and stamped all the pages of tender documents as uploaded by the University (Notice Inviting Tender, summary Schedule of Quantities, BOQ, technical specifications and all the tender drawings)		
	All these documents put together in an envelope and Envelope marked as Envelope 2B on Top and titled as "Signed Tender Documents"		
	Envelop 2B is sealed, signed and stamped		
ENVELOPE 2 FOR TECHNICAL TENDER:			
	Envelope 2A and 2B put together in Envelope for Technical Tender and Envelope marked as "Technical Tender Document" for the "Tender for HVAC work for Outreach Building at Permanent Campus for NU Rajgir, Bihar "		
	Envelope for Technical Tender is sealed, signed and stamped		
ENVELOPE 3 FOR FINANCIAL TENDER			
	Bill of Quantities duly filled in and compiled with rates quoted as percentage below/above/at par with the rates entered in the Schedule of quantities, total amounts tendered, (in duplicate) and other relevant commercial information (tender) signed by authorized signatory shall be placed separately in a sealed Envelop 3. Bidder must submit a soft copy of BOQ with rates quoted as percentage below/above/at par with the rates entered in the Schedule of quantities and amounts in editable Format on a CD also in the envelop 3. Envelop 3 shall be super scribed as **"Envelop 3 : Financial Tender"** and shall be opened only after bidder's eligibility to participate in the tender is successfully established and accepted		

	by NU.		
	Envelope marked as Envelope for Financial Tender on Top and titled as "Financial Tender" for the "Tender for HVAC work for Outreach Building within the Permanent Campus (Phase-I) for NU Rajgir, Bihar"		
	Envelop is sealed, signed and stamped		
	All the three envelopes shall be placed in a large sealed envelope marked as **"TENDER FOR HVAC WORK FOR OUTREACH BUILDING WITHIN THE CAMPUS FOR PROPOSED PERMANENT CAMPUS (PHASE I) OF NALANDA UNIVERSITY, AT RAJGIR, BIHAR**		