PART-III

CHAPTER-II

TENDER FORMS

TENDER FORMS

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FORM No. 1A

OFFER LETTER

Tender No: CGM/DFCCIL/NOIDA UNIT/INTERIOR FITOUT WORKS/HHRI & CTP-14 OFFICE BUILDING /SEC-145/NOIDA/2021/05

Name of Work: Interior Fitout works such as False Ceiling, Partitioning, Wood work, Electrical, HVAC, IT, Furniture and other allied works for under construction DFCCIL HHRI Building complex and 2nd Floor of CTP-14 office at Sec-145, Noida.

To,
The Chief General Manager/Noida,
DFCCIL

We, the undersigned, declare that:

1. I/We _____ have read the various conditions to tender attached hereto and agree to abide by the said conditions. I/We also agree to keep this tender open for acceptance for a period of **120 days** from the date fixed for opening the same and in default thereof, I/We will be liable for forfeiture of my/our "Earnest Money". I/We offer to do the work for DFCCIL, at the rates quoted in the attached schedule and hereby bind myself/ourselves to complete the work in all respects within **09 months** from the date of issue of letter of acceptance of the tender.

2. I/We also hereby agree to abide by the Indian Railways Standard General Conditions of Contract, with all correction slips up-to-date and to carry out the work according to the Special Conditions of Contract and Specifications of materials and works as laid down by DFCCIL in the annexed Special Conditions/Specifications, Schedule of Rates with all correction slips up-to-date for the present contract.

3. A sum of ₹ _____ has already been deposited online as Earnest Money. Full value of the Earnest Money shall stand forfeited without prejudice to any other right or remedies in case my/our Tender is accepted and if:

(a) I/We do not submit the Performance Guarantee within the time specified in the Tender document;

(b) I/We do not execute the contract documents within seven days after receipt of notice issued by the DFCCIL that such documents are ready; and

(c) I/We do not commence the work within fifteen days after receipt of orders to that effect.

4. We have examined and have no reservations to the Bidding Documents, including Addenda;

5. We offer to execute the Works in conformity with the Bidding Documents and within Specified Time

6. We have not been blacklisted/banned neither Bankrupt/Insolvent nor in the process of winding-up nor there is a case pending before any Court on deadline of submission of the

Bid in accordance with conditions mentioned in Part-I, Chapter-II (Preamble and General Instructions to tenderers) of Tender document.

7. If our bid is accepted, we commit to obtain a Performance Guarantee in accordance with the Bidding Documents;

8. If our bid is accepted, we commit to deploy key equipment and key personnel consistent with the requirements of the work.

9. We understand that this bid, together with your written acceptance thereof included in your notification of award/Letter of Acceptance (LOA), shall constitute a binding contract between us, until a formal contract is prepared and executed.

10. All information, statements and description in this bid are in all respect true, correct and complete to the best of our knowledge and belief and we have not made any tampering or changes in the bidding documents on which the bid is being submitted and if any tampering or changes/incorrect information are detected at any stage, we understand the bid will invite summarily rejection and forfeiture of bid security, the contract will be liable to be terminated along with forfeiture of performance security, even if LOA has been issued.

11. I/We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/We shall be debarred for tendering in DFCCIL in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the DFCCIL shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.

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

13. (a) I/We am/are a Statup firm registered by …….. Department of Industrial policy and Promotion (DIPP) and my registration number is …… valid upto …….. (Copy enclosed) and hence exempted from submission of Earnest Money.

14. We are a 100% Govt. owned PSUs and hence exempted from payment of Earnest Money.

15. We are a Labour Cooperative Society and our Registration No. is …….. with …… and hence required to deposit only 50% of Earnest Money.

16. Until a formal agreement is prepared and executed, acceptance of this tender shall constitute a binding contract between us subject to modifications, as may be mutually agreed to between us and indicated in the letter of acceptance of my/our offer for this work.

17. We understand that you are not bound to accept the lowest bid or any other bid that you may receive.

_____
Seal & Signature of Tenderer(s)

Date _____

Name .....In the capacity of .....Signed.….....Duly authorized to sign the Bid for and on behalf of..... Date .....

FORM No. 1B

FORMAT FOR CERTIFICATE TO BE SUBMITTED / UPLOADED BY TENDERER ALONGWITH THE TENDER DOCUMENTS

(To be executed in presence of Public notary on non-judicial stamp paper of the value of Rs. 100/- The stamp paper has to be in the name of the tenderer)

Tender No: CGM/DFCCIL/NOIDA UNIT/INTERIOR FITOUT WORKS/HHRI & CTP-14 OFFICE BUILDING /SEC-145/NOIDA/2021/05

Name of Work: Interior Fitout works such as False Ceiling, Partitioning, Wood work, Electrical, HVAC, IT, Furniture and other allied works for under construction DFCCIL HHRI Building complex and 2nd Floor of CTP-14 office at Sec-145, Noida.

I…… (Name and designation)** appointed as the attorney/authorized signatory of the tenderer (including its constituents), M/s_____ (hereinafter called the tenderer) for the purpose of the Tender documents for the work of _____ as per the tender No._____ of DFCCIL, do hereby solemnly affirm and state on the behalf of the tenderer including its constituents as under:

1. I/we the tenderer (s) am/are signing this document after carefully reading the contents.
2. I/We the tenderer(s) also accept all the conditions of the tender and have signed all the pages in confirmation thereof.
3. I/we hereby declare that I/we have downloaded the tender documents from Indian Railway website www.ireps.gov.in . I/we have verified the content of the document from the website and there is no addition, no deletion or no alteration to the content of the tender document. In case of any discrepancy noticed at any stage i.e. evaluation of tenders, execution of work or final payment of the contract, the master copy available with the railway Administration shall be final and binding upon me/us.
4. I/we declare and certify that I/we have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements.
5. **I/We also understand that my/our offer will be evaluated based on the documents/credentials submitted along with the offer and same shall be binding upon me/us.**
6. **I/We declare that the information and documents submitted along with the tender by me/us are correct and I/we are fully responsible for the correctness of the information and documents, submitted by us.**

7. I/we understand that if the certificates regarding eligibility criteria submitted by us are found to be forged/false or incorrect at any time during process for evaluation of tenders, it shall lead to forfeiture of the tender EMD besides banning of business for a period of upto five year. Further, I/we (insert name of the tenderer) **_____and all my/our constituents understand that my/our offer shall be summarily rejected.

8. I/we also understand that if the certificates submitted by us are found to be false/forged or incorrect at any time after the award of the contract, it will lead to termination of the contract, along with forfeiture of EMD/SD and Performance guarantee besides any other action provided in the contract including banning of business for a period of upto five year.

SEAL AND SIGNATURE
OF THE TENDERER

Place:
Dated:

** The contents in Italics are only for guidance purpose. Details as appropriate are to be filled in suitably by tenderer.

FORM No. 2

TENDERER'S CREDENTIALS

S. No	Description
1.	**For Technical experience**/competence, provide details of similar completed work(s) during the last Seven (07) years, ending last day of month previous to the one in which tender is invited in the proforma given in **"Form-2A".** The bidder shall attach Certified completion certificates issued by the client.
2.	**For Financial capacity** and organizational resources, provide details of contractual payments received in the last three financial years and the current financial year upto the date of inviting of tender as per audited balance sheet duly certified by Chartered Accountant/Certificate from Chartered Accountant duly supported by Audited Balance Sheet/Form 16A/26AS etc. in the proforma given in **"Form-2B".** The bidder shall attach necessary documents in support of the above.
3	Tenderers should fill the general information about their firm including constitution of the firm in **"Form-2C"**. Attach certified copies of legal and other documents in support thereof.

FORM No. 2A

TECHNICAL ELIGIBILITY CRITERIA DETAILS

Details of the similar works completed for Govt. ***(as per Para 1.3.14.1 of Preamble and General Instructions to Tenderers)***

LOA/ Contract Agreement No. and date **Similar Contract No.**	
Description of Work Contract Identification	
Contract Amount as per LOA	
Final Executed Amount as per Completion Certificate.	
Date of completion as per LOA	
Actual Date of Completion Completion date	
Whether the work was executed by Firm as single entity or as a Joint Venture or as a consortium.	
Percentage share of firm, if the work was executed as Joint Venture/Consortium	
Client Details: Name of Firm and Contact Person: Address: Mobile, Telephone, fax number: E-mail:	

Note: 1. If the tenderer has completed more than one work, the form shall be numbered as Form - 2A (i), Form 2A (ii) and Form 2A (iii) and so on.

2. Copy of Work Experience/Completion Certificate, LOA, work order, bill of quantitites etc. and copy of final/last bill paid by client shall be enclosed to verify the information given in above Form.

3. In case of JV, the bidder shall attach Certified completion certificates for each member of JV issued by the client as per Para 1.3.19.15.1 of Part-I Chapter-III of the Tender Document.

Signature of the
Tenderer with Seal

FORM No. 2AA

TECHNICAL ELIGIBILITY CRITERIA DETAILS

Details of the similar works completed for <u>Public Listed Company</u> *(as per Para 1.3.14.1 of Preamble and General Instructions to Tenderers)*

LOA/ Contract Agreement No. and date	
Description of Work	
Contract Amount as per LOA	
Final Executed Amount as per Completion Certificate.	
Date of completion as per LOA	
Actual Date of Completion	
Is the Client Firm listed on BSE/NSE? (Enclose supporting documents)	
Is average turnover of the Client Firm more than 500 crore in last 3 financial years? (Enclose supporting documents) (	
Is the Client Firm incorpotated/ registered at least 5 years prior to the date of opening of tender? (Enclose supporting documents)	
Client Details: Name of Firm and Contact Person: Address: Mobile, Telephone, fax number: E-mail:	

Note: 1. If the tenderer has completed more than one work, the form shall be numbered as Form - 2AA (i), Form 2AA (ii) and Form 2AA (iii) and so on.

2. Copy of Work Experience/Completion Certificate, LOA, work order, bill of quantitites, bill wise details of payment received duly certified by Chartered Accountant, TDS certificates for all payments received and copy of final/last bill paid by company to be enclosed to verify the information given in above Form.

3. In case of JV, the bidder shall attach Certified completion certificates for each member of JV issued by the client as per Para 1.3.19.15.1 of Part-I Chapter-III of the Tender Document.

Signature of the
Tenderer with Seal

FORM No. 2B

FINANCIAL ELIGIBILITY CRITERIA DETAILS

(as per Para 1.3.14.2 of Preamble and General Instructions to Tenderers)

Each Bidder or each member of JV must fill in this form separately. Name of Bidder/JV Partner-

Details of contractual payments received during the last three financial years and current financial year upto the date of inviting tender.

Year	**Value of gross contractual payment received inRs.**
Current Year *(2021-2022)*	
2020-2021	
2019 – 2020	
2018 – 2019	
Total Contractual Payment Received (Rs.)	

Note: 1. The details should be extracted from the audited balance sheet Certified by the Chartered Accountant or **Form 16-A/Form-26 AS** issued by the Employer/generated through TRACES as **defined at Clause 1.3.14 of Part-I, Chapter-III of Tender Document.**

2. In case of JV, each member of JV shall attach this certificate duly certified by the Chartered Accountant **as per Para 1.3.19.15.2 of Part-I Chapter-III of the Tender Document.**

3. Audited Balance Sheet and Form 26AS of each financial year should be enclosed in support of the above.

This is to certify that we are the Chartered Accountant/ Auditors for M/s ……..and the above mentioned contractual payments received is true and correct and this certificate is being issued for bidding purpose for the subject work. My client M/s …….. is the tenderer for the above project.

Sign and Seal of the Chartered Accountant/Auditors **Signature of the**

ICAI Registration No. **Tenderer with Seal**

UDIN No. of the certificate issued as above.

FORM No. -2C

APPLICANT'S PARTY INFORMATION FORM

S. No.	Item	Detail
1	Name of firm.	
2	Constitution of firm (Company/Partnership Firm/Proprietorship firm/LLP/HUF/JV etc.	
3	Name of Authorized Representative of the firm submitting the tender:	
4	Year of Establishment of the firm.	
5	Registered Address: -	
6	Telephone Number & Mobile of the Authorized representative of the firm	
7	E-mail address of the authorized representative	
8	Telefax Number	
9	PAN No:	
10	Goods & Service Tax Registration No:	
11	PF / EPF Registration No:	
12	ESI Registration No.	

Note: 1. Attach supporting documents as mentioned in para 1.3.16 of Part-I, Chapter-III of Tender Document for Item no. 2.

2. Attach latest valid documentary evidence for Item no. 9 to 12.

Signature of the
Tenderer with Seal

FORM No. 3

SUMMARY OF PRICES

Name of work: - Interior Fitout works such as False Ceiling, Partitioning, Wood work, Electrical, HVAC, IT, Furniture and other allied works for under construction DFCCIL HHRI Building complex and 2nd Floor of CTP-14 office at Sec-145, Noida.

S. No	DESCRIPTION OF SCHEDULES	COST (in Rs.)
I	**SCHEDULE-I (INTERIOR FITOUT WORKS)**	
(i)	Execution of all works as per "**Schedule-Items"** (as per CPWD DSR 2018 excluding GST component @12%)	**1,69,31,761.00**
(ii)	Execution of all works as per "**Non-Schedule-Items" (**excl. GST)	**2,33,99,866.00**
	Total of Schedule -I (excl. GST)	**4,03,31,627.00**
II	**SCHEDULE-II (FURNITURE)**	
(i)	Execution of all works as per "**Schedule-Items"** (as per CPWD DSR 2018 excluding GST component @12%)	**0.00**
(ii)	Execution of all works as per "**Non-Schedule-Items" (**excl. GST)	**2,04,59,010.00**
	Total of Schedule -II (excl. GST)	**2,04,59,010.00**
III	**SCHEDULE-III (ELECTRICAL WORKS)**	
(i)	Execution of all works as per "**Schedule-Items"** (as per CPWD DSR 2018 excluding GST component @12%)	63,58,833.00
(ii)	Execution of all works as per "**Non-Schedule-Items" (**excl. GST)	2,78,12,274.00
	Total of Schedule -III (excl. GST)	**3,41,71,107.00**
IV	**SCHEDULE-IV (HVAC WORK)**	
(i)	Execution of all works as per "**Schedule-Items"** (as per CPWD DSR 2018 excluding GST component @12%)	1,35,40,074.00
(ii)	Execution of all works as per "**Non-Schedule-Items" (**excl. GST)	1,05,21,789.00
	To Total of Schedule -IV (excl. GST)	**2,40,61,863.00**
V	**SCHEDULE-V (LOW VOLTAGE WORKS)**	
(i)	Execution of all works as per "**Schedule-Items"** (as per CPWD DSR 2018 excluding GST component @12%)	**2,35,300.00**
(ii)	Execution of all works as per "**Non-Schedule-Items" (**excl. GST)	**2,02,18,914.00**
	Total of Schedule -V (excl. GST)	**2,04,54,214.00**
	Grand Total "Schedule- I+ II+ III+IV+V" (excl. GST)	**13,94,77,821.00**
	Add GST@18%	2,51,06,008.00
	Grand Total "Schedule- I+ II+ III+IV+V" (incl. GST@18%)	**16,45,83,829.00**

Notes:

1) The above proforma is just for information. However, the rates are to be filled in Online mode in Financial Bid "Packet-B".

2) **Schedule Items:** The cost of Schedule items given above are as per CPWD DSR 2018 excluding GST component @ 12%.

3) Non-Schedule Items: The cost of Non-Schedule items given above *(other than CPWD DSR 2018)* are as per current market rate analysis ***(excluding GST).***

4) The rates quoted by the tenderer shall be inclusive of all taxes and levies but excluding GST. The GST as legally leviable and payable by the Bidder under the provisions of applicable law/act shall be paid extra by DFCCIL.

Therefore, the Bidders should quote their rates after considering the Input Tax Credits on their input materials and services. Hence, Bidders should ensure that, full benefit of Input Tax Credit (ITC) likely to be availed by them is duly considered while quoting their rates

5) ***Price variation will not be applicable for this work***. Due to any reason, if the contract period extends beyond 12 months, even in that case, Price Variation clause shall not be applicable.

6) The bidder has to be registered under CGST/IGST/UTGST/SGST Act and should submit GSTIN along with other details required under CGST/IGST/UTGST/SGST Act to the Employer, without which, no payment shall be released to the contractor.

FORM No. 4

(Schedule of Prices and Total Prices)

Name of Work: Interior Fitout works such as False Ceiling, Partitioning, Wood work, Electrical, HVAC, IT, Furniture and other allied works for under construction DFCCIL HHRI Building complex and 2nd Floor of CTP-14 office at Sec-145, Noida.

Form- 4

BOQ Item No.	CPWD 2018 Item No.	Item Description	Unit	Qty	Rate	Amount
		SCHEDULE-I				
		CIVIL & INTERIOR WORKS				
(i)		**SCHEDULED DSR-2018 ITEMS**				
1		**SUBHEAD 1: EARTH, CONCRETE & R.C.C WORKS**				
1.1	2.6	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.				
a	2.6.1	All kinds of soil	Cum	339.12	162.37	55,061.58
1.2	2.8	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.				
a	2.8.1	All kinds of soil	Cum	198.00	225.27	44,603.04
1.3	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	Cum	100.00	196.12	19,611.61
1.4	2.26	Extra for every additional lift of 1.5 m or part thereof in excavation / banking excavated or stacked materials.				
a	2.26.1	All kinds of soil	Cum	100.00	80.71	8,071.43

1.5	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
a	4.1.3	1:2:4 (1 cement : 2 coarse sand (zone-III) : 4 graded stone aggregate 20 mm nominal size).	Cum	10.00	6,061.25	60,612.50
1.6	4.1.8	1:4:8 (1 Cement : 4 coarse sand (zone-III) : 8 graded stone aggregate 20 mm nominal size)	Cum	10.00	5,169.29	51,692.86
1.7	4.12	Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification.	kgs per 50 bag of cement	20	50.49	1,009.82
.						
1.8	5.37	Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying , excluding the cost of centering, shuttering finishing and reinforcement, including cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum.Excess/less cement used as per design mix is payable/recoverable separately).				
a	5.37.1	All works upto plinth level	Cum	20.00	7,498.81	1,49,976.25
1.9	5.9	Centering and shuttering including strutting, propping etc. and removal of form for :				
a	5.9.1	Foundations, footings, bases of columns, etc. for mass concrete.	Sqm	40.00	254.33	10,173.21

b	5.9.3	Suspended floors, roofs, landings, balconies and access platform	Sqm	10.00	618.79	6,187.95
1.10	5.9.2	Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	Sqm	50.00	544.02	27,200.89
1.11	5.34.1	Providing M-30 grade concrete instead of M-25 grade BMC/ RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum)	Cum	5.00	62.28	311.38
1.12	5.35	Add for using extra cement in the items of design mix over and above the specified cement content therein.	Quintal	1.00	601.16	601.16
10.2.11	5.22.6	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.				
a		Thermo-Mechanically Treated bars of grade Fe-500D or more.	Kg	2,200.00	74.55	1,64,017.86
		TOTAL for EARTH & CONCRETE WORK				**5,99,131.54**
2		**SUBHEAD 2: MASONRY WORKS**				
2.1	6.47	Providing and laying autoclaved aerated cement blocks masonry with 150mm/230mm/300 mm thick AAC blocks in super structure above plinth level up to floor V level with RCC band at sill level and lintel level with approved block laying polymer modified adhesive mortar all complete as per direction of Engineerin-Charge. (The payment of RCC band and reinforcement shall be made for seperately).	Cum	10.00	5,925.85	59,258.48
2.2	6.38	Providing and laying autoclaved aerated cement blocks masonry with 100 mm thick AAC blocks in super structure above plinth level up to floor V level in celemt mortar 1:4 (2 cement: 4 coarse sand). The rate includes providing and placing in position 2 Nos. 6mm dia M.S. bars at every third course of masonry work	Cum	10	7,345.85	73,458.48

2.3	6.5	Extra for brick work / AAC block masonry / Tile brick masonry in superstructure above floor V level, for each four floors or part thereof by mechanical means.	Cum	5.00	211.29	1,056.47
2.4	6.1	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:				
a	6.1.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	Cum	10.00	5,497.72	54,977.23
2.5	6.4	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :				
a	6.4.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	Cum	20.00	6,777.19	1,35,543.75
2.6	6.13	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level.				
a	6.13.2	Cement mortar 1:4 (1 cement :4 coarse sand)	Sqm	25.00	832.23	20,805.80
2.7	6.15	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	Sqm	25.00	71.52	1,787.95
		TOTAL for MASONRY				**3,46,888.17**
3		**SUBHEAD 3: FLOORING WORKS**				
3.1	11.37.A	Providing and fixing 1st quality ceramic glazed floor and wall tiles conforming to IS : 15622 (thickness to be specified by the manufacturer) of approved make in all colours, shades except burgundy, bottle green, black of any size as approved by Architect in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement: 3 coarse sand) and jointing with grey cement	Sqm	100.00	828.48	82,848.21

		slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete. (Double Charge)				
3.2	11.41	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joint with white cement & matching pigments etc. complete.				
a	11.41.2	Size of Tile 600x600 mm (Double Charge)	Sqm	600.00	1,339.78	8,03,866.07
3.3	11.51	Providing and laying machine cut, mirror polished, Italian Marble stone flooring laid in required pattern in linear portion of the building all complete as per architectural drawings, with 18 mm thick stone slab laid over 20mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with white cement slurry @ 4.4 kg/sqm, including pointing with white cement slurry admixed with pigment to match the marble shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge.				
a	11.51.1	18 mm thick Italian Marble stone slab, Perlato, Rosso verona, Fire Red or Dark Emperadore etc.	Sqm	25.00	5,344.82	1,33,620.54
	11.33	25 mm wooden planking, tongued and grooved in flooring, including fixing with iron screws complete with				
	11.33.1	Second class teak wood	Sqm	50.00	3,707.54	1,85,377.23
3.4	8.2	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills,				

		facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.				
a	8.2.2	Granite of any colour and shade				
b	8.2.2.2	Area of slab over 0.50 sqm	Sqm	100.00	3,578.26	3,57,825.89
3.5	11.3	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete.				
a	11.3.1	40 mm thick with 20 mm nominal size stone aggregate	Sqm	460.00	444.96	2,04,679.46
3.6	11.56	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building, all complete as per the architectural drawings, with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand), laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade, including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge.				
a		Polished Granite stone slab jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent.	Sqm	15	3,148.75	47,231.25
3.6	11.26	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :				
a	11.26.1	25 mm thick	Sqm	20.00	1,367.72	27,354.46

	11.27	Kota stone slab 20mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	Sqm	5.00	1,616.12	8,080.58
3.7	11.54	Providing and fixing removable raised/false access flooring with system and its components of approved make for different plenum height with possible height adjustment upto 50 mm, comprising of modular load bearing floor panels supported on G.I. rectangular stinger frame work and G.I. Pedestal etc. all complete, as per the architectural drawings, as specified and as directed by Engineer-in-charge consisting of				
		a) Providing at required spacing to form modular framework, pedestals made out of GI tube of thickness minimum 2 mm and 25 mm outer diameter, fully welded on to the G.I. Base plate of size 100mm x 100mm x 3mm at the bottom of the pedestal tube, G.I. pedestal head of size 75mmx75mmx3.5 mm welded with GI fully threaded stud 16mm outer diameter with two GI Check nuts screwed on the stud for level adjustment upto 50mm, locking and stabilizing the pedestal head in position at the required level. The pedestals shall be fixed to the subfloor (base) throughbase plate using epoxy based adhesive of approved make or the machine screw with rawl plug.				
		b) Stringers system in all steel construction hot dipped galvanized of rectangular size 570x20x30x0.80mm thick having holes at both ends for securing the stringers on to the pedestal head using fully threaded screws ensuring maximum lateral stability in all directions, the grid formed by the pedestal and stringer assembly shall receive the floor panel, this system shall provide adequate solid, rigid support for access floor panel, the system shall provide a minimum clear uninterrupted clearance				

		between the bottom of the floor for electrical conduits and wiring etc. all complete as per the architectural drawings, as specified and as directed by the Engineer-in-charge.				
		c) Providing and fixing Access Floor panel of 600x600x32 mm medium grade Filled Steel anti static high pressure Lamination of 800H grade(FS800H). Access Floor panel shall be steel welded construction with an enclosed bottom pan with uniform pattern of 64 hemispherical cones. The top and bottom plates of Steel Gauges: top 0.6 mm and bottom 0.7 mm fused spot welded together (minimum 64 welds in each dome and 20 welds along each flange). The panel should be corrosion resistant epoxy coated for lifetime rust protection and cavity formed by the top and bottom plate is filled with Pyrogrip noncombustible Portland cementitious core mixed with lightweight foaming compound. The access floor shall be factory finished with Anti-static High Pressure laminate with Non Warp technology upto 1mm thickness for superior adhesion and Surface flatness within 0.75mm.The panel is to withstand a Concentrated Load of 363 kgs applied on area 25mm x 25mm without collapse in the centre of the panel which is placed on four steel blocks. The panel will withstand and Uniformly Distributed Load (UDL) minimum 1250 kg/sqm and, an impact load of 50kg all complete as per the approved manufacturers specification and as per the direction of Engineer-in-charge. All specification must be printed on the side of the panel to ensure the quality of the product.				
a	11.54.1	300 mm Finished Floor Height (FFH)	Sqm	30.00	4,531.52	1,35,945.54
		TOTAL for FLOORING				**19,86,829.24**
4		**SUBHEAD 4: PLASTERING, PAINTING & WATERPROOFING WORKS**				

4.1	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
a	4.1.3	1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 6-12 mm nominal size) for Screeding on Floors	Cum	20.00	6,061.25	1,21,225.00
4.2	13.1	12 mm cement plaster of mix :				
a	13.1.1	1:4 (1 cement: 4 fine sand)	Sqm	120.00	238.26	28,591.07
4.3	13.12	18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement : 5 coarse sand) and a top layer 6 mm thick cement plaster 1:3 (1 cement : 3 coarse sand) finished rough with sponge.	sqm	100.00	371.92	37,191.96
4.4	13.45	Finishing walls with textured exterior paint of required shade :				
a	13.45.1	New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm.	Sqm	14000	207.14	28,99,960.00
	13.46	Finishing walls with Acrylic Smooth exterior paint of required shade :				
b	13.46.1	New work (Two or more coats applied @ 1.67 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm.	Sqm	1500	147.05	2,20,575.00
4.5	13.80	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer. Quote for each layer over the plastered wall surface to prepare the surface even and smooth complete.	Sqm	500.00	102.81	51,406.25
4.6	13.37	White washing with lime to give an even shade :				
a	13.37.1	New work (three or more coats)	Sqm	400.00	25.49	10,196.43
4.7	13.82	Wall painting with acrylic emulsion paint, having VOC (Volatile Organic Compound) content less than 50 grams/ litre, of approved brand and manufacture, including applying additional coats				

		wherever required, to achieve even shade and colour.				
a	13.82.2	Two coats	Sqm	23,719.00	95.36	22,61,776.07
4.8	13.44	Finishing walls with water proofing cement paint of required shade :				
a	13.44.1	New work (Two or more coats applied @ 3.84 kg/10 Sqm)	Sqm	120.00	81.47	9,776.79
4.9	22.23	Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels / subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineerin-C129charge. The product performance shall carry guarantee for 10 years against any leakage.				
a	22.23.2	For horizontal surface one coat @1.10 kg per Sqm.	Sqm	100.00	333.39	33,339.29
4.10	12.34	Providing and fixing thermal insulation of ceiling (under deck insulation) with Resin Bonded Fibre glass wool conforming to IS : 8183, density 24kg / m3, 50mm thick, wrapped in 200 G	Sqm	800.00	518.08	4,14,464.29

		Virgin Polythene bags, fixed to ceiling with metallic cleats (50x50x3 mm) @ 60 cm and wire mesh of 12.5 mm x 24 gauge wire mesh, for top most ceiling of building.				
4.11	13.18	Neat Cement Punning	Sqm	100.00	56.03	5,602.68
		TOTAL for PLASTERING, PAINTING & WATERPROOFING WORKS				**60,94,104.82**
5		**SUBHEAD 5: FALSE CEILING**				
5.1	12.45	Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/Sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37 mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5mm dia x 50 mm long with 6 mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the rate of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval,				

		including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm or both sides of joint and two coats of primer suitable for board, all as per manufacture's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification but excluding the cost of painting with :				
a	12.45.1	12.5 mm thick tapered edge gypsum plain board conforming to IS: 2095- Part I.	Sqm	2,100.00	997.90	20,95,593.75
	26.27	Providing and fixing mineral fibre false ceiling tiles at all heights of size 1200x300mm of approved texture, design and pattern. The tiles should have Humidity Resistance (RH) of 99%, Light Reflectance > 85%, Thermal Conductivity k = 0.052 - 0.057 w/m K, Fire Performance as per (BS 476 pt - 6 &7)in true horizontal level suspended on interlocking T-Grid of hot dipped all round galvanized iron section of 0.33 mm thick (galvanized @120 gsm) comprising of main T runners of 15x32 mm of length 3000 mm, cross T of size 15x32mm of length 1200 mm and secondary intermediate cross T of size 15x32 mm of length 600 mm to form grid module of size 600x600 mm suspended from ceiling using galvanized mild steel item (galvanised@80gsm) 50 mm long 8mm outer diameter M-6 dash fasteners, 6 mm diameter fully threaded hanger rod up to 1000 mm length and L-shape level adjuster of size 85x25x2 mm, spaced at 1200 mm centre to centre along main 'T'. The system should rest on periphery walls /partitions with the help of GI perimeter wall angle of				

		size24x24X3000 mm made of 0.40 mm thick sheet, to be fixed to the wall with help of plastic rawl plug at 450 mm centre to centre & 40 mm long dry wall S.S. screws. The exposed bottom portion of all T-sections used in false ceiling support system shall be pre-painted with polyester baked paint, for all heights. The work shall be carried out as per specifications, drawings and as per directions of the engineer-incharge.				
	26.27.2	With 20 mm thick beveled tegular mineral fibre false ceiling tile (NRC 0.7)	Sqm	1,200.00	2,050.76	24,60,910.71
5.2	9.105	Providing and fixing partition upto ceiling height consisting of G.I. frame and required board, including providing and fixing of frame work made of special section power pressed/ roll form G.I. sheet with zinc coating of 120 gms/ sqm(both side inclusive), consisting of floor and ceiling channel 50mm wide having equal flanges of 32 mm and 0.50 mm thick, fixed to the floorand ceiling at the spacing of 610 mm centre to centre with dash fastener of 12.5 mm dia meter 50 mm length or suitable anchor fastener or metal screws with nylon plugs and the studs 48 mm wide having one flange of 34mm and other flange 36 mm and 0.50 mm thick fixed vertically within flanges of floor and ceiling channel and placed at a spacing of 610 mm centre to centre by 6 mm dia bolts and nuts, including fixing of studs along both ends of partition fixed flush to wall with suitable anchor fastener or metal screws with nylon plugs at spacing of 450 mm centre to centre, and fixing of boards to both side of frame work by 25 mm long dry wall screws on studs, floor and ceiling channels at the spacing of 300 mm centre to centre. The boards are to be fixed to the frame work with joints staggered to avoid through cracks, Galvanised M.S. fixing channel of 99 mm width (0.9 mm thick having two flanges of 9.5 mm each with zinc coating of 120gms/sqm(both side inclusive)) to be provided at the				

		horizontal joints of two boards, fixed to the studs using metal to metal flat head screws, including jointing and finishing to a flush finish with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and two coats of primer suitable for board as per manufacture's specification and direction of engineer in charge all complete				
a	9.105.1	75 mm overall thickness partition with 12.5 mm thick double skin fire rated board conforming to IS: 2095: part 3	Sqm	200.00	1,554.60	3,10,919.64
		TOTAL for FALSE CEILING				**48,67,424.11**
6		**SUBHEAD 6: DOORS & WINDOWS**				
6.1	9.1	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately).				
a	9.1.1	Second class teak wood	Cum	0.50	1,16,234.87	58,117.43
6.2	9.20	Providing and fixing ISI marked flush door shutters conforming to IS :2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.				
a	9.20.2	30 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	sqm	20.00	2,461.03	49,220.54
6.3	9.23	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	sqm	20.00	358.39	7,167.86

6.4	9.40	Providing and fixing wooden moulded beading to door and window frames with iron screws, plugs and priming coat on unexposed surface etc.complete :				
a	9.40.1	2nd class teak wood				
b	9.40.1.1	50x12 mm	metre	40.00	164.82	6,592.86
6.5	9.53	Providing 40x5 mm flat iron hold fast 40 cm long including fixing to frame with 10 mm diameter bolts, nuts and wooden plugs and embedding in cement concrete block 30x10x15cm 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 20mm nominal size).	each	60.00	160.00	9,600.00
6.6	9.88	Providing and fixing chromium plated brass 100 mm mortice latch and lock with 6 levers and a pair of lever handles of approved quality with necessary screws etc. complete	each	5.00	720.04	3,600.22
6.10	9.97	Providing and fixing aluminium tower bolts, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete :				
a	9.97.2	250x10 mm	each	5.00	92.46	462.28
6.11	9.101	Providing and fixing aluminium hanging floor door stopper, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade, with necessary screws etc. complete.				
a	9.101.2	Twin rubber stopper	each	5.00	55.40	277.01
6.12	9.136	Providing and fixing fire resistant door frame of section 143 x 57 mm having built in rebate made out of 16 SWG G.I. sheet (zinc coating not less than 120 gm/sqm) duly filled with vermuculite based concrete mix, suitable for mounting 60 minutes fire rated door shutters. The frame is fitted with intumuscent fire seal strip of size 10x4 mm (minimum) alround the frame and fixing with dash fastener of approved	Sqm	37.80	1,289.55	48,745.13

		size and make, including applying a coat of approved brand fire resistant primer etc. complete as per direction of Engineer-in-charge (Dash fastener to be paid for separately).				
	9.139	Providing and fixing panic bar/latch (Double point) fitted with a single body, Trim Latch & Lock on back side of the Panic Latch of reputed brand and manufacture to be approved by the Engineer-in-charge, all complete.	each	2.00	6,370.40	12,740.80
6.13	10.27	Providing and fixing carbon steel galvanised (minimum coating 5 micron) dash fastener of 10 mm dia double threaded 6.8 grade (yield strength 480 N/mm2), counter sunk head, comprising of 10 m dia polyamide PA 6 grade sleeve, including drilling of hole in frame , concrete/ masonry, etc. as per direction of Engineer-in-charge.				
a	10.27.2	10 x 80 mm	each	90.00	97.32	8,758.93
b	10.27.3	10 x 120 mm	each	30.00	119.87	3,595.98
c	10.27.4	10 x 140 mm	each	12.00	130.04	1,560.54
6.14	26.10	Providing and fixing factory made Kitchen Cabinet Shutter/Partition 20 mm nominal thickness of approved shade, quality and make, made from rigid foam sheets (Single extruded) having density 600 Kg/cum and laminated on both side by laminate Sheet/PVC foil lamination. The exposed edges shall be sealed with PVC edge beading of same shade and colour. The shutter shall be fire retardent having necessary screw holding capacity. Shutter shall be fixed to frame using approved hinges with necessary stainless steel screws, all complete as per direction of Engineer-in-charge.	Sqm	45.00	4,049.38	1,82,221.88
		TOTAL for DOORS & WINDOWS				**3,92,661.44**
7		**SUBHEAD 7: STRUCTURAL STEEL**				

7.1	10.2	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	2,000.00	90.85	1,81,696.43
7.2	10.19	Providing and fixing mild steel round holding down bolts with nuts and washer plates complete.	Kg	200.00	74.87	14,973.21
7.3	10.25	Steel work welded in built up sections/ framed work including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
a	10.25.1	In stringers, treads, landings etc. of stair cases, including use of chequered plate wherever required, all complete	Kg	250.00	83.62	20,904.02
7.4	9.48	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete.				
a	9.48.1	Fixed to steel windows by welding	Kg	150.00	147.59	22,138.39
7.5	10.26	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer.				
a	10.26.1	M.S. tube	Kgs	10,000.00	130.04	13,00,446.43
		TOTAL for STRUCTURAL STEEL :				**15,40,158.48**
8		**SUBHEAD 8: DEMOLITION AND DISMANTLING WORKS**				
8.1	15.3	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 meters lead as per direction of Architect.	CUM	5.00	2,263.13	11,315.63

8.2	15.5	Extra for cutting reinforcement bars manually/ by mechanical means in R.C.C. or R.B. work (Payment shall be made on the cross sectional area of R.C.C. or R.B. work) as per direction of Architect.	Sqm	25.00	770.85	19,271.21
8.3	15.7	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 meters lead as per direction of Architect.				
a	15.7.4	In cement mortar	CUM	10.00	1,312.41	13,124.11
8.4	15.8	Removing mortar from bricks and cleaning bricks including stacking within a lead of 50 m (stacks of cleaned bricks shall be measured):	1000 Bricks	5.00	4,357.95	21,789.73
a	15.8.3	From brick work in cement mortar				
8.5	15.60	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Architect, beyond 50 m initial lead, for all leads including all lifts involved.	CUM	15.00	123.97	1,859.60
8.6	15.23	Dismantling tile work in floors and roofs laid in cement mortar including stacking material within 50 metres lead.				
a	15.23.1	For thickness of tiles 10 mm to 25 mm	Sqm	50.00	48.97	2,448.66
		Total of DISMANTLING & DEMOLISHING :				**69,808.93**
9		**SUBHEAD 9: ALUMINIUM & GLAZING WORKS**				
9.1	25.8	Design supply & installation of suspended Spider Glazing system designed to withstand the wind pressure as per IS 875 (Part-III). The Suspended System held with Spider Fittings of SS-316 Grade Steel of approved manufacturer with glass panel having 12 mm thick clear toughened glass held together with SS-316 Grade Stainless steel Spider & bolt				

		assembly with laminated glass fins 21 mm thick. The Glass fins and glass panel assembly shall be connected to Slab/ beams by means of SS- 316 Grade stainless steel brackets & Anchor bolts and at the bottom using SS channel of 50x25x2mm using fastener & anchor bolts, non staining weather sealants of approved make, Teflon/ nylon bushes and separators to prevent bi-metallic contacts, all complete to perform as per specification and approved drawings. The complete system to be designed to accommodate thermal expansion & seismic movements etc. The joints between glass panels (6 to 8 mm) and gaps at the perimeter & in U channel of the assembly to be filled with non staining weather sealant, so as to make the entire system fully water proof & dust proof				
		The rate shall include all design, Engineering and shop drawing including approval from structural designer, labour, T&P, scaffolding, other incidental charges including wastage, enabling temporary services all fitting fixers nut bolts, washer, Buffer plates, fastener, anchors, SS channel laminated glass etc. all complete. For the purpose of payment, actual elevation area of Glazing including thickness of joints and the portion of Glass panel inside the SS channel shall be measured.	Sqm	30.00	7,259.33	2,17,779.91
		TOTAL for ALUMINIUM & GLAZING WORKS				**2,17,779.91**
10		**SUBHEAD 10: RAIN WATER HARVESTING WORK**				
10.1	23.1	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/bore log, including hire & running charges of all equipments, tools,plants & machineries required for the job, all complete as per direction of Engineer-in-charge, upto 90 metre depth below ground level.				

a	23.1.1	All types of soil				
i)	23.1.1.1	300mm dia	metre	140.00	457.41	64,037.50
b	23.1.2	Rocky strata including Boulders				
i)	23.1.2.1	300 mm dia	metre	210.00	1,092.14	2,29,350.00
10.2	23.3	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC medium well casing (CM) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer -in-charge.				
a	23.3.3	200 mm nominal size dia	metre	140.00	951.83	1,33,256.25
10.3	23.4	Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC medium well screen (RMS) pipes with ribs, conforming to IS: 12818, including hire & labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge.				
a	23.4.3	200 mm nominal size dia	metre	140.00	1,014.11	1,41,975.00
10.4	23.5	Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	cum	14.70	1,184.42	17,410.97
10.5	23.6	Supplying, filling, spreading & leveling gravels of size range 5 mm to10 mm, in the recharge pit, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	cum	14.70	1,184.42	17,410.97
10.6	23.7	Supplying, filling, spreading & leveling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer - incharge.	cum	14.70	1,184.42	17,410.97

10.7	23.8	Gravel packing in tubewell construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineer-in-charge.	cum	11.20	1,337.23	14,977.00
10.8	23.15	Providing and fixing Bail plug/ Bottom plug of required dia to the bottom of pipe assembly of tubewell as per IS:2800 (part I).				
a	23.15.3	200 mm dia	each	7.00	274.78	1,923.44
		TOTAL for RAIN WATER HARVESTING WORK				**6,37,752.09**
11		**SUBHEAD 11: PLUMBING & DRAINAGE WORK**				
	17.78	Providing and fixing fixing white vitreous china extended wall mounting water closet of size 780x370x690 mm of approved shape including providing & fixing white vitreous china cistern with dual flush fitting, of flushing capacity 3 litre/6 litre (adjustable to 4 litre/8 litres), including seat cover, and cistern fittings, nuts, bolts and gasket etc complete.	Each	2	12,368.26	24,736.52
	17.80	Providing and fixing fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610x390x370 mm having pre & post flushing with water (250 ml & 500 ml consumption), consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	Each	2	6,173.13	12,346.25
	17.1	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS: 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required:				
	17.10.1	Kitchen sink with drain board				
	17.10.1.2	510x1040 mm bowl depth 225 mm	Each	1	5,224.73	5,224.73

11.1	2.10	**Excavating trenches** of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :				
a	2.10.1	All kinds of soil				
i)	2.10.1.1	Pipes, cables etc, not exceeding 80 mm dia.	Metre	100.00	199.11	19910.71
ii)	2.10.1.2	Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia.	Metre	100.00	325.18	32517.86
11.2	2.11	Extra for excavating trenches for pipes, cables etc. in all kinds of soil for **depth exceeding 1.5 m, but not exceeding 3 m**. (Rate is over corresponding basic item for depth upto 1.5 metre).	Metre	10.00	113.39	1133.93
12	19.6	Providing and laying non pressure NP2 class (light duty) RCC pipes with collars jointed with stiff mixtures of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete				
a	19.6.3	250 mm dia	Mtr	20.00	673.62	13,472.32
b	19.6.4	300 mm dia	Mtr	20.00	771.12	15,422.32
c	19.6.5	450 mm dia	Mtr	20.00	1,243.48	24,869.64
d	19.6.6	500 mm dia	Mtr	20.00	1,479.42	29,588.39
		TOTAL for PLUMBING & DRAINAGE				**1,79,222.68**
		Total of CIVIL & INTERIOR WORKS (SCHEDULE ITEMS) – "A"				**1,69,31,761.42**
I		**CIVIL & INTERIOR WORKS**				
(ii)		**NON SCHEDULE ITEMS**				
1		**SUBHEAD 1: CIVIL WORK**				

1.1	NS	Providing, supplying and filling of local earth by mechanical transport up to any lead, also including rolling, compacting and watering of the earth in layes not exceeding 20cm in trenches, plinth side of foundation etc. complete	Cum	7,500.00	269.94	20,24,550.00
1.2	N.S.	Providing and fixing Rebar with Epoxy resin and hardener of FIS SB or Hilti or approved equivalent make. The Chemical should have working life of 50 years. Drilling Hole with suitable drill bit to the specified depth through a rotary hammer, cleaning with brush and jet of clean air, filling resin and hardener using a static mixer to ensure proper mixing of the chemical. Use of Piston plugs and extension hose for longer embedment depths to ensure proper injection of the chemical without air bubble and then fixing the rebar. Conducting occasional site inspection, executing work by trained personnel and occasional supervision from the Manufacturer's representative in India. The Installation and setting instructions should be strictly followed as per the Manufacturers recommendation.				
a		8 mm dia	Nos	50.00	117.27	5,863.68
b		10 mm dia	Nos	50.00	171.02	8,551.20
c		12 mm dia	Nos	50.00	215.00	10,750.08
d		16 mm dia	Nos	25.00	366.48	9,162.00
1.3	N.S.	Cutting of holes in existing RCC slab by core cutting method				
b	N.S.	100	No.s	25.00	285.04	7,126.00
c	N.S.	150	No.s	25.00	407.20	10,180.00
d	N.S.	200	No.s	25.00	529.36	13,234.00
10.2.10	N.S	Suplying and fixing of different thickness of Toughened Glass				
a	N.S	8mm Thick Clear TG	Sqm	20.00	2,287.15	45,743.00
b	N.S	10mm Thick Clear TG	Sqm	20.00	2,674.28	53,485.60
b	N.S	12mm Thick Clear TG	Sqm	25.00	2,945.27	73,631.75
		***TOTAL for* CIVIL WORKS**				**22,62,277.31**
2		**SUBHEAD 3: FLOORING WORK**				

2.1	N.S.	Providing and fixing Carpet flooring using Carpet Tile of approved make, shade and pattern and of the following specification: High Cut – Low Loop Carpet tile, Premium Solution Dyed Nylon with Anti Stain Treatment, 1/10 gauge, minimum Pile height should be 8.0mm Cut and 3.5mm Loop or with acceptable tolerance, total minimum thickness 9.0mm, Tile size should be minimum 500mm x 500mm, Secondary Back Commercial 100% Re-cyclable. Wear Warranty– product should be warranted for10 Year Warranty with minimum weight loss of pile and colour. All yarns used are Solution dyed to minimize use of water and exclude any effluent production.	Sqm	420.00	3,556.00	14,93,520.00
		***TOTAL for* FLOORING WORKS**				**14,93,520.00**
3		**SUBHEAD 4: INTERIOR & FURNISHING WORK**				
3.1	N.S.	Providing and fixing roller blinds of approved shade conformning to the following Technical Specifications: Roller blind fabric should be made up of 35% Fiberglass, 65% Vinyl on Fiberglass, it should have specific low emissivity treatment and Lead free with **Greenguard Gold certification.** Fabric should cut UV rays with 97% approximately and antimicrobial properties as per ASTM E 2180, ASTM G21 & G22, AATCC30 Part 3, ASTM D 3273. One control unit is to be supplied for an area od 2.4sqm of blinds/				

		Roller Upper Tube: Made of high strength extruded aluminium alloy, finish powder coated with min 60 micron coating, Size of 40 mm outer dia and wall thickness of min. 1.2mm, Bottom Tube: Made of high strength extruded aluminium alloy, finish powder coated with min 60 micron coating, Size of 20 mm height and wall thickness of min. 1.2mm, Special feature. Control Unit: Made of high strength reinforced Nylon grade 6, consisting of outside sleeve and centre shaft, sleeve shall provide bearing surface of roller tube and rotate freely on centre shaft, providing smooth quiet and long wearing operations. Brackets: Fixing brackets is made of mild steel with zinc coating, made of thickness of min. 0.7mm. Ball Chain: Made of 2mm thickness polyester cord with moulded 4.5mm round plastic balls.	Sqm	485.00	1,136.00	5,50,960.00
3.2	N.S.	Supply and fixing of prefabricated GI trap doors (600 mm x 600 mm).	Each	24.00	8,442.00	2,02,608.00
3.3	N.S.	Providing & fixing Vertical Linear Baffle Ceiling made out of Aluminum Extrusion in Aluminum alloy grade 6063. The baffle blade shall be in size of 100x25x3600mm in powder coated Black finish. The baffle blade shall be suspended using Slotted U-profile at on-center spacing in multiples of 25mm.Longer lengths of Baffle to be connected by Baffle Joiner and the ends to be fixed with End caps. Installation of U-Grid: The U profile to be suspended at every 1200mm on-centre using 6mm threaded rod from the structural soffit using U-profile hanger. U-profile splice to be used to join more than one U profiles of length 3.75M. 1st U-Grid Channel must be no more than 400mm from the perimeter Installation of Baffles: Locate the slot for Baffle Hangers in U Profile section at 1200mm centres. Hangers are inserted into the slot, then rotated 90° and fixed into position by	Sqm	225.00	8,190.71	18,42,909.53

		tightening the grub screw. Baffle to be lifted into position and hangers engage over lip of U-Grid Channel. Each Hanger to be secured into position by inserting the Locking Clip. When doing continuous installation, Baffles blades are to be connected at ends with Baffle Joiner, which are inserted into the top and bottom slots of the Baffle closed profile for alignment only. The bottom Joiner to be located first and fastened on one side only. The top Joiner to be fitted then and secured with grub screws on one side. Then the two Baffle sections shall be joined and the top Joiner is screw fastened on the 2nd Baffle profile. End Caps to be located by pushing the End Cap tongues into open Baffle slots. Installation to be carried out by Trained Installation team & Installation should be carried out as per recommended procedure.				
3.4	N.S	Providing and fixing stainless steel handle H-Type Stainless Steel Pull Handles complete with all necessary screws, gaskets, washers and other accessories of size 19mm x 305mm.	Set	18.00	2,092.73	37,669.11
3.5	N.S	Providing and fixing Corner Patch Lock with a euro profile cylinder and strike plate with SS 304 cover complete with all necessary screws dead bolt projection of 15 mm (single throw).	Each	18.00	1,701.76	30,631.72
3.6	N.S	Glass Door: Providing & installing 100x25mm aluminium anodised door frame with Single framed glazed Stile Door 60mm system with 60x35mm system on verticals & top of the door & 80x35 on the bottom of the door with 12mm thick tempered glass shutter, 3 side beading system aluminium horizontal member 25x100mm and vertical member 25x100mm with rebate/door jamb, seal 3/B or G acoustic door seal. The rate shall be inclusive of Lever handle with Narrow Stile rose & escutcheons, Narrow Stile Sash Lock	Sqm	190.00	8,390.00	15,94,100.00

		with 35mm Backseat+ Strike Plate, Exposed door closer TS 3000V with hold open. All as per approved design & Drawing. including concealed wooden framework & 12 mm thick painted MDF strip required to fix the section with 8 nos, 75mm long dash fastener as per detail drawing. All aluminium sections to be pre-anodised.				
3.7	N.S	Providing & Fixing in position framed Glass partitions (JEB PARTITIONS) upto the hight of 2.4 meters with 10mm thick toughened clear glass held in position with M 65 Profiles & slimline aluminium profiles by JEB or DORMA including All mid profiles & side profiles.	Sqm	400.00	6,441.00	25,76,400.00
3.9	N.S.	ACOUSTIC FABRIC WALL PANELLING SPECIFICATION: Supply & fixing of 25mm thick hard compressed fiberglass core panels made out of high density glass wool 120 Kg/cu.m and available in size of 600 x 600mm or 600 x 1200mm with chemically hardened at edgeds and wrapped through fire retardant fabric or perforated Vinyl as approved by Engineer-In-Charge. The panels shall be held with provided solid surface through special z shape mounting clip, Impeller clip with adhesive. The panel shall provide NRC >0.80 and fibre rating of Cl;ass "A" as per ASTM E-84 Tunnel test. The work shall be carried out as per approved drawing at site and technical specification provided by manufacturer and installed through Company/authorised channel partner. Installation: 4 nos. wall Impellers shall be fixed to the wall surface using self-tapping screws. Silicon based construction adhesive to be dabbed on to projecting elements (Spikes) of the impellers. Wall panels are to be pierced through the spikes of the Impellers ensuring the line & level of the panels are maintained. Installation to be carried out by trained installation team as per the	Sqm	250.00	5,085.00	12,71,250.00

		direction of Engineer-In-charge..				
3.8	N.S	PLYWOOD PARTITIONING- Plywood partition using 12mm fire BWR With 1 mm laminate ply fixed on both sides on Wooden Batten Frame of 50mm x 50mm x as per approved sample and architectural drawings placing the same 600mm c/c Aluminium frame to be fixed to floor and RCC Ceiling using fastners.	Sqm	400.00	4,661.00	18,64,400.00
3.10	N.S	VENEER CLADDING- Providing and Fixing Natural Teak Veneer, cladded on to existing partitioning. Complete Cladding to be finished with white colored duco paint as approved by the architect and finally sprayed with one or more coats of Polyurathane Clear Coat (Semi Gloss).	Sqm	190.00	3,186.00	6,05,340.00
3.11		Providing and fixing Wood Battens 25mmX25mm fixed over 12mm thick BWP ply over hard wood framing including Battens in the pattern as approved by the architect. Using termite treated Marandi wool of section 50mm X 30mm for hard wood frame @ 600 mm c/c both ways including polishing complet				
		LAMINATED PANELLING:- 1 mm Thick Lamirote (Base rate of Lamirote 40/- Rs / Sft)	Sqm	156.00	2,293.30	3,57,755.50
3.12		WALLPAPER :- Providing and fixing wall paper of Eden Enterprises/Marshall/Elemento of equivalent make as per approval of Architect on oil based surfaces over wall / Gypsum board with suitable adhesive as per manufacturers specification. The itemrates includes for all lead & lift, all levels & height, all floors. (vendor's Rate of wall paper 100/- Rs / Sft F.O.R. at site.	Sqm	190.00	993.48	1,88,760.82

3.13		Providing & fixing wooden ceiling finished in 1mm thick lamirote over 12mm thick bwp ply with hardwood frame. the item rate includes the suspension system, fire retardant and termite treatment on hard wood frame. all cutting for lights/smoke detectors/sprinklers etc. to be included. The quote rate shall be inclusive of suspenders at all heights, cove / vertical drops upto 300mm high for horizontal and vertical surfaces etc. complete in all respect for all lead & lift, all levels & height, all floors. Base rate of lamirote 40/- Rs/Sft.	Sqm	90.00	3,439.57	3,09,560.85
3.1	N.S	Providing and fixing 6 mm thick lacquered glass paneling fixed to 12mm thick BWP ply with 3M structural tape cost to include all necessary ROils, screw, fire retardant and preservative paint as per design, 10 mm thick beading finished with Duco paint, etc. complete in all respect for all lead & lift, all levels & height, all floors	Sqm	50.00	4,550.57	2,27,528.40
3.1	N.S	Providing and fixing Frosted film '3M' make or equivalent make (contractor has to provide 15 years MCS warranty) on glass surfaces in approved design & pattern as per manufactures specification all complete. The item rates includes for all lead & lift, all levels & height, for all floors . Note only film surface area shall be measured and paid	Sqm	50.00	1,070.26	53,513.05
3.9	N.S.	Supply and Installation of Automatic sliding door operator Automatic sliding door Set 1 operator as per approved dwg. Compliant with European standards .Product should be TÜV test certified for 1 Million cycles , tested according to the low voltage guidelines & operator unit power consumption not exceeding 100 W/Hr. , fulfils DIN 18650 standards. The track profile should be flexible for both surface mounted & ceiling hung application with additional profile for vibration & sound dampening feature. It should includes micro processor	Nos.	1.00	2,54,630.00	2,54,630.00

		controlled drive unit, with self learning mechanism, program selector with knob, motion detection sensor – 2 nos , 1 on each side , including passage safety combi-sensor on one side , mechanical components, toothed belt, cover profile not exceeding 110mm visible H, floor guide for frameless glass (02 nos), glass clamping rail (02 nos), Body finish : standard silver anodized operator profile electromechanical lock with 12 mm plain toughened frameless glass for complete elevation - 2 moving panels. UPS of 750 VA shall be provided by others, which will give power backup of 20 min. Only & if the duration of power cut to the operator is more than 30 min., then separate arrangement needs to be done for the same as automatic operator requires uninterrupted stabilized power supply. it should include Wall Corner Protection. (WCP). The above work complete in all respect as per approved drawings and to the satisfaction of DFCCIL. (Machine to be of DORMA ES 200) size 2400mmx3600mm				
3.10	N.S.	Providing & Fixing powder coated Aluminium Louvers made out of Aluminium Flats of minimum size 25mm x 1.8mm fixed at 30mm c/c spacing at an angle of 60 degrees from the horizontal plumb. The louvers are to be fixed on RCC & other openings in sfafts for plumbing, electrical and other services and should be suitable for ease in maintenance with provisions of access at appropriate levels as per the instructions of the EIC/Client/Architect. The section of aluminium must conform to relevant IS codes and approved by the Engineer in Charge/ Client/ Architect before installation	Kg	336.00	665.95	2,23,759.20
3.11	N.S.	Providing & Fixing powder coated Aluminium T or L Section frame of minimum size 40mm x 40mm x 1.8mm with powder coating. Complete in all respect.	Kg	50.00	444.91	22,245.50

3.12	N.S	Providing and fixing door with frame for all internal fire hydrants fabricated from 20x20x3 mm and 40x20x3 mm aluminium hollow box sections mounted with 3 no. of 100 mm Aluminium butt hinge on Aluminium angle frame of 45x45x5 mm size with hold fasts fixed to wall with P.C.C. (1:2:4) blocks 100x100x100 mm including 2 nos allen key lock for locking along with padlock arrangement & fully glazed with 4 mm thick float glass approved by local Fire Authority, powder coated fire red finish with " fire hose' written on front suitable to house 15 mm long two length of canvas hose with couplings, one no of branch pipe, one fire mans axe and two numbers of portable extinguishers, first aid fire hose and supports for hoses, branch pipes, Axe and hose reel. Size 2100x 900 mm complete as per approved design including necessary fixing arrangement for hoses & axe and branch pipe.)	Each	24.00	6,228.53	1,49,484.75
		TOTAL for CIVIL &**INTERIORS WORKS**				**1,23,63,506.42**
5		**SUBHEAD 5: SIGNAGES**				
5.1	N.S	**Suspended Directional**				
		Supplying & Installing suspended signage with a pair of Cables and decorative SS hanging links and backed with sign substrate. Content shall be printed on 3M Clear with 3M Photoluminescent Film pasted at front side of acrylic.Photoluminescent Film pasted at front side of acrylic.				
		Size : 300MM X 900MM	No.s	21.00	5,326.00	1,11,846.00
5.2	N.S	**Perpendicular**				
		Supplying & Installing signage to be supported with two aluminium brackets in satin finish at two points.Content to be printed on 3M Clear with 3M Photoluminescent Film pasted at front side of acrylic.				

		Size : 100MM X 100MM	No.s	53.00	645.00	34,185.00
5.3	N.S	**Letters**				
		Supplying & Installing Silver Brushed Aluminium background 0.02" thick with black letters installed with heavy duty double sided tape.				
		Size : 200MM X 130MM	No.s	105.00	340.00	35,700.00
5.4	N.S	**Suspended Toilet Signage**				
		Supplying & Installing Suspended signage with a pair of Cables and decorative SS hanging links and backed with sign substrate. Content shall be printed on 3M Clear with 3M Photoluminescent Film pasted at front side of acrylic.				
		Size : 150MM X 210MM	No.s	11.00	1,619.00	17,809.00
5.5	N.S	**Floor Directory**				
		Supplying & Installing imported cast Transparent Acrylic board i.e 4mm thick with SS studs of 10mm dia & 2 inch length fixed on 4 sides. Content to be printed on 3M Clear with 3M Photoluminescent Film and installed at the back of the Acrylic.				
		Size : 600MM X 1200MM	No.s	10.00	7,039.00	70,390.00
5.6	N.S	**Manual Call Point**				
		Supplying & Installing Photoluminescent rigid plastic of 2 mm thickness, printed on high quality gloss paint with UV resistance, material used, Non-Radioactive, non-phosphorous, non toxic and lead free. Photoluminescent Film pasted at front side of acrylic.				
		Size : 120MM X 100MM	No.s	26.00	235.00	6,110.00
5.7	N.S	**Fire Hose Cabinet**				
		Supplying & Installing Photoluminescent rigid plastic of 2 mm thickness,Printed on High Quality gloss paint with UV resistance,Material Used - Non Radioactive, non-phosphorous, non toxic and lead free. Photoluminescent Film pasted at front side of acrylic.				

		Size : 120MM X 100MM	No.s	20.00	235.00	4,700.00
5.8	N.S	**Fire Exit**				
		Supplying & Installing Photo luminescent rigid plastic, 2 mm thickness, Printed on High Quality gloss paint with UV resistance, 5 years warranty, Material Used - Non Radioactive, non-phosphorous, non toxic and lead free Time after removing the light source (in minutes) : 60 minutes, Luminescent intensity				
		Size : 400MM X 150MM	No.s	53.00	2,464.00	1,30,592.00
5.9	N.S	**Fire Evacuation Plan**				
		Supplying & Installing imported cast Sandwiched Transparent Acrylic boards (4mm+4mm) with 10mm dia 2 inch length SS studs fixed on 4 sides - Content printed on 3M Clear with 3M Photo luminescent Film as installed between two Acrylics				
		Size : 600MM X 850MM	No.s	22.00	3,754.00	82,588.00
		Outdoor Signages				
5.10	NS	Supplying and installing illuminated signages made out of Aluminium casing with transparent fiber glass sides with photopaper insert. The signage is to be hoisted perpendicular on walls. The signage is to be sealed with EPDM gasket to make it watertight and be able to withstand vertical and slanted rainfall. The design and print is to be approved by the ENgineer in Charge/ Architect/ Client Size 350X180 mm.	Nos.	8.00	1,584.00	12,672.00
5.11	NS	Supplying and installing illuminated signages made out of Aluminium casing with transparent fiber glass sides with photopaper insert. The signage is to be hanged by means of SS chain on vertical surface. The signage is to be sealed with EPDM gasket to make it watertight and be able to withstand vertical and slanted rainfall. The design and print is to be approved by the ENgineer in Charge/ Architect/ Client	Nos.	12.00	1,654.00	19,848.00

		Size: 400X200 mm				
		TOTAL OF SIGNAGES WORK (C)				**5,26,440.00**
6		**SUBHEAD 6: KITCHEN EQUIPMENT (ALL STAINLESS STEEL)**				
		Service Area				
6.1	NS	Hot Bain Marie for 5nos .1/1 GN Pan				
		Size : 1800x650	No.	2.00	78,650.00	1,57,300.00
6.2	NS	Sneeze Guard	No.	2.00	22,990.00	45,980.00
		Size : 1800mm Long				
6.3	NS	Ice Cold Bain Marie for 2nos. 1/1 GN Pan				
		Size : 800x650	No.	2.00	50,820.00	1,01,640.00
6.4	NS	Sneeze Guard				
		Size : 800mm Long	No.	2.00	15,730.00	31,460.00
6.5	NS	Microwave Oven> 30L	Nos.	2.00	27,830.00	55,660.00
		Receiving Area				
6.6	NS	Work Table with Sink				
		Size : 1500x650x850+150	No.	2.00	42,350.00	84,700.00
		Store				
6.7	NS	SS Pallet				
		Size : 1200x600x150	No.	4.00	15,730.00	62,920.00
		Prep. Area				

6.8	NS	Work Table with Sink				
		Size : 2000x650x850+150	No.	2.00	52,030.00	1,04,060.00
6.9	NS	Garbage Bin				
		Size: Syntex	No	6.00	10,285.00	61,710.00
6.10	NS	3 Door U/c Ref.				
		Size: 1800x700x850+150	No.	2.00	1,16,160.00	2,32,320.00
		Dish Wash Area				
6.11	NS	Dirty Dish landing Table with Garbage Chute				
		Size: 1800x750x850 + 150	No.	2.00	43,560.00	87,120.00
6.12	NS	Garbage Bin				
		Size : Syntex	No.	2.00	10,285.00	20,570.00
6.13	NS	Two Sink Unit				
		Size : 1200x750x850+150	No.	2.00	52,030.00	1,04,060.00
6.14	NS	Pre-Rinse Spray Unit				
		Size : T&S	No.	2.00	26,620.00	53,240.00
6.15	NS	Grease Trap				
		Size : 600x450x325	No.	2.00	66,550.00	1,33,100.00
6.16	NS	Dish Washer-Hood Type				
		Size : Winterhalter-P50	No.	1.00	3,26,700.00	3,26,700.00
6.17	NS	Garbage Bin				
		Size : Syntex	No.	2.00	10,285.00	20,570.00
6.18	NS	Two Sink Unit				
		Size : 1200x750x850+150	No.	2.00	52,030.00	1,04,060.00
6.19	NS	Pre-Rinse Spray Unit				
		Size : T&S	No.	2.00	26,620.00	53,240.00
		Extra				
6.20	NS	Air Curtain with Sensor				

		Size : 1500mm long	No.	2.00	39,930.00	79,860.00
6.21	NS	Insect-O-Cutor				
		Size : Wall Mounted	No.	2.00	10,285.00	20,570.00
6.22	NS	Flushing Hose Unit				
			No.	1.00	78,650.00	78,650.00
		TOTAL OF KITCHEN EQUIPMENTS (D)				**20,19,490.00**
7		**SUBHEAD 7: MISCELLANEOUS**				
7.1	N.S	**Supply of Plants with Planters for display of plants at Reception and diff area of Building indoor/Outdoor, highly resistant to breakage, harsh weathers and ultra violet rays.**				
a	N.S	Bougainvillea Trees (5'-6' ht)	Each	50.00	1,666.00	83,300.00
b	N.S	Bougainvillea Shrubs 2' ht shrub & FRP planter size - 10"X10"X10" with Fillers	Each	150.00	481.00	72,150.00
7.2	N.S	Supplying, fabricating hoisting and fixing of MS pipe of varying diameters fixed by means of arc welding or flanges for hoisting the National flag. The flag is to be hoisted upto a height of 20m. MS Pipe, Concrete foundations, base plate, stiffner plate, holding down bolts to be as per the design and detail approved by the Architect/ Engineer In Charge.				
		The cost of concrete, structural members, bolts and hoisting arrangement including flag, pulley, rope etc. to be paid in their respective heads.	Kgs	3,200.00	129.00	4,12,800.00
7.3	N.S	Providing and installing Precast Chair Bench with Back Rest in Decorative Finishes. The bench should consist of 2 Nos. L- Shaped base support in cement colour approved by Engineer-In-Charge of thickness 100 mm , back height-1000mm&front height -450 mm, base width-620mm, and 5 Nos. Size 1500mm x 100mm x 50mm manufactured by using M-30 Grade of concrete. The Chair bench is to be reinforced suitably to prevent damage during handling.	No.s	4.00	5,256.00	21,024.00

		***TOTAL for* MISCELLANEOUS WORKS**				**5,89,274.00**
8		**SUBHEAD 8: PLUMBING**				
8.1	NS	Providing and fixing white color vitreous China Under Counter, rectangular wash basin with R. S. or CI bracket and 32 mm dia outlet, with 32 mm dia C.P. bottle trap with brass C.P. wall cap and extension pieces, 15 mm dia C.P. brass angle stop cock with 10mm dia C.P. brass connection pipe etc. CP brass chain, CP wall flange, rubber adopter for waste connection complete, CP brass chain CP waste and CP pipe to wall with CP wall flange and rubber adopter for waste connection complete, with pedestal of matching model below wash basin, including cutting and making good the walls wherever required.	Each	2	5,504.09	11,008.18
8.2	NS	Providing and fixing CP Bottle Trap[for basin, sink and urinal	Each	4	1,378.33	5,513.33
8.3	NS	Providing and fixing of Regulating Angle valve with Comfort handle, with extended push rod, push rosette Dia 54 mm ; Material - Brass DIN EN/Noise Class I; Connection: 1/2"/DN 15, Outlet 1/2"/DN 15; Chrome/Weight 0.130 KG per piece	Each	10	547.59	5,475.88
8.4	NS	Providing and fixing C.P. brass health faucet with 8mm dia 1m long PVC tube and wall hook complete in all respects. All complete as directed by Engineer-in-charge.	Each	2	745.66	1,491.31
8.5	NS	Providing, Fixing testing and comimissioning of 15mm dia C.P. brass 2 way bib cock with C.P. wall flange of approved quality and making good.	Each	2	1,295.99	2,591.97

8.6	NS	Providing, Fixing, testing and commissioning of C.P. brass wall/counter mounted sink mixer with C.P. wall flange, overhead swinging spout complete as required and making good	Each	1	3,198.25	3,198.25
8.7	NS	Providing and fixing solid state, no touch operting, fully hygienic hand drier of approved shade with single blower, with time delay, summer & winter control music while drying, volume ON/OFF controls including providing, necessary brackets, cable from drier to Plug, Plug top key and lock etc, complete as required.	Each	1	6,968.76	6,968.76
8.8	NS	Supplying, storing, handling, shifting, installation, testing and commissioning of CP Toilet paper Holder, wall flange etc. complete	Each	2	2,181.73	4,363.47
8.9	NS	Providing and fixing of Pressmatic wash basin tap Material: Housing material: brass DIN EN	Each	2	1,274.13	2,548.26
8.10	N.S	Supply and laying of double wall corrugated (DWC) MDPE pipe below 0.6 m in ground following size outer dia. in 6 mtrs straight lengthwise with one coupler for every 6 mtr. Length. This includes brick work and other arrangements required to secure the pipe as per specifications, drawings and stipulations of tender documents and as per approved cable route plan for road crossing / platform / track crossing culverts and station area as per instruction of engineer-in-chargeired.				
a	N.S	110 mm dia pipe	Mtr	20	1,364.12	27,282.40
b	N.S	160 mm dia pipe	Mtr	20	1,994.00	39,880.00
c	N.S	180 mm dia pipe	Mtr	20	2,241.00	44,820.00
8.11	N.S	Domestic/Flushing Water Pump (Hydropneumatic System With Variable Speed Pumps)	Set	1	7,50,712.29	7,50,712.29
a		Providing, fixing and testing of skid mounted variables frequency drive hydropneumatic system with variable				

		speed system comprising of :-				
b		Vertical, inline multistage centrifugal pumping set with stainless steel SS-304 stage casing and SS-304 impellers with stainless steel SS-316L shaft as per IEC standards and GJL250 cast i.ron suction & discharge casing, connected to TEFC ventilated induction motor of 2 poles, 2900rpm, suitable for 400/440 Volts, 3 phase, 50 Hz A.C. supply.				
c		Pressure vessel of non corrosive FRP composite construction lined with NSF and/or FDA listed material, like high density polyethylene with fully replaceable polyurethane. Air cell burst pressure of minimum of 5 times the vessel operating pressure and cycle tested for 2,50,000 cycles.				
d		No. and capacity of Pressure Vessel – 01 Nos. x 200 Ltrs				
e		Control Panel with programmable logic controller (PLC) for cyclic operation of pumps. Pump working sequence should change after every operation. Contractor overload relays and MCBs should confirm to IEC 898 – 1995/ specifications. Blinking indications for pumps start, trip, low level trip, health supply should be provided in the panel along with the ammeter & voltmeter. Control panel should also consist of cooling fan. Main incomer MCB, Outgoing MCBs, Single phase preventors complete with auto manual swiches, dry run protection arrangements, Voltmeter/Ameter, Indication lights, Controller for dry run protection.				
f		Pressure transmitting relay bellow type fitted with micro switch and having maximum pressure and differential scale should confirming BS-6134 standards and IP55 protection class.				
g		GI heavy class (IS:1239) Suction and delivery header with brass Ball valves with plastic coated handle (tested to 20kg/sqcm), Hot Pressed brass OT-58 with stainless steel ball and P.T.F.E seal and O-Ring. Brass NRVs (Test pressure =20 Kg/sqcm) to be used should be with				

		Springs and O-Ring arrangement.				
h		Complete set system to be mounted on a common base frame and shall follow following duty (Skid shall be powder coated).				
		Domestic Water Pumps (Set of three Pumps Two Working + One Standby) suitable to pump tubewell water (Two No. Location of UGT)				
		Capacity: app. 250lpm				
		Head: app. 110 m				
8.13	N.S	**Treated Water Pumps (Set of three Pumps Two Working + One Standby) suitable to pump tubewell water (Two No. Location of UGT)**	Set	1	5,70,717.68	5,70,717.68
		Capacity: app. 250lpm				
		Head: app. 25 m				
8.14	N.S	**Flushing Water Pumps (Set of Two Pumps one Working + One Standby) (Two No. Location of STP)**	Set	1	4,69,744.29	4,69,744.29
		Capacity: app. 200lpm Head: app. 45 m				
8.15	N.S	**Pressure Filter (Domestic Water)**	Each	1	1,79,177.77	1,79,177.77
		Providing and fixing vertical pressure filter with dual media filter (comprising of 600mm bed depth of graded sand gravel and 600mm bed depth of Anthracite) fabricated from high performance M.S plate of minimum 8mm thick for shell & 10mm thick for dished ends with top and bottom flanged openings including top and bottom hub and lateral distribution and collection system complete with initial charge of filter media, face piping, valves, accessories, painting, testing and commissioning complete.(Tested to 6 Kg/m2)				
		Discharge: 24000 lph				
		Filtration Rate: 20000 lit./m2/h				

		Suggested dia app.: 1500 mm				
8.16	NS	**Activated carbon Filter (Domestic Water)**	Each	1	1,95,844.47	1,95,844.47
						-
		Providing and fixing vertical activated carbon filter comprising of activated carbon filter media fabricated from high performance M.S pla				
		te of minimum 8mm thick for shell & 10mm thick for dished ends with top and bottom flanged openings including top and bottom hub and lateral distribution and collection system complete with initial charge of filter media, face piping, valves, accessories, painting, testing and commissioning complete.(Tested to 6 Kg/m^2)				
		Discharge: 24000 lph				
		Filtration Rate: 20000 $lit./m^2/h$				
		Suggested dia app.: 1500 mm				
8.17	NS	**Water Softener**	Each	1	2,87,516.59	2,87,516.59
		Providing and fixing 'Cation' ION exchange water softener fabricated from minimum 8mm thick M.S. plate on shell and 10mm thick M.S. plate on dished ends complete with initial charge of filter media and ION exchange resins, face piping accessories, piping testing and commissioning complete with resins of approved quality and make and brine tank of required capacity. (Bidder must indicate type and quantity of resin used and quantity of salt required per regeneration).				
		Minimum expected rate of flow: 24000 lph				
		Total soft water to be produced between two regeneration: app. 100 Cu.m				
		Expected raw water hardness: app. 500 ppm				
		Expected treated water hardness: less than 100 ppm				
		Max. working pressure: 4 Kg/cm^2				
		Total soft water to be produced between				

		two regeneration: app. 100 Cu.m				
8.18	NS	Providing and fixing M.S salt saturator, internally rubber lined as per requirement and externally painted with suitable anti-corrosive paint, with all required accessories for holding and supplying salt for softener complete in all respects, with electrically operated stirrer and of capacity 500 litres.	Each	1	25,002.08	25,002.08
8.19	NS	Design, Fabrication, assembling, wiring, supply, installation, testing and commissioning of motor control centre fabricated out of 14 gauge CRCA sheet steel. Cable gland plates shall be provided on top as well as at the bottom of the panels. Panels shall be treated with all anticorrosive process before painting as per specifications with 2 coats of red oxide primer and final approved shade of powder coated paint. 2 Nos. earthing terminals shall be provided for 3 phase, 4 wire, 50 Hz supply system. Lifting hooks shall also be provided in case of large panels. Approval shall be taken for each panel before fabrication. Quoted rates shall be inclusive of cables (from this panel to panel of Hydropneumatic system and filter feed pumps and flushing water pumps in accordance to specification) with earthing from panel to earthing pit.	Set	1	2,08,345.51	2,08,345.51
		Panel shall be supplied with P&I based online MIMIC display with LED's at all specific drive /operation to enable Visual Display of Complete pumps activity on Panel front.				
		For domestic water hydro pumps, raw water pump, auto chemical doser and sump pumps etc. in plant room.				
		Two incoming main isolation 100A TPN MCCB (35ka).				
		40A TPN MCCB outgoing for domestic water transfer pump-4 Nos				
		40 A TPN MCCB outgoing for Softener/filter feed pumps - 4 Nos.				
		32 A TP MCB of for each sump pumps -				

		4 Nos.				
		2 Nos. 40 A TP MCB of or sump pumps				
		Panel type voltmeter 150mm with rotary selector switch for reading voltage between phases.				
		Panel type Ammeter 150mm with rotary selector switch for reading currents between phases.				
		Neon phases indicating lights on the incoming mains.				
		All internal wiring colour coded from incoming mains to various switchgear, starter, meter, indicating lamp and bus bar. All the cable entry to the panel shall be from the top.				
		(All for above from item (a) to (i) complete set). (The shop drawing to be prepared and approved before fabrication)				
8.20	NS	Providing and fixing motor pump controller cum water level indicating panel in powder coated sheet metal box in 16 gauges M.S including the following:	Each	4	15,418.22	61,672.88
		Electronic water level controller working on magnetic type sensing probes with necessary length of armored cable up to control panel.				
		Electronic minimum 4-level indicator with magnetic type sensing probes and necessary length of armored cable upto control panel.				
		Arrangement of alternate switching mechanism for operational and standby pumps.				
		For Water level indicators with following details:				
		Underground tanks				
		Minimum 4 level Multi level indicators with magnetic type sensor probes complete. (Each UGT)				

8.21	NS	Providing and fixing G.I. pipes (I.S. 1239 heavy duty class) complete with all necessary G.I. Fittings including all necessary fittings like bends, elbows, tees etc., either welded or screwed or flanged joints as per requirements, including all anchor blocks, anchor fasteners, couplings in all respects including enamel painting of required shade, cutting holes and chases in RCC wall and making good complete (The cost of flanges will be paid separately).				
	a	100mm dia	Mtr	45	1,105.14	49,731.34
	b	150mm dia	Mtr	30	1,553.88	46,616.26
8.22	NS	Providing and fixing C.I double flanges suction strainer bucket type/ "Y" type including, nuts, bolts and 3mm thick rubber insertion complete.				
	a	100mm dia	Each	2	6,775.81	13,551.62
	b	150mm dia	Each	2	13,566.28	27,132.55
8.23	NS	Providing and fixing butterfly valves, wafer end type class PN 1.0 as per I.S:13095 - 1991 or BS:5155, including necessary nuts, bolts, gaskets etc. complete (without gear box)				
	a	100mm dia nominal bore.	Each	4	4,529.69	18,118.77
	b	150mm dia nominal bore.	Each	4	8,029.17	32,116.68
8.24	NS	Providing and fixing M.S. structural work fabricated from standard section e.g. M.Srounds, angles, channels, plates including cutting to size, drilling, welding fixing and welding to insert plates in RCC structural members or through dash fasteners as per site conditions as directed by Engineer-in-charge including cutting and making good the walls, ceilings and floors (for pipe supports, clamps etc.)	Kg	80	122.16	9,772.80
8.25	NS	**Submersible pumps**	Set	1	1,71,024.00	1,71,024.00

		Providing, fixing and testing of Submersible single stage single entry pumps with C.I.body and C.I. two vane enclosed type impeller connected to TEFC submersible motor for 415 volts, 3 phase, 50 cycles including MCC panel with level controllers, auto control, sequential change over facility with one proper working at low level & two proper working at high level with an audible alarm including all interconnectivity cables, MCB, copper bus bar, with both pumps connected to common outlet header including valves, non return valves, lifting chains etc. complete in all respect				
		(one working+One Standby)				
		(Solid handiling capacity 12mm)				
		Capacity - 225 lpm (Each)				
		Head - 12 m				
		HP (Approx) - 1.0 HP				
8.26	N.S	**Supply, assembly, erection, testing and commissioning of pumping system comprising the following:**				
		Vertical/Horizontal centrifugal pumps (1 Working + 1 Stand-by) with mechanical seal, SS Volute casing and SS impeller connected to suitable capacity TEFC induction motor suitable for 415 ± 10 % volts, 3 phase, 50 cycles A.C. supply with 100 mm dia. pressure gauges including MS skid and mounting of the pumps on the skid. (Motor to be of the same make as the pump)				
		Pump Capacity 250 lpm, at 25 m head (1 Working + 1 Stand-by)				
		(Pumps for boosting water supply from UG Flushing water tank for Garden Hydrant System)	Set	1	30,771.00	30,771.00
		***TOTAL for* PLUMBING WORKS**				**33,02,710.38**
9		**SUBHEAD 9: MUSICAL WATER FOUNTAIN**				

9.1	N.S	Design, Supply, Installation, Testing & Commissioning of Dancing Musical GRFC Fountain for Hostel Building of 3m dia, finish as per Engineer-In-Charge.				
	N.S	NOZZLE PART				
	N.S	Musical Fountain comprise of 09 Nos of main movements along with 33 Nos auxillary movements through following different set of nozzles.				
		4nos of straight jets	Set	6.00		
		3 nos of Mist Nozzle	Set	4.00		
		1 no sunburst nozzles	Set	1.00		
		3 sets organ	Set	1.00		
		2 nos revolving jet	Set	2.00		
		2 nos cross jet	Set	2.00		
		1 nos revolving peacock tail	Set	2.00		
		1 nos wedding cake rise & fall square box	Set	1.00		
		1 nos finger jet	Set	1.00		
	N.S	PUMP UNIT				
		Submersible type, Vertical CV-02 STAGE 11 LPS at 8M head 2.2 KW, 3 Phase, 380-400V, 50Hz	Unit	1.00		
	N.S	CONTROL PANEL UNIT				
		Sheet steel enclosure 16 SWG, Ammeter/Voltmeter, selector switch, main incoming MCCB , Terminal connector , Thermal L/L unit Star-Delta Timer , Start-Stop Switch Distribution bus bar, main switches, contactors, overload relays, switches fuse units, phase indicating lamp etc. complete with internal wiring . Earthing arangement will be provided in the panel (the components for the above control panel will be of renowned make as per availability) along with Controller for the illumination system.	Unit	1.00		
	N.S	RELAY PANEL UNIT				
		Sheet steel enclosure 16 SWG Mains MCB/MCCB, Relays Contractors, Terminal connector with suitable capacitors & system controller.	LS	1.00		
	N.S	ILLUMINATION UNIT				

		Cast aluminium alloy body duly powder coated fitted with toughened glass with LED will generate multiple colour combination with 1 meter length of power cable :	Set	8.00		
	N.S	OTHER ESSENTIAL ACCESSORIES				
		Solenoid valve:	No.s	1.00		
		Gate valve:	No.s	4.00		
		Distribution Feeder Pipe line: 1.5” / 2" dia medium/high quality upvc as per requirement				
		PRV	No.s	2.00		
		Pressure manifold made of MS sheet duly power coated of dia 4" & length 20' fitted with short piece for making provision of 2 nos solenoid valves.	Unit	1.00		
		Mounting Frame: M.S. angle duly cold forged for anti - corrosion treatment on which the entire fountain system will be rested & installed.	LS	1.00		
		Miscellaneous hardware items & flexi pipe required for installation of above unit.	LS	1.00		
		Submersible powercable: Of reputed make manufacturer. (3 core / 1.5mm / 2.5 mm)	LS	1.00		
	N.S	SOUND SYSTEM				
		High quality sound system with amplifiers and wide frequency speakers for dynamic and surround sound. All are heavy duty designed elegantly constructed. Supplied with amplifier rack 250w Power amplifier with circuit breaker protection with 4 (four) nos. weatherproof speakers 200w input power.	Set	1.00		
		CD /DVD player.				
		Power requirement: 440 volt 3 phase A.C.				
	N.S	OTHER ASSOCIATED CHARGES				
		Consisting of Packing, loading & Installation charges if any.				
		Water pool Size: dia 3m	Unit	1.00		
		Control Room 8'x 6'x8'	Unit	1.00		

		Total for Musical Fountain for Hostel Building	Lot	1.00	3,88,066.00	3,88,066.00
9.2	N.S	Design, Supply, Installation, Testing & Commissioning of Dancing Musical GRFC Fountain for Hostel Building of 4.5m dia, shade to be decided by Engineer-In-Charge.				
	N.S	NOZZLE PART				
	N.S	Musical Fountain comprise of 09 Nos of main movements along with 33 Nos auxillary movements through following different set of nozzles.				
		4nos of straight jets	Set	6.00		
		3 nos of Mist Nozzle	Set	6.00		
		1 no sunburst nozzles	Set	2.00		
		3 sets organ	Set	1.00		
		2 nos revolving jet	Set	4.00		
		2 nos cross jet	Set	4.00		
		1 nos revolving peacock tail	Set	4.00		
		1 nos wedding cake rise & fall square box	Set	1.00		
		1 nos finger jet	Set	1.00		
	N.S	PUMP UNIT				
		Submersible type, Vertical CV-02 STAGE 11 LPS at 8M head 2.2 KW, 3 Phase, 380-400V, 50Hz	Unit	1.00		
	N.S	CONTROL PANEL UNIT				
		Sheet steel enclosure 16 SWG, Ammeter/Voltmeter, selector switch, main incoming MCCB , Terminal connector , Thermal L/L unit Star-Delta Timer , Start-Stop Switch Distribution bus bar, main switches, contactors, overload relays, switches fuse units, phase indicating lamp etc. complete with internal wiring . Earthing arangement will be provided in the panel (the components for the above control panel will be of renowned as per availability) along with Controller for the illumination system.	Unit	1.00		
	N.S	RELAY PANEL UNIT				

		Sheet steel enclosure 16 SWG Mains MCB/MCCB, Relays Contractors, Terminal connector with suitable capacitors & system controller.	LS	1.00		
	N.S	ILLUMINATION UNIT				
		Cast aluminium alloy body duly powder coated fitted with toughened glass with LED will generate multiple colour combination with 1 meter length of power cable :	Set	32.00		
	N.S	OTHER ESSENTIAL ACCESSORIES				
		Solenoid valve:	No.s	1.00		
		Gate valve:	No.s	14.00		
		Distribution Feeder Pipe line: 1.5” / 2" dia medium/high quality upvc as per requirement				
		PRV	No.s	2.00		
		Pressure manifold made of MS sheet duly power coated of dia 4" & length 20' fitted with short piece for making provision of 2 nos solenoid valves.	Unit	1.00		
		Mounting Frame: M.S. angle duly cold forged for anti - corrosion treatment on which the entire fountain system will be rested & installed.	LS	1.00		
		Miscellaneous hardware items & flexi pipe required for installation of above unit.	LS	1.00		
		Submersible powercable: Of reputed make manufacturer. (3 core / 1.5mm / 2.5 mm)	LS	1.00		
	N.S	SOUND SYSTEM				
		High quality sound system with amplifiers and wide frequency speakers for dynamic and surround sound. All are heavy duty designed elegantly constructed. Supplied with amplifier rack 250w Power amplifier with circuit breaker protection with 4 (four) nos. weatherproof speakers 200w input power.	Set	1.00		
		CD /DVD player.				
		Power requirement: 440 volt 3 phase A.C.				
	N.S	OTHER ASSOCIATED CHARGES				
		Consisting of Packing, loading &				

		Installation charges if any.				
		Water pool Size: dia 4.5m	Unit	1.00		
		Control Room 8'x 6'x8'	Unit	1.00		
		Total for Musical Fountain in Admin Building	Lot	1.00	4,54,582.00	4,54,582.00
		TOTAL for Water Fountain				**8,42,648.00**
		TOTAL FOR INTERIOR & FURNISHING WORKS (NON-SCHEDULE ITEMS)				**2,33,99,866.00**
		TOTAL FOR INTERIOR & FURNISHING WORKS [(SCHEDULE + NON SCHEDULE ITEMS] –				**4,03,31,627.00**

Explanatory Notes for BOQ:

(i) All Scheduled DSR items contain item nos. and, if any discrepancy is found in nomenclature, then scheduled nomenclature of CPWD DSR 2018 will prevail.

(ii) **Schedule DSR Items:** The cost of Schedule items given above are as per CPWD DSR 2018 excluding GST component @ 12%.

(iii) **Non-Schedule Items:** The cost of Non-Schedule items given above *(other than CPWD DSR 2018)* are as per current market rate analysis ***(excluding GST)***.

(iv) The Quantity mentioned in the above Schedules is tentative and DFCCIL reserves the right to increase / decrease and/or delete or include any of the quantities given above as per site conditions.

BILL OF QUANTITIES OF FURNITURE

Sr. No.	Description of item	Unit	Total Qty.	Unit Rate	Total Amount	
1	Providing and placing **60mm Panel based IMC8500 P**lus Dusking System 1350 x 750 x 600mm with pedestal unit Frame Horizontals are made of 1mm thick CRCA sheets & the verticals are made of Aluminium Extrusions of 1.5mm thick Frame Horizontals are made of 1mm thick CRCA sheets & the verticals are made of Aluminium Extrusions of 1.5mm thick All the frames will be duly powder coated based on the choice of the Powder Coat colour, as per Customers choice, which will be inline with the Top trims & end trims All the frames are fastened together by means of M6 NUTS & BOLTS . They can be attached to form a 2-way, 3- way or a 4-way configuration. All the Caps viz end, inline & universal & raceway caps are made out of Die-cast Aluminum. These caps also are finished in an epoxy powder coating finish in the same color. All the frames are fitted with M10 leveling bolts.board. Raceway :-The raceways are made out of 0.8mm thick CRCA & powder coated. The electrical raceway can be provided below worktop or above worktop, these are hookon type which will be mounted on the verticals. The skirting/data raceway is hollow and will be mounted on the raceway channels Wire Management:-The partition has two integrated raceway provided one at skirting level and another at the work surface level thus ensuring separation of power and networking cables. The free	Nos	216	18708	4040928	

	space available within raceway accommodates power, data and communication cables. The cable can be taken into the Frame from the floor from the bottom. Once the cables enter the Frames , it can be taken from one end to the other end continuously as per Power / LAN layout plan. Approximately 50-60 (5mm Dia) cables can be accommodated in the raceway channels. The raceways are provided with CRCA Snap cover on both side of raceways where required or on one side depending upon where worktop is being used. The second raceway at work top level can be given either below tabletop or above tabletop. The cable running at skirting level can be terminated at tabletop level through disciplined wiring channels inside the frames . The raceway covers will be provided with appropriate electrical switch cutouts, as per the samples of switches provided (by customer). The number of cutouts in each workstation would depend upon the size of the switches. Tiles: Fabric Tile: Constructed out of 4mm thick Medium Density Fiber Board (MDF) and covered with Fabric of choice. Laminate Tile: Made out of 4 & 8mm thick Pre- laminated Medium Density Fiber Board (MDF) Glass Tile: 4mm Toughened glass fixed within an aluminium powder coated frame. Two such tiles on either side					

2	Providing and placing panel & tile based modular workstation, with partition thickness as 52.4 mm thk and ht - 1200 including powder coated aluminium trims. Tiles: Combination of top tiles are fabric magnetic/fabric/fabric tackable/white board/glass writing board/ clear glass tile/ plain metal/ prelam tile. Bottom tiles - Plain metal/ fabric magnetic / fabric / laminated /prelam. The panel thickness comprises of 38mm (35 mm Minimum) thick paper honeycomb + 3mm MDF on each sides + 0.6mm decorative laminate or fabric on both sides. The uprights and horizontals shall be made of aluminium extrusion having average wall thickness of 1.2 mm & powder coated with epoxy-polyester powder. Particle board framing is used on outer boundary of these blocks as well as intermediately at certain locations forming conduit for passing cables. These blocks are located in the mid segment of the panels and can be provided with cutouts for mounting switch boxes (above or below the worktops)Fabricated bottom frame for 52.4mm (50mm Minimum) panel comprises of L-channels made of 2mm thick CRCA steel (IS: 513), formed plates of 3mm thick HR steel (IS: 2062) & ERW steel tube of size 35 mm (30 mm Minimum) x15 mm (10mm Minimum)x1.6mm thick in oval cross section (IS: 7138) welded together. Top tiles can be offered in variety of combinations. Fins of thickness 22.8mm are used along the depth of workstations as partitions.	nos	2	20467	40934	

	Worksurface- out of 25 mm thk prelam particle board with flat pvc lipping edge banding of size 1200mm x 600mm x 750H. Brackets shall be made from 2mm thick CRCA steel. Pedestals with legs - Nova pedestal flat metal front, free standing central locking of size 390 mm w x 435 mm d x 646 mm height 3dr = 2box+1file. The work shall be carried out as per the instructions and guidance received from engineer incharge					
3	Chairs:- Providing and Placing Medium back, the back rest height is 520mm and backrest height is 610 mm and width is 427mm, backrest is made up of mesh with steel frame and mesh in black colour. The seat Rest width excluding arm is 480mm and depth including of waterfall edge is 410mm and main seat height is 420mm and max seat height is 530mm the seat is made up of fabric. The seat form made out of High resilience foam with the following properties, The density should be 58-61 kg/m, (IFD) indentation force deflection 25% 21.5 kgf/cm, the Tear strength 1.0 kgf/cm and resilience 60%. the mechanism is synchro 1 position BIFMA compliant mechanism, Back tilt: 87-106 degree, seat angle: 3-10 degree with back tension adjustment knob, locking position: 1 position, can be locked and unlocked by lever, tested for 3,00,000 cycles as per ANSI BIFMA X 5.1-2002, the movement of seat pan and back support complies with BIFMA section number 7.6 table number 21. The gas lift meets DIN 4550 class 3, Meet ANSI BIFMA performance standards and testing 1,00,000 cycles, The	Nos	56	10488	587328	

	casters for Nylon 50mm/PU 60mm complies to ANSI/BIFMA X 5.1-2002, tested for 1,00,000 cycles. The Base is made up of PP and the pitch circle diameter is 640mm of black matt clour. The arm rest height from the seat 210mm and width 50mm and the arm pad lenth is 320mm and arm pad finish with PP. The Arm rest comply with ANSI BIFMA X 5.1-2002 clause 13.4. Upholostery avilable in fabric for seat, Back in Black mesh only. delta range fabric contaents 100% Plyester, weight 320GLM, abrasion:80000, Flammability: BS EN 1021-1 1994 (cigarette), BS 7116:1995 (Low Hazards), colour fastness to light: 5+ (BS 1006 (1990)) rubbing: Dry: Class 5 and in wet : class 4.5. Meash contents light 4.5+ (BS 1006(1990)) Rubbing: Dry: Class 5 and in wet: Class 4.5					
4	Providing and placing Table for GM cabin Veneer based y, Main Table 2100 x 900mmx740mm, made up of 25mm thk. Medium Density Fiber (MDF) board with membrane finish to enhance scratch resistance and having superior edge profile upported on Gable ends made out of 25mm thk prelam particle boards with 2mm thk PVC edge banding. Modesty panels are in 18mm thk MDF membrane finish. In this cabin furniture set all tops, Modesty, Back Storage Shutters and Pedestal Facia are all in membrane finish. Separate provision for mounting switches on the wall adjoining the tables shall be made by customer as the tables do not come with switch mounting facility. Wire routing / wire management groumets shall	Nos	1	199642	199642	

	be provided on main or side table as specified by customer. side return table of size 1200x450x700mm made up of 25mm thk. Medium Density Fiber (MDF) board with membrane finish to enhance scratch resistance and having superior edge profile upported on Gable ends made out of 25mm thk prelam particle boards with 2mm thk PVC edge banding. Modesty panels are in 18mm thk MDF membrane finish. Table Tops, Modesty are in membrane finish. Separate provision for mounting switches on the wall adjoining the tables shall be made by customer as the tables do not come with switch mounting facility. Wire routing / wire management groumets shall be provided on main or side table as specified by customer.					
5	**Table1200 x 600 / 2500 mm.** Made with 19 mm thick Pte Casted Veneer Boards of approved shade with PVC edging as per drawing. Table supported on metallic gable end of approved finish and laminated modesty panel.Workstation consist of extendedlaminated top on rear & side credanza supported on metallic stand as per design & screening panel 1200 x 600 mm with accessories rail Drawer Pedastal : 2 drawers & 1 filing drawer made of 19 m thick Pre casted veneer board of approved shade. All exposed edges finished with PVC edging of approved shade. Drawers slides on telescopic sliding channels.Single key locking arrangement. Drawer unit to have Nylon coaster wheel & stainless steel handle	Nos	6	53480	320880	

6	**Executive table cum workstationWorktop: 1800 - 750 / 1200 x 600 / 2500 x 450 mm.** Made with 19 mm thick Pte Casted Veneer Boards of approved shade with PVC edging as per drawing. Table supported on metallic gable end of approved finish and laminated modesty panel.Workstation consist of extendedlaminated top on rear & side credanza supported on metallic stand as per design & screening panel 1500 x 600 mm with accessories rail Drawer Pedastal : 2 drawers & 1 filing drawer made of 19 m thick Pre casted veneer board of approved shade. All exposed edges finished with PVC edging of approved shade. Drawers slides on telescopic sliding channels.Single key locking arrangement. Drawer unit to have Nylon coaster wheel & stainless steel handle	Nos	11	61930	681230	
7	Canteen Worktop **with 21mm thick 600 solid wood toping .** Made with 16 mm thick Pte Casted Veneer Boards and 7 mm solid wood of approved shade with PVC edging as per drawing. Table supported on metallic gable end of approved finish and laminated modesty panel.Workstation consist of extendedlaminated top on rear & side All exposed edges	Rmt	4	13867	55468	

	finished with PVC edging of approved shade. Drawers slides on telescopic sliding channels. Single key locking arrangement. Base unit to have Nylon coaster wheel & stainless steel legs made in 40x40x5mm thick SS 304 Tubes in brush finish.					
8	**Executive table cum workstationWorktop: 1350 - 750 / 800 x 600 / 1350 x 400 mm.**Made with 19 mm thick Pte Casted Veneer Boards of approved shade with PVC edging as per drawing. Table supported on metallic gable end of approved finish and laminated modesty panel.Workstation consist of extendedlaminated top on rear & side credanza supported on metallic stand as per design & screening panel 1500 x 600 mm with accessories rail Drawer Pedastal : 2 drawers & 1 filing drawer made of 19 m thick Pre casted veneer board of approved shade. All exposed edges finished with PVC edging of approved shade. Drawers slides on telescopic sliding channels.Single key locking arrangement. Drawer unit to have Nylon coaster wheel & stainless steel handle	Nos	6	55818	334908	
9	Chairs:- Providing and Placing Medium back, back rest:- seat to back rest height is 500mm and backrest height is 630 mm and width is 490mm, backrest is made up of ply and foam with fabric finish. The seat Rest width excluding arm is 460-500mm and depth including of waterfall edge is 470mm and main seat height is 440mm and max seat height is	Nod	3	14684	44052	

	540mm the seat is made up of fabric. The seat form made out of High resilience foam with the following properties, The density should be58-61 kg/m, (IFD) indentation force deflection 25% 21.5 kgf/ cm, tensile strength 2.0 kgf/cm the Tear strength 1.0 kgf/cm and resilience 60%. the mechanism is synchro 1 position BIFMA compliant mechanism, Back tilt: 87-106 degree, seat angle: 3-10 degree with back tension adjustment knob, locking position: 1 position, can be locked and unlocked by lever, tested for 3,00,000 cycles as per ANSI BIFMA X 5.1-2002, the movement of seat pan and back support complies with BIFMA section number 7.6 table number 21. The gas lift meets DIN 4550 class 3, Meet ANSI BIFMA performance standards and testing 1,00,000 cycles, The casters for Nylon 50mm/PU 60mm complies to ANSI/BIFMA X 5.1- 2002, tested for 1,00,000 cycles. The Base is made up of Nylon and static load as per ANSI/BIFMA X 5.1 2.2-2002 clause 7 is 1134kg and the pitch circle diameter is 640mm of black matt clour. The fixed arm rest height from the seat 175mm and width 55mm and the arm pad lenth is 320mm and arm pad finish with PP. The Arm rest comply with ANSI BIFMA X 5.1-2002 clause 13.4. Upholosteryavilable in leatherite.					
10	Chairs:- Providing and Placing Medium back, back rest:- seat to back rest height is 500mm and backrest heightis 630 mm and width is 490mm, backrest is made up of ply and foam with fabric finish. The seat Rest widthexcluding arm is 460-	Nos	57	5454	310878	

	500mm and depth including of waterfall edge is 470mm and main seat height is 440mm and max seat height is 540mm the seat is made up of fabric. The seat form made out of High resilience foam with the following properties, The density should be 58-61 kg/m, (IFD) indentation force deflection 25% 21.5 kgf/cm, tensile strength 2.0 kgf/cm the Tear strength 1.0 kgf/cm and resilience 60%. the mechanism is synchro 1 position BIFMA compliant mechanism, Back tilt:87-106 degree, seat angle: 3-10 degree with back tension adjustment knob, locking position: 1 position, can be locked and unlocked by lever, tested for 3,00,000 cycles as per ANSI BIFMA X 5.1-2002, the movement of seat pan and back support complies with BIFMA section number 7.6 table number 21. The gas lift meets DIN 4550 class 3, Meet ANSI BIFMA performance standards and testing 1,00,000 cycles, The casters for Nylon 50mm/PU 60mm complies to ANSI/ BIFMA X 5.1 2002, tested for 1,00,000 cycles. The Base is made up of Nylon and static load as per ANSI/BIFMA X 5.1 2.2-2002 clause 7 is 1134kg and the pitch circle diameter is 640mm of black matt clour. The fixed arm rest height from the seat 175mm and width 55mm and the arm pad lenth is 320mm and arm pad finish with PP. The Arm rest comply with ANSI BIFMA X 5.1-2002 clause 13.4. Upholostery avilable in leatherite.					

11	Finish:Polywood Frame with nylon support Arms: Aluminum fix armrest Back & Seat:Half leather back with black PA shell and half leather elastic foam seat with seat shell Headrest: Half leather headrest Mechanism: Synchronized tilting mechanism Cylinder:High quality gas-lift Base:Nylon Five-Star base with PA Castors. Size: 565*600*1150	Nos	110	19299	2122890	
12	Visitor Chair An ergonomically designed chair with a mesh back and cushioned seat with comforting mechanism. Approx. Dimensions: Width 22-24 inch, Depth – 22-24 inch, Height -37 inch STRUCTURE OF THE CHAIR: • Back Rest: Back type= Medium Back, Backrest Construction=Mesh with Frame, Finish =Mesh . Back Rest Height & Dimensions should comply with BIFMA • Seat Rest: Seat Height Adjustment complies with EN1335 -1: 2000 Type A Seat Foam: Made out of High resilience foam with the following properties, Density 58-61 Kg/m , (IFD) Indentation: Force Deflection 25% 21.5 Kgf/cm , Tensile strength 2.0 Kgf/ cm , Tear strength 1.0 Kgf/cmResilience 60% Seat Dimensions & Seat to Back rest height complies with BIFMA	Nos	34	6293	213962	
13	Providing and placing Meeting Room table seater in Venti shape in Veneered. Table Tops – Available in standard modules, made of 75mm thick HDF with waterfall top edges finished in Veneered Membrane using unique wrap around technology for better aesthetics & long lasting use. Understructure –					

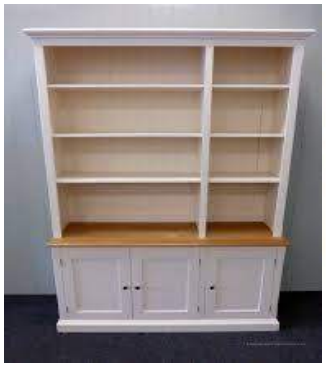
	Legs made of 25mm thick standard Black matt colour post formed panels interconnected with 18mm thick standard Black matt colour prelaminated modesty panels, with height adjustable levelers to take care of uneven floors. Wire Management – Concealed wire management to take care of basic wiring requirements both horizontally & vertically. For closed configurations, liftable top cover, made of 12mm MDF finished in PVC Membrane, is provided to access the horizontal wire carrier. For open configurations, wire channel is mounted on the inner side of modesty panel for horizontal wire carrying. Vertical wire management is through flexible vertical wire manager. Standard table top height – 740mm. Designed for Flexibility through modular Construction, Veneered Membrane Finish Tops for seamless surface, Post formed Legs for safe use, Provision for easy wire management, Upgradeable / reconfigurable for future needs.					
13A	**2800x1200x750**	Nos	1	60533	60533	
13B	**5500x1500x750**	Nos	1	100888	100888	
13C	**6500x1500x750**	Nos	1	133172	133172	
13D	**1500 mm dia Round table**	Nos	1	44390	44390	
14	Providing and placing Meeting Room table 40 seater in Retro Shape in Veneered Table Tops – Available in standard modules, made of 25mm thick Solid Wood with veneer membrane with waterfall top edges finished in Wood Moulding Membrane using unique wrap around technology for better aesthetics & long lasting use. Understructure – Legs made of 25mm thick standard Black matt colour post formed panels	Nos	1	332647	332647	

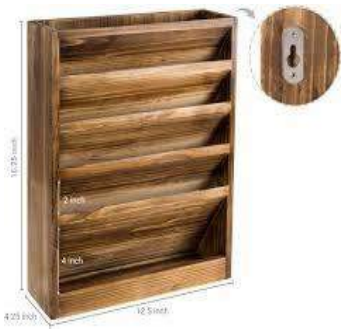
	interconnected with 18mm thick standard Black matt colour pre-laminated modesty panels, with height adjustable levelers to take care of uneven floors. Wire Management – Concealed wire management to take care of basic wiring requirements both horizontally & vertically. For closed configurations, liftable top cover, made of 12mm MDF finished in PVC Membrane, is provided to access the horizontal wire carrier. For open configurations, wire channel is mounted on the inner side of modesty panel for horizontal wire carrying. Vertical wire management is through flexible vertical wire manager. Standard table top height – 740mm. Designed for Flexibility through modular Construction, Veneered Membrane Finish Tops for seamless surface, Post formed Legs for safe use, Provision for easy wire management, Upgradeable / reconfigurable for future needs. In size of 15000x700x750					
15	Finish: Veneer+lacquer painting Configuration:Board meeting table with elegant 45 degree joint brige design. Structure: Wooden veneer Wiring:Hidden cable management, Including two wirebox in two corner boards (2 power, 1 VGA, 2 internet) Size 4800 x 1800 x 750ht	Nos	1	149314	149314	
16	Prelam storage unit of 1200mm ht and 425mm depth Sstackable full ht storage Providing and placing make wooden storage with openable doors of 1200mm(ht), made up of 18mm	Nos	108	14667	1584036	

	thick prelaminated HDF board with PVC edge banding and locking arrangement. Storage body is made of 18mm thick pre laminated HDF Board conforming to IS : 16790 Interior Grade, The back of the unit is made from 9mm prelaminated board. All the exposed edges are with 2mm PVC egde Imported banding & sealed edges are with 0.8mm thick PVC Imported edge banding. The top, side and hinged shutters are sealed with 2mm thick PVC edge banding. The units are assembled by knock down fittings such as Minifix & Dowels. All the hardware and Hinges are from Hettich/Ebco. PVC edge banding are imported from Rehau or Dolken of Germany					
17	Supplying and placing in position two seater sofa of the following specifications. BOverall size of the sofa shall be 1850mm (L) x 860mm (W) x 800mm (H). The colour of the sofa shall be black. The spring of the sofa shall be pocket spring for soft and sinking feel. Sofa shall be provided with S spring to avoifd sinking feel. The polyurethane foam used for cushion only. there shall be a provision for pocket in the sides of the sofa. The work shall be carried out as per the instructions received from engineer in charge.	Nos	3	29368	88104	
18	Supplying and placing in position three seater sofa of the following specifications. Overall size of the sofa shall be 1350mm (L) x 860mm (W) x 800mm (H). The colour of the sofa shall be black. The spring of the sofa shall be pocket spring for soft and sinking feel. Sofa shall be provided with S spring to avoifd sinking feel. The polyurethane foam used for	Nos	7	34402	240814	

	cushion only. there shall be a provision for pocket in the sides of the sofa. The work shall be carried out as per the instructions received from engineer in charge.					
19	Single-seat Sofa with Leather Finish. Larch & Plywood Mortise-and-tenon Inner Structure with White Steel Basement. (Height: 155mm)	Nos	14	15103	211442	
20	Providing & placing in position center table with sizes 1250mm(L) X 500mm(D) X 428mm(H) with top made in 10mm tempered glass supported with an understructure of MDF & finished with paper laminate. The work shall be carried out as per the instructions received from engineer in charge	Nos	9	15103	135927	
21	13 Manufacturing and Supplying and fixing in position of Reception table unit as per following specification. The Dimensions of Main table too shall be of 2800mm x 1000mm x 750mm and the top thickness shall be 65mm. The Modesty size shall be of 1640mm x 600mm x 16mm made up with MDF & 4mm thick veneer including PU coating.The Mobile pedastal shall be made up with MDF Board of 16mm thick and shall be finished with 4mm thick veneer sheets including PU coating and the size shall be of 510mm x 635mm x 445mm. The size of ERU shall be 1200mm x 445mm x 660mm and made up with MDF Board and shall be finished with 4mm thick veneer sheets including PU coating. The top thickness of ERU shall be 25mm. The Back unit shall be	Nos	1	158192	158192	

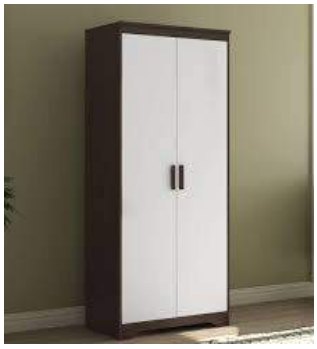
	made up with MDF board of 16mm thick and shall be finished with 4mm thick veneer sheets including PU coating and the size shall be of 2215mm x 410mm x2000mm. The shutter of the unit shall be made with 16mm thick MDF and laminated with 4mm thick veneer sheets. The shutters shall be panelled with 5mm thick toughned glass. All the PU coating shall have hard ness of 1.5 H. The above entire unit shall be manufactured as per specifications.Side with corian top					
22	Canteen tables made in poly cast Table top made19 mm thk commercial board & finished with of 12 mm thick corian top with waterfall egges of approved shade. Table support on stainless steel pipe stand and sheet as per design of approved finish. Size 900x 900 x750	Nos	9	20178	181602	
23	SEAT/BACK ASSEMBLY: The seat and back are made up of 12 mm Moulded HDPL Polyurethane foam with DMAO PVC lipping all around. The back foam is designed with contoured lumbar support for extra comfort. SEAT SIZE: 45 cm. (W) X 44.0cm. (D) 2) POLYURETHANE FOAM: The polyurethane foam is moulded with density = 44 +/2 kg/m and Hardness = 20 +/2 on Hampden machine at 25% compression. 3) TUBULAR UNDERSTRUCTURE : The under structure is made of M.S. tube Squre section .2.55cm. (1") x 12BG thk. and Epoxy coated.	Nos	36	6457	232452	

24	Providing & placing in position Compactors of size 3 feet x 6 feet x 1.5 feet. The work shall be carried out as per the instructions received from engineer in charge.DISCRIPTION: 1- Single Faced Fixed Body, 2-Double Faced Moving Bodies, 1 - Single Faced Moving Body DIMENSION OVERALL:- 3760W X 1800D X 2420HT DIMENSIONS BAY:-450/900W X 900D X 2420HT	Nos	3	324859	974577	
25	. Product Size: Width: Main Unit/900mm Add On Unit , Height: 2100mm(Incl. 100mm Skirting) Depth: 590mm 2. Construction: Rigid knockdown construction. Back panel up to the bottom of third rack for additional rigidity. 3. Material: Racks, Back Panel & Skirting: CRCA 1.2mm Thickness. Side panels: 25mm thk Phenolic Boards with 2mm thick Rafter edges Material: Racks, Back Panel & Skirting: CRCA 1.2mm Thickness. Side panels: 25mm thk Phenolic Boards with 2mm thick Rafter edges 4. Finish: Metal panels: Epoxy Polyester Powder coated to the thickness of 60 microns (+/-10). 5. Stackability: The add-on units can be stacked width wise to form a bank of racks having common side panel. 6. Accessibility From front & Back(Racks on both sides)Number of racks: · Bottom plus four fixed racks on each side. (Total 10 Loading levels). For stiffening of the racks beading is provided. Uniformly Distributed Load size 1200x600x1900	Nos	6	21792	130752	

26	. Magazine Rack Material: Racks, Back Panel & Skirting: 19mm Thoick Teak tased Veneer Board with 2mm PVc Tape mm Thickness. Side panels: 25mm thk Phenolic Boards with 2mm thick Rafter edges Material: Racks, Back Panel & Skirting: CRCA 1.2mm Thickness. Side panels: 25mm thk Phenolic Boards with 2mm thick Rafter edges 4. Finish: Metal panels: Epoxy Polyester Powder coated to the thickness of 60 microns (+/-10). 5. Stackability: The add-on units can be stacked width wise to form a bank of racks having common side panel. 6. Accessibility From front & Back(Racks on both sides)Number of racks: · Bottom plus four fixed racks on each side. (Total 5Loading levels). For stiffening of the racks beading is provided.Uniformly Distributed Load size 1200x600x1900	Nos	2	15103	30206	
27	Providing, Fixing & supplying of class room desk in Curved/ Srtraight shape and chair with following specifications Desk – Legsto made up of crc pipe section of 80x40x1.5 mm with floor plate to anchor the desk to floor. The desk top will be 25 mm prelaminated particle board of ISI mark. The table top will rest on cantilevered steel support with one 25x25x1.2 mm horizontal support. The table will have 400-450 mm high 18 mm prelaminated particle board modesty fixed to desk. The size of each student desk will be app 500 length x500-600 wide. Chair- wheels. The chair seat will be in 12 mm polished hot pressed ply in single piece or in split seat and back as per approval of Engineering In charge.					

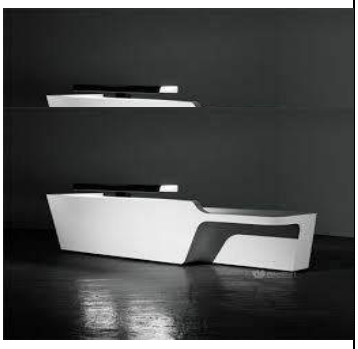
27A	2700x450x750	Nos	8	20372	162976	
27B	1900x450x750	Nos	16	15482	247712	
28	Overall size should be 2700 & 1900 mmX450 mmX900 mm. Length and width of Rear leg of bench should be 70mmX50mm and other legs should be of length and width 50X50 mm. Back rest of bench should be 2700 & 1900 X230X25 mm. Top of desk and seat of bench should be 25 mm thick Width of seat should be 360 mm and top of bench should be 460 mm. Seat and top should be hanging over 20-25 mm from frame. Back support should be tilted according to comfort with PU form 50mm thick moulded in in chair shape in one cluster of 4/3 persons					
28A	2700 length 4 seater	Nos	8	20570	164560	
28B	1900 length 3 seater	Nos	16	13165	210640	
29	Providing and placing Staff table of Size : 1500(W) x 750(D) x 750(H) & back storage of size 1500W x450D x750H Worktop with top is made of Particle board/MDF/BB, thickness 25mm cover with Melamine, Edge banding (PVC)2mm. Epoxy powder coated spray color, baked at temperature 200 C°. The understructure is made of Steel square pipe dimension 38 X 38mm. Thickness 2.5mm. Epoxy powder coated spray paint. Powder coating should be scratch resistance. The modesty panel is made of 16 mm thick Particle Board (E1-Grade), Coated of Melamine PVC edge-banding with 2mm and Brackets used are 3.2 mm Powder Coated Steel of 50-60	Nos	2	12792	25584	

	microns.Complete as per the direction of Architect/Engineer-in-charge.					
30	The hostel bed shall be of size 1905 mm X 1950 mm X 380-450 mm height. The legs shall be of square Wood of 50x50 mm thick & shall be supported by end caps. There will be two legs in the centre of the bed in addition to four legs at corner. The total height of bed at leg side shall be 480 ± 10 mm & head side shall be 675 ± 10 mm. The sides shall be made from square tube 50 X 40 X 1.5 mm thick. The beds main structure shall be made from 1.25 mm thick sheet which shall be supported by 05 nos square tube 19 X 1.25 mm thick. The front and back of the bed shall have 02 No square tube of size 19 X 1.25 mm thick on the upper portion and one no round tube of dia 19 mm x 1.25 mm thick. All metal structure shall be welded by MIG/CO2/Electric welding. All steel structural components shall be processed and made from virgin material sourced from SAIL / Tata Steel / Jindals or equivalent manufacturer. The powder coated components shall be tested on regular basis for Scratch resistance test of 4 kgs & for Impact resistance test for 150 kgs/cm. Each corner of the bed shall have L-shaped support to avoid the displacement	Nos	15	35641	534615	
31	The hostel bed shall be of size 1905 mm X 900mm X 380-450 mm height. The legs shall be of square Wood of 50x50 mm thick & shall be supported by end caps. There will be two legs in the centre of the bed in addition to four legs at corner. The total	Nos	64	14125	904000	

	height of bed at leg side shall be 480 ± 10 mm & head side shall be 675 ± 10 mm. The sides shall be made from square tube 50 X 40 X 1.5 mm thick. The beds main structure shall be made from 1.25 mm thick sheet which shall be supported by 05 nos square tube 19 X 1.25 mm thick. The front and back of the bed shall have 02 No square tube of size 19 X 1.25 mm thick on the upper portion and one no round tube of dia 19 mm x 1.25 mm thick. All metal structure shall be welded by MIG/CO2/Electric welding. All steel structural components shall be processed and made from virgin material sourced from SAIL / Tata Steel / Jindals or equivalent manufacturer. The powder coated components shall be tested on regular basis for Scratch resistance test of 4 kgs & for Impact resistance test for 150 kgs/cm. Each corner of the bed shall have L-shaped support to avoid the displacement					
32	Body of storages made out 25 mm thick Particle Board, melamine finishes with 2 mm PVC edge-banding. Front of Storages should be made out of metal or 16 mm. thick Particle Board (E-1 Grade),melamine finishes with 2 mm. PVC edge-banding fitted with extruded aluminum handle. Door Lock should be of three-way lock mechanism, the hinged doors can be locked at once. Door should be provided with Hinge-damping mechanism to enable soft closing of doors. The Medium Height Partition should have 3 shelved	Nos	49	14909	730541	

	compartments for storage 1200x600x2100					
33	The table shall be of size 1200 ± 10 mm (Wide) X 590 ± 10 mm (Depth) X 750 ± 10 mm (Overall Height). The work surface of the table shall be made of 18 mm thick one side texture finished particle board (ISI marked) board top with 2 mm thick PVC edge beading. All under structure made out with 25 mm thick square pipe with 1.25 mm thick wall thickness. Table shall have single drawer made of mild steel unit with lock on its one side. All metal structure shall be welded by MIG/CO2/Electric welding. All steel structural components shall be processed and made from virgin material sourced from SAIL/TataSteel/ Jindals or equivalent manufacturer and tested conforming to IS: 513/ IS: 2062. The powder coated components are on regular basis tested for Scratch resistance test of 4 kgs & for Impact resistance test for 150 kgs/cm. The particle board shall be sourced from reputed manufacturers and shall also be treated for termites to increase life.	Nos	79	10793	852647	
34	Study Chair for Students: The seat and back shall be made of 18 Gauge thick steel perforated sheets which are welded to a seat/back as per required profile. The perforated seat size shall be 400 ± 10 mm X 440 ± 10 mm. The overall height of the chair shall be 825 ± 10 mm and the seat height of the chair shall be 460 ± 10 mm. The assembly is a mainframe made of	Nos	79	5034	397686	

	dia 25.4 mm (1") x 16 Gauge MS ERW tube and a welded rear leg tube made of dia 2.54 cm (1") x 16 Gauge MS ERW tube to the form the complete assembly. The complete chair shall be black powder coated. All steel structural components shall be processed and made from virgin material l sourced from SAIL / Tata Steel / Jindals or equivalent manufacturer. The powder coated components shall be tested on regular basis for Scratch resistance test of 4 kgs & for Impact resistance test for 150 kgs/ cm. Note:- Cold rolled steel to IS:2062 or Cold rolled steel - for MS sheet thickness 0.63 mm- 2.0 mm conforming to IS:513.					
35	Bed side Table : (450Wx450Lx450H) with drawers, made of 6-19mm thk marine ply board with 4mm thk veneer & 2mm thk wooden lipping, surface finished with polish as specified, Work completed with all necessary fittings & accessories.	Nos	64	5677	363328	
36	Canteen-Table of size- mm with Stainless Steel Top and Frame with 6 nos. fixed S.S. stool. Table main top made of SS 304 grade, 18 swg with 8-10 mm thick water proof plywood base. Top frame, legs and footrest frame shall be of 304 grade stainless steel tubular section 30 x 30 x 1.50 mm thick. Fixed stool of height 500 mm with top made of 350 mm dia 304 grade stainless steel 1 mm thick (20 SWG) with suitable base if required.					

	Chair frame and connecting member to table, made of 304 grade stainless steel tubular section 25 x 25 x 1.50 mm thick or superior one with good quality PVC shoes and fixed to main table footrest.					
36A	1800 x 900 x 750	Nos	12	36669	440028	
36B	1200 x 800 x 750	Nos	12	26328	315936	
37	13 Manufacturing and Supplying and fixing in position of Reception table unit as per following specification. The Dimensions of Main table too shall be of 2100mm x 1000mm x 750mm and the top thickness shall be 65mm. The Modesty size shall be of 1640mm x 600mm x 16mm made up with MDF & 4mm thick veneer including PU coating.The Mobile pedastal shall be made up with MDF Board of 16mm thick and shall be finished with 4mm thick veneer sheets including PU coating and the size shall be of 510mm x 635mm x 445mm. The size of ERU shall be 1200mm x 445mm x 660mm and made up with MDF Board and shall be finished with 4mm thick veneer sheets including PU coating. The top thickness of ERU shall be 25mm. The Back unit shall be made up with MDF board of 16mm thick and shall be finished with 4mm thick veneer sheets including PU coating and the size shall be of 2215mm x 410mm x2000mm. The shutter of the unit shall be made with 16mm thick MDF and laminated with 4mm thick veneer sheets. The shutters shall be panelled with 5mm thick toughned glass. All the PU coating shall have hard ness of 1.5 H. The above entire unit shall be manufactured as per	Nos	1	133172	133172	

	specifications.Side with corian top					
38	Providing and placing of foam Mattress The mattress shall be of size 72" x 78" x 04" having density of 40 (+/-2), Breathable 90 pin hole foam with good bounce effect and special hardening to have extra support with Q cover having side to side zipper.	Nos	15	14831	222465	
39	Providing and placing of foam Mattress The mattress shall be of size 72" x 35" x 04" having density of 40 (+/-2), Breathable 90 pin hole foam with good bounce effect and special hardening to have extra support with Q cover having side to side zipper.	Nos	64	7543	482752	
40	P/F of Providing & Fixing up of Window / Glazing / Door curtain in required sizes having the specification as detailed above. The rates shall be inclusive of the cost of the curtain cloth, Lining cloth, stitching, Hanging arrangement, The quoted rates shall include cost of all material, labour, Taxes and overheads. Nothing extra shall be paid and the contractor shall be liable to incur all the expenses required in satisfactory completion of the work. Fabric cost upto Rs.500.00 mtr	Rmt	450	686	308700	
41	Supply and Fixing of Stainless steel Drapery Rods (curtain rods) of 19 mm dia along with all accessories such as Curtain ring (nos. sufficient for rod length) as per standard/ mentioned in technical bid, Holding Bracket, Finials (End capping), screws, fissures etc. Including fixing of same on the desired door	Rmt	320	686	219520	

	windows locations on all floors as per the Quoted Technical specifications in Appendix to Technical Bid and terms and condition of Tender for Supply and Fixing of Stainless steel Drapery rods (Curtain Rod) set.					
	TOTAL FOR FURNITURE WORKS (NON-SCHEDULE ITEMS)				**2,04,59,010**	

Explanatory Notes for BOQ:

(i) All Scheduled DSR items contain item nos. and, if any discrepancy is found in nomenclature,then scheduled nomenclature of CPWD DSR 2018 will prevail.

(ii) **Schedule DSR Items:** The cost of Schedule items given above are as per CPWD DSR 2018 excluding GST component @ 12%.

(iii) **Non-Schedule Items:** The cost of Non-Schedule items given above *(other than CPWD DSR 2018)* are as per current market rate analysis ***(excluding GST)***.

(iv) The Quantity mentioned in the above Schedules is tentative and DFCCIL reserves the right to increase / decrease and/or delete or include any of the quantities given above as per site conditions.

BILL OF QUANTITIES OF E&M WORKS OF HHRI COMPLEX PROPOSED DFCCIL INTEGRATED OFFICE CUM RESIDENTIAL COMPLEX SECTOR-145, VILLAGE JHATTA, NOIDA (UTTAR PRADESH)						
BOQ Item No.	**CPWD DSR (E&M) 2018 REF.**	**Item Description**	**Unit**	**Qty**	Rate	**Amount**
III		**SCHEDULED - III**				
		E&M WORKS				
(i)		**SCHEDULED ITEMS AS PER CPWD DSR**				
1.0		**SUB-HEAD : INTERNAL WIRING**				
		Note :				
		Rates of only ISI marked steel conduit, FRLS PVC insulated copper conductor single core cables, moulded plate type switches in passivated box and FRLS PVC insulated earth wire have been taken in the following items unless otherwise specified and as per specification.				
1.1	1.3	Wiring for Light point / Fan point / Exhaust Fan point / Call Bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel. conduit , with modular switch ,modular plate ,suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.				
a	1.3.3	Group - C	Point	382	1,083.00	4,13,706.00
1.2	1.54	Wiring for group controlled (looped) light point/fan point/exhaust fan point/ call bell point (without independent switch etc.) with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit and earthing the point with 1.5 sq. mm FRLS PVC insulated				

		copper conductor single core cable etc. as required.				
a	1.54.3	Group C	Point	352	631.00	2,22,112.00
1.3		Wiring for circuit/ submain wiring along with earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.				
a	1.7.1	2 X 1.5 sq.mm +1 X 1.5 sq.mm earth wire	Metre	1480	186.00	2,75,280.00
b	1.7.2	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	2794	204.00	5,69,976.00
c	1.7.3	2 X 4 sq.mm +1 X 4 sq.mm earth wire	Metre	96	235.00	22,560.00
d	1.7.4	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	200	318.00	63,600.00
e	1.7.7	4 X 2.5 sq.mm +2 X 2.5 sq.mm earth wire	Metre	260	303.00	78,780.00
f	1.7.9	4 X 6sq.mm +2X 6 sq.mm earth wire	Metre	180	472.00	84,960.00
g	1.7.10	4 X 10 sq.mm +2X 6 sq.mm earth wire	Metre	47	598.00	28,106.00
h	1.7.11	4 X16 sq.mm +2X 6 sq.mm earth wire	Metre	171	845.00	1,44,495.00
1.4		Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/recessed steel conduit/Raceway as required.				
a	1.17.12	3 x 2.5 sq. mm	Metre	7500	67.00	5,02,500.00
1.5	1.5	Wiring for light / power plug point with 2 x 4 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit along with 1 No. 4 sq.mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	1437	237.00	3,40,569.00
1.6	1.6	Wiring for light / power plug point with 4 x 4 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit along with 2 No. 4 sq.mm FRLS PVC insulated copper conductor single core	Metre	75	350.00	26,250.00

		cable for loop earthing as required.				
1.7	1.31	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 A modular socket outlet and 5/6 A modular switch, connections etc. as required.	Each	198	358.00	70,884.00
1.8	1.32	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess ,including providing and fixing 6 pin 15 / 16 & 5 / 6 Amps modular socket outlet and 15 / 16 Amps modular switch, connection, etc.as required.	Each	103	442.00	45,526.00
1.9	1.24.4+1.27.1	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess ,including providing and fixing 3 pin 5 / 6 Amps modular socket outlet without modular switch,connection,painting etc.as required.	Each	14	316.00	4,424.00
1.10	1.24.3+1.27.1	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess ,including providing and fixing 15 / 16 Amps modular switch,connection,painting etc.as required.	Each	2	335.00	670.00
1.11	1.56	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 2 nos. 3 pin 5/6 A modular socket outlet and 2 nos. 5/6 A modular switch, connections etc. as required. (For light plugs to be used in non residential buildings). **UPS & TV SOCKET**	Each	132	520.00	68,640.00
1.12	1.20	Supplying and fixing of following sizes of steel conduit along, with accessories in				

		surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.				
a	1.20.2	25 mm	Metre	2320	147.00	3,41,040.00
b	1.20.3	32 mm	Metre	70	181.00	12,670.00
c	1.20.4	40 mm	Metre	85	261.00	22,185.00
d	1.20.5	50 mm	Metre	290	329.00	95,410.00
1.13	2.18	Supplying and fixing 30 A, 240 V, SPN Industrial type socket outlet, with 2 pole and earth, metal enclosed plug top along with 30 A "C" curve, SP, MCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	Each	6	1,100.00	6,600.00
1.14	2.20	Supplying and fixing 30 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top along with 30 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	Each	10	2,721.00	27,210.00
2.2	1.25	Supplying and fixing two module stepped type electronic fan, regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	Each	177	305.00	53,985.00
		TOTAL OF INTERNAL WIRING				**35,22,138.00**
2.0		**SUB-HEAD : EARTHING**				
2.1	5.6	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking	Set	4	10,530.00	42,120.00

		arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.				
2.2	5.15*2	Providing and laying G.I. tape 50 mm X 6 mm from earth electrode directly in ground as required	Metre	100	368.00	36,800.00
2.3	5.15	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	Metre	747	184.00	1,37,448.00
2.4	5.14	Providing and fixing 25 mm X 5 mm copper. strip on surface or in recess for connections etc. as required.	Metre	60	901.00	54,060.00
2.5	5.16	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required.	Metre	100	51.00	5,100.00
		TOTAL OF EARTHING				**2,75,528.00**
3.0		**SUB-HEAD : LIGHTNING PROTECTION**				
3.1	6.2	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.	Each	17	400.00	6,800.00
3.2	6.7	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)	RM	1487	93.00	1,38,291.00
3.3	6.8	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	RM	650	146.00	94,900.00

3.4	6.12	Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 nos. of G.I. bolts, nuts, chuck nuts and spring washers etc. complete as required	Each	45	91.00	4,095.00
3.5	6.14	Providing and laying G.I. tape 32 mm X 6 mm from earth electrode directly in ground as required.	RM	1164	157.00	1,82,748.00
		TOTAL OF LIGHTNING PROTECTION				**4,26,834.00**
4.0		**SUB-HEAD : DISTRIBUTION BOARD**				
4.1	2.3	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/ recess complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator				
a	2.3.1	6 way, Double door	Each	63	1,483.00	93,429.00
b	2.3.2	8 way, Double door	Each	3	1,571.00	4,713.00
4.2	2.4	Supplying and fixing following way prewired triple pole and neutral, sheet steel for 415 volts on surface/recess complete with loose wire box, terminal connector for all incoming and outgoing circuits, duly prewired with suitable size FRLS PVC insulated copper conductor upto terminal blocks, tinned copper busbar,neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthing etc. as required. (But without MCB / RCCB / Isolator)				
a	2.4.1	4 way (4 + 12), Double door, horizontal type	Each	21	2,739.00	57,519.00

b	2.4.2	6 way (4 + 18), Double door	Each	22	3,297.00	72,534.00
c	2.4.3	8 way (4 + 24), Double door	Each	16	4,108.00	65,728.00
4.3	2.5	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required				
	2.5.1	4 way (4 + 12), Double door	Each	1	5,046.00	5,046.00
	2.5.2	8 way (4 + 24), Double door	Each	1	6,914.00	6,914.00
4.4	2.10	Supplying and fixing 5 Amps. to 32 Amps. rating, 240/415 V,10 KA,`C' series, Miniature circuit breaker (MCB) suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
a	2.10.1	Single pole	Each	1501	178.00	2,67,178.00
b	2.10.3	Double pole	Each	5	496.00	2,480.00
4.5	2.11	Supplying & fixing single pole, **blanking plate** in the existing MCB DB complete etc. as required.	Each	6	7.00	42.00
4.6	2.2	Providing and fixing following rating and breaking capacity and pole MCCB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required.				
a	2.2.12	800 A, 50 KA,TPN MCCB	Each	1	30,228.00	30,228.00
b	2.2.13	100 A,30KA,FPMCCB	Each	8	6,587.00	52,696.00
		TOTAL OF DISTRIBUTION BOARD				**6,58,507.00**
5.0		**SUB-HEAD : L.T CABLES**				

5.1		Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc. as required				
a	7.1.3	Above 95 sq. mm and upto 185 sq. mm	Metre	5	314.00	1,570.00
b	7.1.2	Above 35 sq. mm and upto 95 sq. mm	Metre	60	302.00	18,120.00
c	7.1.1	Upto 35 sq. mm	Metre	31	288.00	8,928.00
5.2	7.5	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing RCC / HUME / METAL pipe as required				
a	7.5.1	Upto 35 sq. mm	Metre	950	28.00	26,600.00
b	7.5.2	Above 35 sq. mm and upto 95 sq. mm	Metre	512	42.00	21,504.00
c	7.5.3	Above 95 sq. mm and upto 185 sq. mm	Metre	165	57.00	9,405.00
5.3	9.1	Supplying and making end termination of following sizes with brass compression gland including providing and crimping solderless plugs/ferrules of sizes PVC insulated PVC sheathed aluminum conductor armoured cable 1.1 KV grade.				
a	9.1.36	4 X 50 sq. mm (35mm)	Set	1	296.00	296.00
b	9.1.34	4 X 25 sq. mm (28mm)	Set	5	223.00	1,115.00
c	9.1.33	4 X 16 sq. mm (28mm)	Set	14	223.00	3,122.00
d	9.1.32	4 X 10 sq. mm (25mm)	Set	2	196.00	392.00
e	9.1.2	2 X 10 sq. mm /4x6mm (19mm)/4x6sqmm	Set	2	177.00	354.00
f	9.1.2	2 X 10 sq. mm /4x6mm (19mm)/2x6sqmm	Set	10	177.00	1,770.00
5.4	4.6	Supplying and installing following size of perforated Hot Dipped Galvanized Iron cable tray (Galvanization thickness not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined				

		with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required				
a	4.6.10	450 mm width X 62.5 mm depth X 2.0 mm thickness	Metre	450	1,286.00	5,78,700.00
		TOTAL OF L.T CABLES				**6,71,876.00**
6.0		**FIRE FIGHTING WORKS**				
		CPWD DSR Wet Rise 2019				
6.1	21	Providing, fixing, testing & commissioning of 15mm dia quartzoid bulb type sprinklers of rating 68 degree centigrade with required accessories				
6.1.1	21.1	Pendent Sprinkler	Each	400	432.00	1,72,800.00
6.1.2	21.4	Concealed Sprinkler	Each	30	1,247.00	37,410.00
6.2	25	Supplying, installation, testing & commissioning of sprinkler flexible pipe (UL Listed) of stainless steel complete with 15 NPT on reducer thread with maximum working pressure of 175 PSI test pressure of 875 PSI (Burst) with branch line (Inlet) 25mm NPT male thread to sprinkler head (Outlet) 15mm NPT female thread with reducer, nipple, 2 side brackets, center bracket, stockbar of following sizes complete as required.				
6.2.1	25.2	1000 mm	Each	400	1,375.00	5,50,000.00
6.2.2	25.3	1200 mm	Each	30	1,458.00	43,740.00
		TOTAL OF FIRE FIGHTING WORKS				**8,03,950.00**
		TOTAL OF SCHEDULE-A ITEMS				**63,58,833.00**
B		**NON SCHEDULE ITEMS**				
7.0		**SUB HEAD : INTERNAL WIRING**				

7.1	NS	Wiring for Light point / Fan point / Exhaust Fan point / Call Bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in existing surface / recessed steel conduit with modular switch, modular plate & cover on existing GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required. (Rates are derived from CPWD DSR (E&M) 2018-1.3.3)				
a		Group - C	Point	1486	615.00	9,13,890.00
7.2	NS	Wiring for group controlled (looped) light point/fan point/exhaust fan point/ call bell point (without independent switch etc.) with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable in existing surface/ recessed steel conduit and earthing the point with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable etc. as required. (Rates are derived from CPWD DSR (E&M) 2018-1.54.3)				
a		Group C	Point	1066	397.00	4,23,202.00
7.3	NS	Wiring for circuit/ submain wiring along with earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in existing surface/ recessed steel conduit as required. (Rates are derived from CPWD DSR (E&M) 2018-1.7.1 to 1.7.11)				
a		2 X 1.5 sq.mm +1 X 1.5 sq.mm earth wire	Metre	4900	104.00	5,09,600.00
b		2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	9500	122.00	11,59,000.00
c		2 X 4 sq.mm +1 X 4 sq.mm earth wire	Metre	64	152.00	9,728.00
d		2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	560	217.00	1,21,520.00
e		4 X 2.5 sq.mm +2 X 2.5 sq.mm	Metre	940	202.00	1,89,880.00

		earth wire				
f		4 X 6sq.mm +2X 6 sq.mm earth wire	Metre	720	335.00	2,41,200.00
g		4 X 10 sq.mm +2X 6 sq.mm earth wire	Metre	28	380.00	10,640.00
h		4 X16 sq.mm +2X 6 sq.mm earth wire	Metre	684	551.00	3,76,884.00
7.4	NS	Wiring for light / power plug point with 2 x 4 sq.mm FRLS PVC insulated copper conductor single core cable in existing surface / recessed steel conduit along with 1 No. 4 sq.mm FRLS PVC insulated copper conductor single core cable for loop earthing as required. (Rates are derived from CPWD DSR (E&M) 2018-1.5)	Metre	5750	152.00	8,74,000.00
7.5	NS	Wiring for light / power plug point with 4 x 4 sq.mm FRLS PVC insulated copper conductor single core cable in existing surface / recessed steel conduit along with 2 No. 4 sq.mm FRLS PVC insulated copper conductor single core cable for loop earthing as required. (Rates are derived from CPWD DSR (E&M) 2018-1.6)	Metre	300	247.00	74,100.00
7.6	NS	Supplying and fixing modular plate and cover in existing GI box, including providing and fixing 3 pin 5/6 A modular socket outlet and 5/6 A modular switch, connections etc. as required. (Rates are derived from CPWD DSR (E&M) 2018-1.31)	Each	641	256.00	1,64,096.00
7.7	NS	Supplying and fixing modular plate and cover in existing GI box, including providing and fixing 6 pin 15/16 & 5/6 Amps modular socket outlet and 15/16 Amps modular switch, connection, etc.as required. (Rates are derived from CPWD DSR (E&M) 2018-1.32)	Each	374	339.00	1,26,786.00
7.8	NS	Supplying and fixing of	Each	54	197.00	10,638.00

		modular plate and cover on existing GI box including providing and fixing 3 pin 5 / 6 Amps modular socket outlet without modular switch,connection,painting etc.as required. (Rates are derived from CPWD DSR (E&M) 2018-1.24.4, 1.27.1)				
7.9	NS	Supplying and fixing of modular plate and cover on existing GI box including providing and fixing 15 / 16 Amps modular switch,connection,painting etc.as required. (Rates are derived from CPWD DSR (E&M) 2018-1.24.3, 1.27.1)	Each	8	215.00	1,720.00
7.10	NS	Supplying and fixing modular plate and cover on existing GI box including providing and fixing 2 nos. 3 pin 5/6 A modular socket outlet and 2 nos. 5/6 A modular switch, connections etc. as required. **UPS & TV SOCKET** (Rates are derived from CPWD DSR (E&M) 2018-1.56)	Each	369	392.00	1,44,648.00
		TOTAL OF INTERNAL WIRING				**53,51,532.00**
8.0		**SUB-HEAD : SUPPLY OF FANS & LIGHT FIXTURES**				
8.1		**LIGHT FIXTURES**				
8.1.1		SITC of recess mounted luminaire (2x2), with a minimum system lumen output of 3600 lumens and a minimum efficacy at System level ≥120 lumens/watt. The luminaire should have a color temperature of 5700/6500K (SDCM<4), CRI>80 and Life of fixture : 50000 burning Hrs. @ L70 Lumen maintenance. Driver of the luminaire shall have THD<10%, PF >0.95,	Nos.	163	2,551.00	4,15,813.00

		R9>20, UGR<19, IK≥04, Operating working temp range - 0°C < Ta < 45°C & operating Voltage Range of 140-270 V AC. Minimum Internal Surge Protection 2.5 kV and External Surge Protection of 5.0 kV. The luminaire housing should be made of powder coated pressure die cast/extruded Aluminium with high efficiency opal PS/PMMA diffuser. The fixture design should be with flicker free operations ripple <5%, comply to IEC61000-3-2 ed.3.2, 2009 for Harmonics, IEC61347 -2 - 13, 2006 in Conjunction with IEC61347-1 ed.2.0, 2007 for Electrical Safety, IEC62384 ed.1.1, 2011 for performance and IEC61547 ed.2.0, 2009, CISPR-15 for EMI/EMC. Manufacturer shall have inhouse lab approved by NABL or Ministry of Science, Govt of India or reports to be verified at NABL approved labs for parameters by firm. LM79 and LM80 reports need to be submitted from a NABL/UL accredited lab to verify above parameters. Both the fixture and Driver should have BIS approval.				

8.1.2		SITC of recessed LED Downlighter made up of pressure die cast aluminum housing including flange with high efficiency polycarbonate diffuser/PMMA, fixture should have minimum efficacy at System level ≥ 110 lumens/watt with Minimum system Lumens 2000, Life of fixture : 50000 burning Hrs. @ L70 Lumen maintenance, Life of fixture : 50000 burning Hrs. @ L70 Lumen maintenance, CCT of 5700/6500K (SDCM≤3), CRI Ra ≥80, PF >0.95, R9>20, UGR<19, IK≥04, Operating working temp range - 0°C < Ta < 45°C & operating Voltage Range of 140-270 V AC. Minimum Internal Surge Protection 2.5 kV and External Surge Protection of 5.0 kV. The fixture design should be with flicker free operations ripple <5%, comply to IEC61000-3-2 ed.3.2, 2009 for Harmonics, IEC61347 -2 -13, 2006 in Conjunction with IEC61347-1 ed.2.0, 2007 for Electrical Safety, IEC62384 ed.1.1, 2011 for performance and IEC61547 ed.2.0, 2009, CISPR-15 for EMI/EMC. Manufacturer shall have inhouse lab approved by NABL or Ministry of Science, Govt of India or reports to be verified at NABL approved labs for parameters by firm. LM79 and LM80 reports need to be submitted from a NABL/UL accredited lab to verify above parameters. Both the fixture and Driver should have BIS approval.	Nos.	602	1,712.00	10,30,624.00

8.1.3		SITC of recessed LED downlighter, made of pressure die cast aluminum housing including flange with high efficiency PC/PMMA diffuser for homogeneous light distribution. Fixture should have minimum efficacy at System level (Not Chip Level) ≥110 lumens/watt and a minimum system lumen output of 1200 lumens. Life of fixture : 50000 burning Hrs. @ L70 Lumen maintenance, CCT of 5700/6500K (SDCM<4), CRI >80, PF >0.95, THD<10%, R9>20, IP20, UGR<19, IK≥04, Operating working temp range - 0°C < Ta < 45°C and an operating Voltage Range of 140 - 270V. Internal Surge Protection 2.5 kV and and External Surge Protection of 5.0 kV. The fixture design should comply with EMC / EMI compliance with flicker free operations ripple <5%, comply to IEC61000-3-2 ed.3.2, 2009 for Harmonics, IEC61347 -2 -13, 2006 in Conjunction with IEC61347-1 ed.2.0, 2007 for Electrical Safety, IEC62384 ed.1.1, 2011 for performance and IEC61547 ed.2.0, 2009, CISPR-15 for EMI/EMC. The internal wiring to be done with LSZH wires. Manufacturer shall have inhouse lab approved by NABL or Ministry of Science, Govt of India or reports to be verified at NABL approved labs for parameters by firm. LM79 and LM80 reports need to be submitted from a NABL/UL accredited lab to verify above parameters. Both the fixture and Driver should have BIS approval.	Nos.	36	1,464.00	52,704.00

8.1.4		SITC of surface mounted LED downlighter, made of pressure die cast aluminum housing including flange with high efficiency PC/PMMA diffuser for homogeneous light distribution. Fixture should have minimum efficacy at System level (Not Chip Level) >=110 lumens/watt and a minimum system lumen output of 1200 lumens. Life of fixture : 50000 burning Hrs. @ L70 Lumen maintenance, CCT of 5700/6500K (SDCM<4), CRI >80, PF >0.95, THD<10%, R9>20, IP20, IK>=04, Operating working temp range - 0°C < Ta < 45°C and an operating Voltage Range of 140 - 270V. Internal Surge Protection 2.5 kV and External Surge Protection of 5.0 kV. The fixture design should comply with EMC / EMI compliance with flicker free operations ripple <5%, comply to IEC61000-3-2 ed.3.2, 2009 for Harmonics, IEC61347 -2 - 13, 2006 in Conjunction with IEC61347-1 ed.2.0, 2007 for Electrical Safety, IEC62384 ed.1.1, 2011 for performance and IEC61547 ed.2.0, 2009, CISPR-15 for EMI/EMC. The internal wiring to be done with LSZH wires. Manufacturer shall have inhouse lab approved by NABL or Ministry of Science, Govt of India or reports to be verified at NABL approved labs for parameters by firm. LM79 and LM80 reports need to be submitted from a NABL/UL accredited lab to verify above parameters. Both the fixture and Driver should have BIS approval.	Nos.	115	1,558.00	1,79,170.00

8.1.5		Supply, Installation, Testing & Commissioning of Surface mounted LED Downlighter made of pressure die cast aluminium housing including flange, LED Used shall be SMD type and fixture should have minimum efficacy at System level (Not Chip Level) >=110 lumens/watt with Minimum system Lumens 750, Life of LED : 50000 burning Hrs. @ L70 Lumen maintenance, CCT of 4000/5700K (SDCM<4), CRI >80, PF >0.95, Min working temp range - 0°C < Ta < 45°C, an operating Voltage Range of 140 - 270 VAC. Minimum Internal Surge Protection 2.5 kV, External Surge Protection of 5.0 kV & IP20 protection. The fixture design should be with flicker free operations ripple <5%, comply to IEC61000-3-2 ed.3.2, 2009 for Harmonics, IEC61347 -2 -13, 2006 in Conjunction with IEC61347-1 ed.2.0, 2007 for Electrical Safety, IEC62384 ed.1.1, 2011 for performance and IEC61547 ed.2.0, 2009, CISPR-15 for EMI/EMC.Manufacturer shall have inhouse lab approved by NABL or Ministry of Science, Govt of India or reports to be verified at NABL approved labs for parameters by firm. LM79 and LM80 reports need to be submitted from a NABL/UL accredited lab to verify above parameters. Both the fixture and Driver should have BIS approval.	Nos.	206	1,297.00	2,67,182.00
8.1.6		SITC of Mirrior mounted 2 Ft LED Batten, fixture to be made of extrusion/anodised aluminium housing with high efficiency polycarbonate diffuser, LED Used shall be	Nos.	124	565.00	70,060.00

		SMD type and fixture should have minimum efficacy at System level >=120 lumens/watt with Minimum system Lumens 1000, Life of fixture: 50000 burning Hrs. @ L70 Lumen maintenance, CCT of 5700/6500K (SDCM≤3) , CRI >80, PF >0.95, Operating working temp range - 0°C < Ta < 45°C & Voltage Range of 140 - 270 VAC. The internal wiring to be done with LSZH wires. The fixture design should be with flicker free operations ripple <5%, comply to IEC61000-3-2 ed.3.2, 2009 for Harmonics, IEC61347 -2 - 13, 2006 in Conjunction with IEC61347-1 ed.2.0, 2007 for Electrical Safety, IEC62384 ed.1.1, 2011 for performance and IEC61547 ed.2.0, 2009, CISPR-15 for EMI/EMC. Manufacturer shall have inhouse lab approved by NABL or Ministry of Science, Govt of India or reports to be verified at NABL approved labs for parameters by firm. LM79 and LM80 reports need to be submitted from a NABL/UL accredited lab to verify above parameters. Both the fixture and Driver should have BIS approval.				
8.1.7		SITC of wall/surface mounted energy efficient LED batten made of extruded/anodised aluminium with high efficiency PC/PMMA diffuser for homogeneous light distribution. Fixture should have minimum efficacy at System level (Not Chip Level) ≥120 lumens/watt and a minimum system lumen output of 2000 lumens. Life of fixture : 50000 burning Hrs. @ L70 Lumen maintenance, CCT of 5700/6500K (SDCM<4), CRI	Nos.	214	2,745.00	5,87,430.00

		>80, PF >0.95, THD<10%, R9>20, IP20, UGR<19, IK≥04, Operating working temp range - 0°C < Ta < 45°C and an operating Voltage Range of 140 - 270V. Internal Surge Protection 2.5 kV and External Surge Protection of 5.0 kV. The internal wiring to be done with LSZH wires. The fixture design should be with flicker free operations ripple <5%, comply to IEC61000-3-2 ed.3.2, 2009 for Harmonics, IEC61347 -2 -13, 2006 in Conjunction with IEC61347-1 ed.2.0, 2007 for Electrical Safety, IEC62384 ed.1.1, 2011 for performance and IEC61547 ed.2.0, 2009, CISPR-15 for EMI/EMC. Manufacturer shall have inhouse lab approved by NABL or Ministry of Science, Govt of India or reports to be verified at NABL approved labs for parameters by firm. LM79 and LM80 reports need to be submitted from a NABL/UL accredited lab to verify above parameters. Both the fixture and Driver should have BIS approval.				
8.1.8		SITC of decorative wall bracket energy efficient LED light made of pressed steel body, having opan diffuser. Fixture should have minimum efficacy at System level (Not Chip Level) ≥80 lumens/watt and a minimum system lumen output of 1200 lumens. Life of fixture : 50000 burning Hrs. @ L70 Lumen maintenance, CCT of 5700/6500K (SDCM<4), CRI >80, PF >0.95, THD<10%, IP20, IK≥04, Operating working temp range - 0°C < Ta < 45°C and an operating Voltage Range of 140 - 270V. Internal Surge Protection 2.5 kV and External	Nos.	179	2,943.00	5,26,797.00

		Surge Protection of 5.0 kV. The internal wiring to be done with LSZH wires. The fixture design should be with flicker free operations ripple <5%, comply to IEC61000-3-2 ed.3.2, 2009 for Harmonics, IEC61347 -2 -13, 2006 in Conjunction with IEC61347-1 ed.2.0, 2007 for Electrical Safety, IEC62384 ed.1.1, 2011 for performance and IEC61547 ed.2.0, 2009, CISPR-15 for EMI/EMC. Manufacturer shall have inhouse lab approved by NABL or Ministry of Science, Govt of India or reports to be verified at NABL approved labs for parameters by firm. LM79 and LM80 reports need to be submitted from a NABL/UL accredited lab to verify above parameters. Both the fixture and Driver should have BIS approval.				
8.1.9		SITC of LED bulkhead with integral electronic control gear, made of pressure die cast aluminum housing with high efficiency PC/PMMA diffuser for homogeneous light distribution. Fixture should have minimum efficacy at System level (Not Chip Level) ≥110 lumens/watt and a minimum system lumen output of 1100 lumens. Life of fixture : 50000 burning Hrs. @ L70 Lumen maintenance, CCT of 5700/6500K (SDCM<4), CRI >80, PF >0.90, THD<10%, R9>20, IP66, IK≥08, Operating working temp range - 0°C < Ta < 45°C and an operating Voltage Range of 140 - 270V. Internal Surge Protection 2.5 kV and External Surge Protection of 5.0 kV. The fixture design should be with flicker free operations ripple <5%, comply to IEC61000-3-2	Nos.	22	1,349.00	29,678.00

		ed.3.2, 2009 for Harmonics, IEC61347 -2 -13, 2006 in Conjunction with IEC61347-1 ed.2.0, 2007 for Electrical Safety, IEC62384 ed.1.1, 2011 for performance and IEC61547 ed.2.0, 2009, CISPR-15 for EMI/EMC. Manufacturer shall have inhouse lab approved by NABL or Ministry of Science, Govt of India or reports to be verified at NABL approved labs for parameters by firm. LM79 and LM80 reports need to be submitted from a NABL/UL accredited lab to verify above parameters. Both the fixture and Driver should have BIS approval.				
8.1.10		SITC of LED Highbay luminaire with a housing of High Pressure Die casted Aluminium and cover of high transmittence tempered glass/PC to ensure protection. The luminaire should have a color consistency SDCM < 5, CRI > 80 and CCT of 5700/6500K. The luminaire shall be compliant with IP65 classification and impact protection of IK08 to ensure durablility. Luminaire shall be designed to emit at least 24000 nominal lumens at a system efficacy of atleast 110 lumen/watt. The lumainaire shall have both Narrow beam and Wide beam options available to provide flexbility in applications with new designed optic module to reduce glare UGR<25. The luminaire shall be designed so as to ensure lumen depreciation of up to 30% over 50k burning hours @ design ambient temp 45 deg C. The electronic driver used shall have a power factor >0.95 and THD <10% with a minimum inbuilt surge	Nos.	48	16,873.00	8,09,904.00

		protection of 4 kV and External Surge Protection of 10.0 kV and suitable for an operation voltage range of 140-270V AC. The fixture should comply with the parameters as per IS10322. The LED driver should comply to IEC61000-3-2 ed.3.2, 2009 for Harmonics, IEC61347 -2 - 13, 2006 in Conjunction with IEC61347-1 ed.2.0, 2007 for Electrical Safety, IEC62384 ed.1.1, 2011 for performance and IEC61547 ed.2.0, 2009, CISPR-15 for EMI. Manufacturer shall have inhouse lab approved by NABL or Ministry of Science, Govt of India or reports to be verified at NABL approved labs for parameters by firm. LM79 and LM80 reports need to be submitted from a NABL/UL accredited lab to verify above parameters. Both the fixture and Driver should have BIS approval.				
8.1.11		SITC of recess mounted luminaire (1x4) with a minimum system lumen output of 4320 lumens and a minimum efficacy at System level ≥120 lumens/watt. The luminaire should have a color temperature of 5700/6500K (SDCM<4), CRI>80 and Life of fixture : 50000 burning Hrs. @ L70 Lumen maintenance. Driver of the luminaire shall have THD<10% and PF >0.95. UGR<19, IK≥04, Operating working temp range - 0°C < Ta < 45°C & operating Voltage Range of 140-270 V AC. Minimum Internal Surge Protection 2.5 kV and External Surge Protection of 5.0 kV. The luminaire housing should be made of powder coated Aluminium extrusion/CRCA with high efficiency opal	Nos.	120	3,367.00	4,04,040.00

		PS/PMMA diffuser. The fixture design should be with flicker free operations ripple <5%, comply to IEC61000-3-2 ed.3.2, 2009 for Harmonics, IEC61347 -2 -13, 2006 in Conjunction with IEC61347-1 ed.2.0, 2007 for Electrical Safety, IEC62384 ed.1.1, 2011 for performance and IEC61547 ed.2.0, 2009, CISPR-15 for EMI/EMC. Manufacturer shall have inhouse lab approved by NABL or Ministry of Science, Govt of India or reports to be verified at NABL approved labs for parameters by firm. LM79 and LM80 reports need to be submitted from a NABL/UL accredited lab to verify above parameters. Both the fixture and Driver should have BIS approval.				
		TOTAL OF LIGHT FIXTURES				**43,73,402.00**
8.2		**FANS & EXHAUSTS**				
8.2.1	NS	SITC energy efficient 1200 mm sweep BLDC ceiling fan, input power 28W±10%, speed 350±10% rpm with 300/600 mm standard down rod and electrical connection as required etc.	Nos.	72	2,695.00	1,94,040.00
8.2.2	NS	SITC of 400mm sweep wall bracket fan, oscillatory type, 3 speed control, heavy duty type as required.	Nos.	36	2,611.00	93,996.00
8.2.3	NS	SITC of 750 mm sweep air circulator fan, oscillatory type, 3 speed control, heavy duty type as required.	Nos.	12	12,901.00	1,54,812.00
8.2.4	NS	SITC of heavy duty type exhaust fans of following size sweep with gravity louvers shutters including all accessories/installation materials required make				

a		381 mm sweep 1400 rpm	Nos.	6	4,118.00	24,708.00
b		305 mm sweep 900 rpm	Nos.	5	3,433.00	17,165.00
c		230mm sweep 900 rpm	Nos.	122	1,927.00	2,35,094.00
		TOTAL OF FANS & EXHAUSTS				**7,19,815.00**
		TOTAL OF SUPPLY OF FANS & LIGHT FIXTURES WITH CONTROL				**50,93,217.00**
9.0		**SUB-HEAD : DISTRIBUTION BOARD**				
9.1		Supplying and fixing following way prewired triple pole and neutral, sheet steel for 415 volts on surface/recess complete with loose wire box, terminal connector for all incoming and outgoing circuits, duly prewired with suitable size FRLS PVC insulated copper conductor upto terminal blocks, tinned copper busbar,neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthing etc. as required. (But without MCB / RCCB / Isolator)		6	7,519.00	45,114.00
A	NS	12 way (4 + 36), Double door	Each	6	7,519.00	45,114.00
9						
9.2	NS	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar din bar for mounting MCBs & **incomer MCCB** (but without MCBs and incomer) as required . (Note : Vertical type MCB TPDB is normally used where 3 phase outlets are required.)				

a		12 way (4 + 36), Double door	Each	8	33,355.00	2,66,840.00
b		6 way (4 + 18), Double door	Each	7	23,760.00	1,66,320.00
c		8 way (4 + 24), Double door	Each	10	24,838.00	2,48,380.00
9.3	NS	Supplying and fixing following rating, four / two pole, 415 / 240 volts, Residual Current Device (RCBO) having earth leakage, over load and short circuit protection at the incomer of existing Distribution Boards or in separate enclosure, having a sensitivity current of 30/100 mA complete with connections, testing and commissioning etc. as required :				
a		25 Amp DP RCBO **(30 mA)**	Each	4	2,905.00	11,620.00
b		40/32 Amp DP RCBO **(30 mA)**	Each	41	4,201.00	1,72,241.00
c		40 Amp 4P RCBO **(30 mA)**	Each	23	4,288.00	98,624.00
d		63 Amp 4P RCBO **(30 mA)**	Each	37	5,076.00	1,87,812.00
9.4	NS	Providing and fixing following rating and breaking capacity and pole MCCB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required.				
a		125 A, 25 KA,TPN MCCB	Each	12	9,032.00	1,08,384.00
b		160 A, 25 KA,TPN MCCB	Each	6	11,603.00	69,618.00
9.5	NS	Supplying, fixing, connecting, testing and commissioning of following rating, ISI marked (IS 8828) 240 / 415 volts, 10 KA, **Miniature Circuit Breaker (MCB)** of single / double / three / four poles in the existing MCB DB or in existing MS enclosure complete in all respects.				
a	NS	32/40 Amp. 3P MCB	Each	91	1,635.00	1,48,785.00
b	NS	50/63 Amp. 3P MCB	Each	33	1,731.00	57,123.00
9						
		TOTAL OF				**15,80,861.00**

		DISTRIBUTION BOARD				
10.0		**SUB-HEAD : L.T CABLES**				
10.1	NS	Supplying of following 1100 volt grade XLPE insulated PVC sheathed aluminium conductor armoured cables as per specification as required.				
a		4 core 120sq. mm	RM	199	549.00	1,09,251.00
b		4 core 95sq. mm	RM	277	437.00	1,21,049.00
c		4 core 70sq. mm.	RM	265	355.00	94,075.00
d		4 core 50sq. mm.	RM	55	269.00	14,795.00
e		4 core 25sq. mm.	RM	93	166.00	15,438.00
f		4 core 16sq. mm.	RM	259	121.00	31,339.00
g		4 core 10sq. mm.	RM	40	107.00	4,280.00
h		4 core 6sq. mm.	RM	331	85.00	28,135.00
i		2 core 6sq. mm.	RM	40	69.00	2,760.00
10.2		Supplying and making end termination of following sizes with brass compression gland including providing and crimping solderless plugs/ferrules of sizes PVC insulated PVC sheathed aluminum conductor armoured cable 1.1 KV grade.				
a	NS	4 X 120 sq. mm (45mm)	Set	6	883.00	5,298.00
b	NS	4 X 95 sq. mm (45mm)	Set	18	868.00	15,624.00
c	NS	4 X 70 sq. mm (38mm	Set	28	592.00	16,576.00
10.3	NS	Supplying of following 1100 volt grade XLPE insulated PVC sheathed Cu. conductor armoured cables as per specification as required.				0.00
a		3 core 2.5sq. mm Cu. Armoured Cable	RM	4000	122.81	4,91,230.87
b		4 core 6sq. Mm Cu. Armoured Cable	RM	500	288.00	1,44,000.00
10.4		Supplying and making end termination of following sizes with brass compression gland including providing and crimping solderless plugs/ferrules of sizes PVC				

		insulated PVC sheathed coupper conductor armoured cable 1.1 KV grade.				
a	NS	3 core 2.5sq. mm Cu. Armoured Cable	Set	474	466.00	2,20,884.00
b	NS	4 core 6sq. mm Cu. Armoured Cable	Set	24	537.00	12,888.00
		TOTAL OF L.T CABLES				**13,27,623.00**
11.0		**SUB-HEAD : RACE WAYS**				
11.1	NS	Supply and fixing of following size of under floor **GI raceways** for distributing cabling in screed floor installations. Raceway should be made up of Pre galvanized sheet with minimum thickness of 1.5 mm consist of body and cover. It should have average of 275GSM zinc coating. Raceway should be supplied with required accessories such as fixing brackets and coupling plates as required. Raceway should be confirmed with the standard EN 50085-2-2 including all accessories complete as required.				
a		50 mm wide x 38 mm deep raceway (1 compartment)	Meter	70	640.00	44,800.00
b		100 mm wide x 38 mm deep raceway (1 compartment)	Meter	35	989.00	34,615.00
c		150 mm wide x 38 mm deep raceway (1 compartment)	Meter	40	1,298.00	51,920.00
d		225 mm wide x 38 mm deep raceway (3 compartment)	Meter	25	1,930.00	48,250.00
e		300 mm wide x 38 mm deep raceway (3 compartment)	Meter	10	2,350.00	23,500.00

11.2	NS	Supply and fixing of following size of Height **adjustable under floor /crossover Junction box** with flyover for Raceways for direct access to cables at the intersection of Raceways supplied completely with base and cover plate(lid). Junction box should be made of Pre galvanized sheet consist of body and cover. Height of the junction box should be adjustable from minimum 65mm. Junction box should be supplied with the metal cover for protecting the junction box during constructions at site. It should be confirmed with the standard EN 50085-2-2s including all accessories complete as required:				
a		150 x 150 x 65 mm-90mm	Each	30	1,675.00	50,250.00
b		225 x 225 x 65 mm -90mm	Each	20	2,291.00	45,820.00
c		300 x 300 x 65 mm-90mm	Each	5	3,052.00	15,260.00
d		400 x 400 x 65 mm-90mm	Each	5	4,577.00	22,885.00
11.3	NS	Supply and fixing of following size of **under floor Vertical access unit (riser)** for Raceways from floor tracks to wall for connection of floor raceways to Distribution boards/ for vertical raceways. Riser box should be made of Pre galvanized sheet consist of body and cover. Riser box should be supplied with the metal cover for protecting the junction box during constructions at site. It should be confirmed with the standard EN 50085-2-2s including all accessories complete as required:				
a		225 x 200 x 60 mm	Each	2	1,509.00	3,018.00
b		300 x 200 x 60 mm	Each	2	1,737.00	3,474.00
		TOTAL OF RACE WAYS				**3,43,792.00**

12.0		**SUB HEAD : EARTHING**				
12.1	NS	Supply of Maintenance free Conductive Concrete Earthing electrode - having copper bonded MS rod of Dia 17.2 mm x 3000 mm length x 80 mm Dia. of Earth Enhancing Material, INCLUDING Boring with Installation & commissioning of earthing electrode - Cu Bonded MS rod of Dia 17.2 mm x 3 meter length (3000 mm) x 80 mm and Supply of 10" HDPE earth chamber Heavy Duty cover (One chamber per electrode)	Nos.	54	13584	7,33,536.00
12.2		Supply, Installation, Testing & Commissioning of Advance Maintenance Free electrolytic grade Copper Electrode Earthing based on pipe in pipe technology consisting with outer dia 80mm dia 2mm thick and 3 meter length & inner dia 40mm of 3mts long & filled with Crystalline Conductive Mixture (CCM) having anti corrosive and conductive property and exothermically welded Cu Busbar of 65X10X200mm. Along with earth enhancement compound tested by RoHs complying IEC 62561-7 in a sealed bag of minimum 50 kg (25 kg Bag x 2) resistivity is less than 0.12 ohm meter. The earthing shall be with Suitable Poly-plastic Pit heavy duty Cover.	Set	4	25794	1,03,176.00
12.3		Supply, Installationr, Testing & Commissioning of Advance Maintenance Free Hot dip Galvanized 80-100 MICRON GI Electrode Earthing based on pipe in pipe technology consisting with outer dia 80 mm dia 2 mm thick and 3 meter length & inner dia 40mm	Set	8	10647	85,176.00

		of 3 mts long & filled with Crystalline Conductive Mixture (CCM) having anti corrosive and conductive property with & exothermically welded GI Busbar of 75X10X200mm. Along with earth enhancement compound tested by RoHs complying IEC 62561-7 in a sealed bag of minimum 50 kg (25 kg Bag x 2) resistivity is less than 0.12 ohm meter.The earthing shall be with Suitable heavy duty Poly-plastic Pit Cover.				
		TOTAL OF EARTHING				**9,21,888.00**
13.0		**SUB HEAD : MAIN L.T. PANEL**				
13.1	NS	Design, manufacturing, supplying installation, testing and commissioning of the following front operated modular compartmentalised 4b construction cubicle type, front access, dead back, 2mm thick steel enclosed free standing, dust and vermin proof, switchboard with IP42 protection with hinged and lockable doors duly powder coated with minimum 70-80 micron thickness complete with incoming & outgoing MCCB's, Copper Busbars, interconnections, tinned copper crimping lugs, bonding to earth, suitable for use at 415 volts, 3 phase 4 wire 50 Hertz system, and suitable for a fault level of 25 MVA (35 KA) symmetrical at 415 volts as per IEC 60439-2				
		Admin building				
		<u>Normal supply incoming (1 no.) equipped with</u>				

		1 No. 630 Amp, 35KA, 4P MCCB complete with Microprosser based release having over current, short circuit and earth fault protection with extended rotary handle				
		1-CT epoxy cast 600/5A, 15 VA, Class 1				
		Digital Multi Function Meter, 3 Ph, 4W, Class 1 with RS485 port				
		1 set of R/Y/B LED Indicating lAmps with control MCB for Incomers				
		Terminal to receive 630Amp 2 Nos. 3.5x300 sq mm Al - XLPE-cable				
		BUSBAR-				
		Electrolytic high conductivity **Copper three phase and neutral bus bars** rated at 630 Amp throughout having a maximum current density of **1.6 amp per sq. mm** suitable to withstand symmetrical fault level of 25 MVA at 415 volts. The neutral bus bar is to be of 50% capacity.				
		OUTGOING UNITS				
	a)	1 No. 100 Amp, 25KA, 4P MCCB complete with thermal magnetic release having over current, short circuit protection with extended rotary handle				
	b)	2 No. 125 Amp, 25KA, 4P MCCB complete with thermal magnetic release having over current, short circuit, protection with extended rotary handle				
	c)	6 No. 160 Amp, 25KA, 4P MCCB complete with thermal magnetic release having over current, short circuit, protection with extended rotary handle				

	d)	3 No. 63 Amp, 25KA, 4P MCCB complete with thermal magnetic release having over current, short circuit, protection with extended rotary handle				
	e)	2 No. 40 Amp, 25KA, 4P MCCB complete with thermal magnetic release having over current, short circuit, protection with extended rotary handle				
		The panel shall be complete with all interconnections, risers, internal wiring, labels etc. complete as required.	Set	1	4,33,734.00	4,33,734.00
13.2	NS	Design, manufacturing, supplying installation, testing and commissioning of the following front operated modular compartmentalised 4b construction cubicle type, front access, dead back, 2mm thick steel enclosed free standing, dust and vermin proof, switchboard with IP42 protection with hinged and lockable doors duly powder coated with minimum 70-80 micron thickness complete with incoming & outgoing MCCB's, Copper Busbars, interconnections, tinned copper crimping lugs, bonding to earth, suitable for use at 415 volts, 3 phase 4 wire 50 Hertz system, and suitable for a fault level of 25 MVA (35 KA) symmetrical at 415 volts as per IEC 60439-2				
		Floor panels (1st, 2nd , 3rd Floor) Admin				
		Normal supply incoming (1 no.) equipped with				
		-				
		1 No. 160 Amp, 35KA, 4P MCCB complete with Microprosser based release having over current, short circuit and earth fault				

		protection with extended rotary handle				
		1-CT epoxy cast 600/5A, 15 VA, Class 1				
		Digital Multi Function Meter, 3 Ph, 4W, Class 1 with RS485 port				
		1 set of R/Y/B LED Indicating lAmps with control MCB for Incomers				
		Terminal to receive 160Amp 1No.-x3.5x120 sqmm Al - XLPE-cable				
		BUSBAR-				
		Electrolytic high conductivity **Copper three phase and neutral bus bars** rated at 160 Amp throughout having a maximum current density of **1.6 amp per sq. mm** suitable to withstand symmetrical fault level of 25 MVA at 415 volts. The neutral bus bar is to be of 50% capacity.				
		OUTGOING UNITS				
	a)	1 No. 125 Amp, 25KA, 4P MCCB complete with thermal magnetic release having over current, short circuit protection with extended rotary handle				
	b)	3 No. 63 Amp, 25KA, 4P MCCB complete with thermal magnetic release having over current, short circuit protection with extended rotary handle				
	c)	3 No. 40 Amp, 25KA, 4P MCCB complete with thermal magnetic release having over current, short circuit protection with extended rotary handle				
		The panel shall be complete with all interconnections, risers, internal wiring, labels etc. complete as required.	Set	3	1,85,593.00	5,56,779.00
13.3	NS	**Lift Panel (Admin)**				

		Supply & installation, testing and commissioning of				
		1 Nos.125Amp 25 KA 4 P MCCB complete with thermal magnetic release having over current, short circuit protection with extended rotary handle. Incomer shall be complete with following**.**				
		Digital Multi Function Meter, 3 Ph, 4W, Class 1 with RS485 port				
		3 Nos. Cast resin current transformers of 125/5 ratio Class 1.0 for metering.				
		Three phase indicating lAmps (LED type) with control MCB.				
		BUSBAR				
		Electrolytic high conductivity Aluminium **three phase and neutral bus bars** rated at 125 Amp having a maximum current density of **1.6 amp per sq.mm** suitable to withstand symmetrical fault level of 25 MVA at 415 volts. The neutral Busbar is to be of 100% capacity**.**				
		OUTGOING UNITS				
		6 Nos.40 Amp, 25 KA, TPN MCCB complete with Thermal-magnetic release having overcurrent, short circuit protection				
		1 Nos. 32 Amp, 10 KA, TPN MCB complete having controlled of 18 nos 6-20 Amps SP MCB				
		The Lift panel shall be complete with all interconnections, risers, internal wiring, labels etc. complete as required**.**	Set	1	1,52,145.00	1,52,145.00
13.4	NS	**UPS PANEL (Admin)**				
		Design, manufacturing, supplying installation, testing and commissioning of the following front operated				

		modular compartmentalised construction cubicle type, front access, dead back, 2mm thick steel enclosed free standing, dust and vermin proof, switchboard with IP42 protection with hinged and lockable doors duly powder coated with minimum 70-80 micron thickness complete with incoming & outgoing MCCB's, Copper Busbars, interconnections, tinned copper crimping lugs, bonding to earth, suitable for use at 415 volts, 3 phase 4 wire 50 Hertz system, and suitable for a fault level of 25 MVA (35 KA) symmetrical at 415 volts as per IEC 60439-2.				
a		2 Nos. 315 Amp, 35KA, 4P with MCCB complete with microprocessor based release having overcurrent, short circuit, & earth fault protection with extended rotary handle with 400A 4Pole power contactor				
b		1 set cast resin current transformer of 500/5 ratio class 1.0 for metering, 15 VA Burden.				
c		1 set of three R Y B indicating lAmps.				
d		Red / green / amber ON / OFF / Trip indicating lAmps. -1 set				
e		Digital Multi Function Meter, 3 Ph, 4W, Class 1 with RS485 port				
		BUSBAR				
		Electrolytic high conductivity **Copper three phase and neutral bus bars** rated at 400 Amp throughout having a maximum current density of **1.6 amp per sq. mm** suitable to withstand symmetrical fault level of 25 MVA at 415 volts. The neutral Busbar is to be of				

		50% capacity.				
		OUTGOING				
		10 Nos. 63 Amp, 25KA, 4P MCCB complete with Microprocessor release having overcurrent, short circuit protection with extended rotary handle	Set	1	6,69,921.00	6,69,921.00
		GENERAL LAB				
13.5	NS	Design, manufacturing, supplying installation, testing and commissioning of the following front operated modular compartmentalised construction cubicle type, front access, dead back, 2mm thick steel enclosed free standing, dust and vermin proof, switchboard with IP42 protection with hinged and lockable doors duly powder coated complete with incoming & outgoing MCCB's, Coppere Busbars, interconnections, tinned copper crimping lugs, bonding to earth, suitable for use at 415 volts, 3 phase 4 wire 50 Hertz system, and suitable for a fault level of 25 MVA (35 KA) symmetrical at 415 volts as per IEC 60439-2.				
		Normal supply incoming (1 no.) equipped with				
		1 No. 630 Amp, 35KA, 4P MCCB complete with Microprosser based release having over current, short circuit and earth fault protection with extended rotary handle				
		1-CT epoxy cast 630A/5 15 VA				

		Digital Multi Function Meter, 3 Ph, 4W, Class 1 with RS485 port				
		1 set of R/Y/B LED Indicating lAmps with control MCB for Incomers				
		Terminal to receive 630Amp 2No.-x3.5x300 sqmm Al - XLPE-cable				
		BUSBAR-				
		Electrolytic high conductivity Copper **three phase and neutral bus bars** rated at 630 Amp throughout having a maximum current density of **1.6 amp per sq. mm** suitable to withstand symmetrical fault level of 35 MVA at 415 volts. The neutral bus bar is to be of 50% capacity.				
		OUTGOING UNITS				
a)		2 No. 100 Amp, 25KA, 4P MCCB complete with thermal magnetic release having over current, short circuit, protection				
b		2 No. 200 Amp, 25KA, 4P MCCB complete with thermal magnetic release having over current, short circuit, protection				
c)		3 No. 63 Amp, 25KA, 4P MCCB complete with thermal magnetic release having over current, short circuit, protection				
d)		3 No. 40 Amp, 25KA, 4P MCCB complete with thermal magnetic release having over current, short circuit, protection				
		The panel shall be complete with all interconnections, risers, internal wiring, labels etc. complete as required.	Set	1	2,98,856.00	2,98,856.00

13.6	NS	Design, manufacturing, supplying installation, testing and commissioning of the following front operated modular compartmentalized construction cubicle type, front access, dead back, 2mm thick steel enclosed free standing, dust and vermin proof, switchboard with IP42 protection with hinged and lockable doors duly powder coated complete with incoming & outgoing MCCB's, **Copper Busbars**, interconnections, tinned copper crimping lugs, bonding to earth, suitable for use at 415 volts, 3 phase 4 wire 50 Hertz system, and suitable for a fault level of 25 MVA (35 KA) symmetrical at 415 volts.				
		HOSTEL BUILDING				
		Normal supply incoming (1 no.) equipped with				
		1 No. 630 Amp, 35KA, 4P MCCB complete with Microprosser based release having over current, short circuit and earth fault protection with extended rotary handle				
		1 Set CT's of ratio 630A /5A,class 1.0 accuracy and 15VA burden.				
		Digital Multi Function Meter, 3 Ph, 4W, Class 1 with RS485 port				
		1 set of R/Y/B LED Indicating lAmps with control MCB for Incomers				
		Terminal to receive 630Amp 2No.-x3.5x300 sqmm Al - XLPE-cable				
		BUSBAR-				

		Electrolytic high conductivity Copper **three phase and neutral bus bars** rated at 630 Amp throughout having a maximum current density of **1.6 amp per sq. mm** suitable to withstand symmetrical fault level of 25 MVA at 415 volts. The neutral bus bar is to be of 50% capacity.				
		OUTGOING UNITS				
a		8 No. 100 Amp, 25KA, 4P MCCB complete with thermal magnetic release having over current, short circuit protection with extended rotary handle				
b		1 No. 125 Amp, 25KA, 4P MCCB complete with thermal magnetic release having over current, short circuit protection with extended rotary handle				
c		8 No. 63 Amp, 25KA, 4P MCCB complete with thermal magnetic release having over current, short circuit protection with extended rotary handle				
		The panel shall be complete with all interconnections, risers, internal wiring, labels etc. complete as required.	Set	1	3,57,058.00	3,57,058.00
13.7	NS	**Lift Panel (HOSTEL)**				
		Supply & installation, testing and commissioning of				
		1 Nos.100Amp 25 KA 4 P MCCB complete with thermal magnetic release having over current, short circuit protection with extended rotary handle. Incomer shall be complete with following**.**				
		Digital Multi Function Meter, 3 Ph, 4W, Class 1 with RS485 port				
		3 Nos. Cast resin current transformers of 100/5 ratio Class 1.0 for metering.				
		Three phase indicating lAmps				

		(LED type) with control MCB.				
		BUSBAR				
		Electrolytic high conductivity Copper **three phase and neutral bus bars** rated at 100 Amp having a maximum current density of **1.6 amp per sq.mm** suitable to withstand symmetrical fault level of 25 MVA at 415 volts. The neutral Busbar is to be of 100% capacity**.**				
		OUTGOING UNITS				
		5 Nos. 40 Amp, 25 KA, TPN MCCB complete with Thermal-magnetic release having overcurrent, short circuit protection				
		1 Nos. 32 Amp, 10 KA, TPN MCB complete having controlled of 18 nos 6-20 Amps SP MCB				
		The Lift panel shall be complete with all interconnections, risers, internal wiring, labels etc. complete as required**.**	Set	1	90,804.00	90,804.00
		TOTAL OF MAIN L.T. PANEL				**25,59,297.00**
14.0		**LIFTS**				
14.1	N.S.	**SCHEDULE OF WORK FOR PASSENGER LIFTS OF HOSTEL BLOCK**				
		Supplying, Installation, Testing and Commissioning of 6 passenger (408 Kg), Gearless & Machine Room Less lifts for Hostel Building having contract speed of 1.0-1.5 Mps with compatibility for seemless integration with BMS as per enclosed technical				

		specifications and details given as under:				
		CIVIL REQUIREMENTS				
		Shaft Walls - Concrete				
		Clear Inside Shaft (available) - 1650 mm Width x 1575 mm Depth				
		Pit Depth - 1600 mm				
		Minimum Floor to floor height (required) - 2600 mm				
		Travel Height - 25 m (APPROX.)				
		Headroom Height - 4700 mm				
		Lockable storage room (required) - 250 Sq. feet				
		Stilt area under roof (required) - 200 Sq. feet				
		ELEVATOR SPECIFICATIONS				
		Power Supply: TN-S (3L+PE+N)				
		Number of Persons: 6				
		Rated Load: 408 kg				
		Number of Stops & Openings: 6 Stops & 6 Openings				
		Number of Access sides: 1 on all floors				
		Drive System: Alternating Current Variable Voltage Variable Frequency (ACVVVF)				
		Type of controller: Full Collective Control				
		Speed of travel: 1.0 - 1.5 m/s				
		Light power supply voltage - 230 V				
		Power supply needed: 400/415 V				
		CAR DESIGN				
		Car Finish - Stainless Steel (Hairline)				

		Car Door Finish - Stainless Steel (Hairline)				
		Landing Door Finish - Stainless Steel (Hairline)				
		Mirror finish SS Handrail				
		Mirror on rear car panel				
		Granite/Marble Flooring				
		Car Operating Panel (COP): Full height, flush mounted				
		Landing Operating Panel (LOP): Individual LOP for Each elevator				
		Door Opening Direction - Center Opening 2 panels				
		Aluminium Sill				
		STANDARD FEATURES				
		Automatic Rescue Device (ARD) in case of power failure				
		Alarm button in COP				
		Automatic operation for car fan				
		Adjustable door opening time				
		Emergency Light				
		Full load by pass				
		Infra Red screen for car door				
		Intercom				
		Motor overheat protection				
		Attendant control				
		Fireman control				
		Fireman emergency return				
		Floor Annunciator				
		Visual and acoustic confirmation of call				
		Position indicator				
		Overload detection				
		Call acceptance (visual)	**Each**	2.00	11,38,500.00	22,77,000.00
14.2	N.S.	**SCHEDULE OF WORK FOR PASSENGER LIFT OF ADMINISTRATIVE BLOCK**				

		Supplying, Testing and commissioning of 16 passenger (Gearless & Machine Room Less) lifts for office Building (1360 Kg) Lifts having contract speed of 1 Mps serving different Floor in lift shaft with compatibility for seemless integration with BMS as per detailing specifications enclosed and as under:				
		CIVIL REQUIREMENTS				
		Shaft Walls - Concrete				
		Clear Inside Shaft (available) - 3050 mm Width x 1950 mm Depth				
		Pit Depth - 1600 mm				
		Minimum Floor to floor height (required) - 2600 mm				
		Travel Height - 25 m (APPROX.)				
		Headroom Height - 4700 mm				
		Lockable storage room (required) - 250 Sq. feet				
		Stilt area under roof (required) - 200 Sq. feet				
		ELEVATOR SPECIFICATIONS				
		Power Supply: TN-S (3L+PE+N)				
		Number of Persons: 16				
		Rated Load: 1088 kg				
		Number of Stops & Openings: 4 Stops & 4 Openings				
		Number of Access sides: 1 on all floors				
		Drive System: Alternating Current Variable Voltage Variable Frequency (ACVVVF)				
		Type of controller: Duplex Collective Selective Control				
		Speed of travel: 1.0 - 1.5 m/s				
		Light power supply voltage -				

		230 V				
		Power supply needed: 400/415 V				
		CAR DESIGN				
		Car Finish - Stainless Steel (Hairline)				
		Car Door Finish - Stainless Steel (Hairline)				
		Landing Door Finish - Stainless Steel (Hairline)				
		Mirror finish SS Handrail				
		Mirror on rear car panel				
		Granite/Marble Flooring				
		Car Operating Panel (COP): Full height, flush mounted				
		Landing Operating Panel (LOP): Individual LOP for Each elevator				
		Door Opening Direction - Center Opening 2 panels				
		Aluminium Sill				
		STANDARD FEATURES				
		Automatic Rescue Device (ARD) in case of power failure				
		Alarm button in COP				
		Automatic operation for car fan				
		Adjustable door opening time				
		Emergency Light				
		Full load by pass				
		Infra Red screen for car door				
		Intercom				
		Motor overheat protection				
		Attendant control				
		Fireman control				
		Fireman emergency return				
		Floor Annunciator				
		Visual and acoustic confirmation of call				
		Position indicator				
		Overload detection				
		Call acceptance (visual)	**Each**	2.00	19,29,661.00	38,59,322.00

14.3	N.S.	**SCHEDULE OF WORK FOR SERVICE LIFT OF ADMIN BLOCK**				
		Supplying, Installation, Testing and Commissioning of service lift (1000 Kg), Gearless & Machine Room Less/Machine Room lifts for Admin Building having contract speed of 1.0 Mps with compatibility for seemless integration with BMS as per enclosed technical specifications and details given as under:				
		Speed :1.0-1.5 MPS				
		Floors : Ground + 1st to 4th Floor (5 Floors).				
		Travel : 20 Meters (approx.)				
		Stops and Opening : 5 Stops & 5 Opening				
		Controller: Gearless drive with VVVF(Variable Voltage Variable Frequency) Closed loop				
		Automatic Rescue Device complete with dry maintenance free batteries as required				
		Operation: Microprocessor based single automatic push button / duplex collective selective with / without attendant.				
		Power - 415 V, 3 Phase, 50 Hz, 4 wires system				
		Type of Doors				
		Car: Wall finish in Stainless Steel Moonrock finish with 6 mm Aluminium Composite Panel 0.8 thick stainless steel Cladding.				
		Landing doors : Landing door finish in Stainless Steel Moonrock with thickness: 1.2mm				
		SS hand rail not less than 600 mm long at 900 mm above floor level to be fixed adjacent to control panel in the lift car.				

		Voice announcement system in the car to announce the position of the elevator in the hoist way as the car passes or stops at a floor served by the elevator.	No.	1.00	17,59,500.00	17,59,500.00
		TOTAL FOR LIFTS				**78,95,822.00**
15.0		**UPS**				
15.1	NS	Supply, Installation, testing and commissioning of following sizes of Three Phase Modular True Online UPS in N+1 parallel redundant configuration confirming to IEC EN 62010 (All parts) compatible for seemless integration to BMS with following specifications complete:				
		Fully rated IGBT rectifier, charger and inverter integrated in Each UPS module				
		Each module to be in range of 25-50 KVA				
		Each power module shall be having Decentralized Parallel Architecture				
		3 phase input voltage (380-415V) and frequency 50 Hz including phase sequence corrector				
		One extra UPS module to be provided beyond the rated capacity of the UPS				
		UPS cabinet must have spare space for future UPS module				
		Fully rated hot scalable/swapable with power module				
		UPS shall be capable of adding or removing UPS module as well as static bypass without going to bypass mode				
		UPS full load efficiency shall not be less than 95%				

		Sealed maintenance free 12V batteries shall be provided to provide minimum 30 minutes backup at full load.				
		Input Power Factor : >0.95				
		Output Power Factor : Unity				
		Input Distortiopn THDi : ≤ 5% at 100%				
		Overall Efficiency: Upto 95%				
		Hot Sync paralleling: Inbuilt				
		In built ABM : Inbuilt				
		Communication Ports : USB, RS232, SNMP, Ethernet				
		Satnadard : IEC/EN 62040				
		IP Rating : IP20				
		120 KVA UPS	Nos.	1	23,90,850.00	23,90,850.00
		Total for UPS				**23,90,850.00**
16.0	NS	**FIRE FIGHTING WORKS**				
16.1	N.S.	Providing and fixing door with frame for all internal fire hydrants fabricated from 20x20x3 mm and 40x20x3 mm aluminium hollow box sections mounted with 3 no. of 100 mm Aluminium butt hinge on Aluminium angle frame of 45x45x5 mm size with hold fasts fixed to wall with P.C.C. (1:2:4) blocks 100x100x100 mm including 2 nos allen key lock for locking along with padlock arrangement & fully glazed with 4 mm thick float glass approved by local Fire Authority, powder coated fire red finish with " fire hose' written on front suitable to house 15 mm long two length of canvas hose with couplings, one no of branch pipe, one fire mans axe and two numbers of portable extinguishers, first aid fire hose and supports for hoses, branch pipes, Axe and	Nos	16	6,228.00	99,648.00

		hose reel. Size 2100x 900 mm complete as per approved design including necessary fixing arrangement for hoses & axe and branch pipe.)				
16.2	N.S.	Providing and fixing Carbon-di-oxide fire extinguishers consisting of welded M.S cylindrical body, squeeze lever discharge valve fitted with internal discharge tube, 30cms long high pressure discharge hose, discharge nozzle, suspension bracket, confirming to IS : 15683 finished externally with red enamel paint and fixed to wall with brackets with rawl plug/dash fasteners complete with internal charge. Capacity 4.5 kg. ISI Marked.(Contractor should submit test certificate form manufacturer along with serial number of every extinguishers supplied.)	Nos	10	7,165.00	71,650.00
16.3	N.S.	Providing and fixing Powder type (ABC Type - ISI marked) fire extinguishers consisting of welded M.S. cylindrical body squeeze lever discharge valve 30 cm long high pressure dischargehose, discharge nozzle suspension bracket ISI marked finished externally with red enamel paint and fixed to wall with brackets complete with internal charger.				
		Capacity 5 kg.(IS:15683)	Nos	30	1,917.00	57,510.00
16.4	N.S.	Providing and fixing of self illuminated / auto glow "EXIT" signs printed on photoluminescent sheet containing self illuminated base chemical, of appropriate size not less than 400 x 150 mm, suspended from ceiling or fixed to the walls with accessories as required and as directed at site.	Nos	14	756.00	10,584.00

16.5	N.S.	Providing and fixing of UL/FM listed powder coated Escutcheon Plate complete including fixing in position on pipe and ceiling in all respects. (Size = 15NB)	Nos.	400	270.00	1,08,000.00
		TOTAL FOR FIRE FIGHTING SYSTEM				**3,47,392.00**
		TOTAL OF NON-SCHEDULE ITEMS				**2,78,12,274.00**
		GRAND TOTAL				**3,41,71,107.00**

Explanatory Notes for BOQ:

1. All Scheduled DSR items contain item nos. and, if any discrepancy is found in nomenclature,then scheduled nomenclature of CPWD DSR 2018 will prevail.
2. **Schedule DSR Items:** The cost of Schedule items given above are as per CPWD DSR 2018 excluding GST component @ 12%.
3. **Non-Schedule Items:** The cost of Non-Schedule items given above *(other than CPWD DSR 2018)* are as per current market rate analysis ***(excluding GST)***.
4. The Quantity mentioned in the above Schedules is tentative and DFCCIL reserves the right to increase / decrease and/or delete or include any of the quantities given above as per site conditions..

BILL OF QUANTITIES FOR HVAC WORKS FOR HHRI COMPLEX						
Sr. No.	**DSR-2018/2019**	**Description of item**	**Unit**	**Total Qty.**	**Unit Rate**	**Total Amount**
IV		**SCHEDULE - IV**				
		HVAC WORKS				
(i)		**SCHEDULED ITEMS AS PER CPWD DSR**				
1.0		**AIR DISTRIBUTION SYSTEM**				
1.1		**Site Fabricated Duct - GI Sheet Metal duct**				
		Supplying, installation, balancing and commissioning of fabricated at site GSS sheet metal rectangular/round ducting complete with neoprene rubber gasket, elbows, splitter dampers, supports, flexible hangers with isolators, flexible connections, nut bolts, fastner, and vanes, volume control dampers etc as per approved drawings and specifications of following sheet thickness complete as required.				
a	D.S.R.-16.12.2.1	0.63mm (24 gauge) GSS	Sqm	1450	841	12,19,450.00
b	D.S.R.-16.12.2.2	0.8 mm (22 gauge)GSS	Sqm	250	986	2,46,500.00
c	D.S.R.-16.12.2.3	1.0mm(20 gauge)GSS	Sqm	20	1,302	26,040.00
d	D.S.R.-16.12.2.4	1.25mm (18 gauge)GSS	Sqm	20	1,442	28,840.00
1.2		Supplying, installing, testing and balancing of aluminium supply/return air grills of various sizes. Each grill shall be with fixed horizontal front bar at Zero/15 Deg deflection through the collar and register.				
a	D.S.R.-16.15	Supply air grills with VCD.	Sqm	13	7,571	98,423.00
b	D.S.R.-16.16	Exh./Return air grill without VCD.	Sqm	13	4,917	63,921.00
1.3		**MOTORIZED FIRE AND SMOKE DAMPERS**				

		Supply, Installation, Testing and commissioning of motorized combination fire and smoke damper (spring return type) of approved make of atleast 120 minute fire rating and as per the specifications as detailed earlier in the relevant sections.The fire damper shall be complete with electronic temperature sensor and electrically operated actuator .The fire dampers shall be located in the supply/return air ducts, at all fire rated crossovers (shafts/walls etc.) The control panel will be such located that the reset can be easily done These combination smoke and fire dampers shall be interlocked with the building management system for fire detection / HVAC and shall trip/close in the event of fire / smoke in the respective zone .				
a	D.S.R.-16.20.1	Bare Fire Dampers with 400 mm sleeve	SqM	2	8,824	17,648.00
b	D.S.R.-16.20.2	Control panel actuator, including Electrical,spring type actuator,remote indication of the fire damper position.	No	2	8,225	16,450.00
		TOTAL OF AIR DISTRIBUTION SYSTEM				**17,17,272**
2.0		**INSULATION WORKS**				
2.1		**Exposed Roof Insulation**				
		Supply and installation of cross linked closed cell Oxide Acetate (Thermo Isolate) Foam Thermal insulation on ducts having density of 30 ±3 Kg/ M^3 ,having K value 0.029 W/m ° K at 0°C Deg temp and temp range of -70°C to +100°C and fire rating Class O as per BS 476 Part 6 from CBRI,Roorkee and CFC/HCFC free as per US EPA 5021 A(2014). • Smoke & Toxicity index of material shall be passed as per IMO MSC 307 (88) 2010 Anexx 1 Pt 2 and as per the approved specifications of following thickness.				
a	D.S.R.-16.23.1	19 mm	Sqm	1140	622	7,09,080.00
		TOTAL OF INSULATION WORKS				**7,09,080**

3.0		**ASSOCIATED ELECTRICAL WORKS**				
3.1		Supply, installation, testing & commisioning of cable termination of above cables with copper lugs & flameproof brass compression glands on both the ends with inhibting compound etc. complete as required.				
a	DSR-9.1.1	2Cx04 Sqmm	Set	2	177	354.00
b	DSR-9.1.7	3Cx04 Sqmm	Set	18	188	3,384.00
c	DSR-9.1.7	3Cx06 Sqmm	Set	2	188	376.00
d	DSR-9.1.8	3Cx16 Sqmm	Set	16	198	3,168.00
e	DSR-9.1.32	4Cx06 Sqmm	Set	32	196	6,272.00
3.2		Supplying and installing following size of perforated G.I. cable trays, G.I. bends with perforation not more than 17.5%, joined with connectors, suspended from the ceiling with suitable suspenders including G.I. bolts & nuts, painting of suspenders etc. complete as required.				
a	DSR-4.6.1	100 mm. Width x 50mm. Depth x 1.6mm. Thickness.	Rmt	55	535	29,425.00
b	DSR-4.6.2	150 mm. Width x 50mm. Depth x 1.6mm. Thickness.	Rmt	60	575	34,500.00
c	DSR-4.6.3	225 mm. Width x 50mm. Depth x 1.6mm. Thickness.	Rmt	80	724	57,920.00
d	DSR-4.6.4	300 mm. Width x 50mm. Depth x 1.6mm. Thickness.	Rmt	40	781	31,240.00
3.3		Providing and fixing following size of G.I. strip / G.I. wire on surface or in recess for loop earthing alongwith the existing surface/ recessed conduit/ submain wiring / on cable tray/ on surface including G.I. clamps etc. complete as required.(For Equipment and Panels)				
a	DSR-5.9	6 SWG G.I. wire	Rmt	160	117	18,720.00
		TOTAL OF ELECTRICAL WORKS				**1,85,359**

4.0		**VRF SYSTEM**				
		AIR COOLED VRF UNITS				
4.1	DSR-2019,Item-01	**OUTDOOR UNITS (HEAT PUMP TYPE)**				
		Supply, Installing, Testing and Commissioning of modular type Variable Refrigerant Flow / Variable Refrigerant Volume air cooled Outdoor units suitable for cooling and heating, having all herrmetically sealed inverter type scroll compressor (s), minimum two compressors for above 14HP modules, microprocessor beased Controller, top discharge type condensing unit(s), with R410 A Refrigerant, vibration isolators, with suitable foundation etc. complete as required. The unit shall deliver the rated capacity at AHRI Conditions and work even at 50 degree C. ambient temperature without tripping. The unit shall be suitable to work on 400V+/-10%, 3 Phase, 50Hz AC power supply. The unit shall be filled with first charge of the refrigerant and ready for use as required. The COP at AHRI conditions shall not be less than 3.1 and IEER not less than 6.5.				
		The ODU shall have low noise condenser fans with external static pressure of the outdoor unit shall be more than 75 Pa to avoid hot air recirculation, auto address setting, auto check function for connection error and complete with indoor and outdoor units with individual controller and with fittings etc. Aluminum fins within the ODU (condensing) unit shall be coated with polysiloxane based coating. The compressor and VRV/VRF Outdoor make should be same. For enhanced energy savings the COP of each refrigerant circuit system mentioned below shall be 7.50 minimum at 50% load, at Outdoor Condition 35 Deg C DBT and Indoor condtition: 27 deg C DBT and 19 Deg C WBT in cooling				

		mode. The unit shall also have feature to automatically modulate the evaporative temperature between 6 deg C to 11 deg C with respect to load for better comfort and energy efficiency. (Unit shall deliver atleast 87% of mentioned nominal capacity @43 Deg C). The Unit should have free phase technology so that unit can work in case of phase reversal also without tripping of units.				
		356 HP (204 HP for Admin Block, 124 HP for Hostel Block and 28 HP for Site Office)	**HP**	**356**	**14,656**	52,17,536.00
4.2	DSR-2019,Item-02	**INDOOR UNITS**				
4.2.1		Supply, installation, testing and commissioning of following minimum capacity 4-way flow VRV/VRF Cassette Type Indoor ceiling mounted unit equipped with synthetic washable media pre-filter, fan section with low noise fan/ dynamically balanced blower, multispeed motor, coil section with DX Copper coil, electronic expansion valv,e outer cabinet, drain pump, grill, necessary supports, vibration isolation, cord less remote control etc. , suitable for operation on single phase 230V +/- 10% 50Hz AC supply, complete as required. Aluminum fins within the IDU (evaporator unit) shall be coated with polysiloxane based coating, The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of Indoor Unit will be at Air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature.				
		4-Way Cassette Unit				
a.	**2.1**	440-450 CFM/0.8 TR	NOS.	22	24,447	5,37,834.00
b.	**2.2**	440-450 CFM/1.0 TR	NOS.	1	26,015	26,015.00
c	**2.4**	565 CFM/1.6 TR	NOS.	9	26,968	2,42,712.00
d	**2.5**	635 CFM/2.0 TR	NOS.	1	27,501	27,501.00

4.2.2		Supply, installation, testing and commissioning of following minimum capacity VRV/VRF High Wall Type Indoor unit equipped with synthetic washable media pre-filter, fan section with low noise fan/ dynamically balanced blower, multispeed motor, coil section with DX Copper coil, electronic expansion valve outer cabinet, cord less remote control, drain pan, necessary accessories, etc. , suitable for operation on single phase 230V +/- 10% 50Hz AC supply, complete as required. Aluminum fins within the IDU (evaporator unit) shall be coated with polysiloxane based coating, The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of Indoor Unit will be at Air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature.				
		Wall Mounted				
a.	**3.3**	300-330 CFM/1.0-1.02 TR	NOS.	1	17,589	17,589.00
b.	**3.7**	475-500 CFM/1.98-2.01 TR	NOS.	8	19,732	1,57,856.00
4.2.3		Supply, installation, testing and commissioning of following minimum capacity and External static pressure VRV/VRF ceiling mounted ductable type indoor unit equipped with synthetic washable media pre-filter, fan section with low noise fan/ dynamically balanced blower, multispeed motor, coil section with DX Copper coil, electronic expansion valve, corded remote control, outer cabinet, vibration isloators, drain pan, other necessary supports etc. , suitable for operation on single phase 230V +/- 10% 50Hz AC supply, complete as required. Aluminum fins within the IDU (evaporator unit) shall be coated with polysiloxane based coating, The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of Indoor Unit will be at Air inlet conditions of 27 Degree C DB and				

		19 Degree C WB temperature.				
		Ceiling Mounted MSP Ductable Unit				
a	**4.7**	450-500 CFM / 1.25-1.30 TR	No.	92	30,670	28,21,640.00
		Ceiling Mounted HSP Ductable Unit				
b	**4.11**	650-740 CFM / 1.7-2.0 TR	No.	4	34,744	1,38,976.00
c	**4.16**	1200-1377 CFM / 3.95-4.0 TR	No.	7	43,510	3,04,570.00
d	**4.19**	2542-2825 CFM /7.95- 8.0 TR	No.	4	79,991	3,19,964.00
4.3	DSR-2019	**REFRIGERANT PIPING**				
	Item-05	Supply, Installation, testing and commissioning including vaccumiazation and Nitrogen testing of following nominal sizes of soft/hard drawn copper refrigerant piping for VRV/VRF system, complete with fittings, with suitable adjustable ring type hanger supports, jointing/brazing including accessories, insulated with XPLE Class-O tubular insulation/Class-O closed cell elasto metric nitrile rubber tubular sleeves sections of specified thickness with polysiloxane based coating, running in cable tray as given below for Suction and Liquid lines, all accessories as per specifications etc. as required:				
a	5.1	6.4 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 13 mm thick insulation	RM	625	219.00	1,36,875.00
b	5.2	9.5 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 13 mm thick insulation	RM	140	296.00	41,440.00
c	5.3	12.7 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 13 mm thick insulation	RM	650	416.00	2,70,400.00
d	5.4	15.86 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 13 mm thick insulation	RM	285	525.00	1,49,625.00
e	5.5	19 mm dia (OD) (Hrad drawn) with tube thickness 1.2 mm with 13 mm thick insulation	RM	180	631.00	1,13,580.00
f	5.6	22.2 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm	RM	80	772.00	61,760.00

		thick insulation				
g	5.8	28.58 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	RM	140	989.00	1,38,460.00
h	5.10	34.9 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation	RM	90	1,098.00	98,820.00
i	5.12	41.27 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation	RM	90	1,169.00	1,05,210.00
		TOTAL OF VRF SYSTEM				**1,09,28,363**
		TOTAL OF SCHEDULE-A ITEMS				**1,35,40,074**
B		**NON-SCHEDULED ITEMS**				
5.0		**AIR DISTRIBUTION SYSTEM**				
5.1	NS	Supplying, installing, testing and balancing of aluminium supply/return air grills of various sizes. Each grill shall be with fixed horizontal front bar at Zero/15 Deg deflection through the collar and register.				
a		Cont. 150mm wide S/R air Grille	Rmt	740	803	5,94,220.00
b		Al. Constructed collar damper for supply collar	Sqm	1	4,320	4,320.00
c		AI Volume control dampers for ducts	Sqm.	3	6,412	19,236.00
d		Aluminium return/exhaust air Valve circular/squirell diffuser without damper.	Sqm.	8	6,320	50,560.00
5.2	NS	**FRESH/EXH. AIR LOUVERS:**				
		Supply, Installation, Testing and Commissioning of extruded aluminium louvres with frame bird screeen, mounting arrangement etc. as per specifications and drawings.				
a		Fresh Air/Exhaust Louvers	Sqm	6	5,215	31,290.00
5.3	NS	**MOTORIZED FIRE AND SMOKE DAMPERS**				
		Supply, Installation, Testing and commissioning of motorized combination fire and smoke damper	Lot	1	1,07,525	1,07,525.00

		(spring return type) of approved make of atleast 120 minute fire rating and as per the specifications as detailed earlier in the relevant sections.The fire damper shall be complete with electronic temperature sensor and electrically operated actuator .The fire dampers shall be located in the supply/return air ducts, at all fire rated crossovers (shafts/walls etc.) The control panel will be such located that the reset can be easily done These combination smoke and fire dampers shall be interlocked with the building management system/ fire alarm and detection system and shall trip/close in the event of fire / smoke in the respective zone. Interconnecting wiring for the fire alarm system with the AHU and the smoke dampers. Sealing the openings around the sleeve of the fire dampers with approved fire sealant, as per the recommendations of the manufacturer and specifications.				
		TOTAL OF AIR DISTRIBUTION SYSTEM				**8,07,151**
6.0		**INSULATION WORKS**				
6.1	NS	**THERMAL INSULATION:**				
		Supply and installation of cross linked closed cell Oxide Acetate (Thermo Isolate) Foam Thermal insulation on ducts having density of 30 ±3 Kg/ M^3 ,having K value 0.029 W/m ° K at 0°C Deg temp and temp range of -70°C to +100°C and fire rating Class O as per BS 476 Part 6 from CBRI,Roorkee and CFC/HCFC free as per US EPA 5021 A(2014). • Smoke & Toxicity index of material shall be passed as per IMO MSC 307 (88) 2010 Anexx 1 Pt 2 and as per the approved specifications.				
a		32 mm thick insulation oxide acetate foam with 2 layesr coat 7 mile cloth insulation or starbond insulation(for exposed duct)	Sqm	50	914	45,700.00

b		13mm thick insulation oxide acetate foam laminated with aluminium foil supply air duct	Sqm	100	473	47,300.00
c		9mm thick insulation oxide acetate foam laminated with aluminium foil supply air duct	Sqm	700	339	2,37,300.00
6.2	NS	**ACOUSTIC LINING IN THE SUPPLY/RETURN DUCTS**				
		Supply and installation of cross linked open cell Oxide Acetate (Acco Isolate) Foam Acoustic insulation on ducts having density of 30 to 60 Kg/ M^3 ,having K value 0.029 W/m ° K at 0°C Deg temp and temp range of -70°C to +100°C and fire rating Class O as per BS 476 Part 6 from CBRI,Roorkee and CFC/HCFC free as per US EPA 5021 A(2014). • Smoke & Toxicity index of material shall be passed as per IMO MSC 307 (88) 2010 Anexx 1 Pt 2 and as per the approved specifications.				
a		15mm thick Oxice Acetate Acco Isolate Acoustic open cell insulation on one side for Duct acoustic insulation	Sqm	545	833	4,53,985.00
		TOTAL OF INSULATION WORKS				**7,84,285**
7.0		**ASSOCIATED ELECTRICAL WORKS**				
		The rates for the distribution boards from the Breakers and instruments shall also include the following :				
A		TPN ACB's / MCCB's shall mean 3 pole ACB's / MCCB's with adequate size of neutral link.				
B		All MCB's shall be of minimum 10 KA breaking capacity and MCCB 's shall be not lessthan 25KA				
C		The breaking capacity of MCCB's are mentioned panel wise. All MCCBs shall be ICS rated. All MCCB's shall be with microprocessor release for above 100A and as per BOQ. All MCCBs shall be with extended rotary handle.				
D		All MCB's used for protection of resistive and lightly inductive load shall be type "B" characteristic and				

		inductive (motor) load shall be of type "C" characteristic.				
E		Panel construction shall be 4b type. Degree of protection for following type of distribution panel enclosure shall be as per IS:13947-1993.				
F		i. IP 42 for indoor panels.				
G		ii. IP 55 for ODU panel.				
H		All MCCB's shall be provided with operating mechanism for door interlock.				
I		All hinged door shall be earthed through 2.5 sq mm tinned braided copper wire.				
J		Providing cable clamps / supports within distribution boards cable alley.				
K		Current density of Copper shall be 1.6 sq mm for 1.0 Amps for rated current of bus bars. All bus bars shall be copper only.				
L		Model, current capacity location and frame size of switchgear shall be written inside of the panel doors with paint / permanent marker as approved shop drawings / site requirment.				
M		All meters shall be MFM and all starter shall be as per Type-2 Coordination chart. All indication lamps shall be LED type. Control MCBs shall be used.				
N		Current Transfomer shall be resin cast.				
O		All Panel Shall be BMS Compatible.				
7.1	NS	**AHU/Fan Panel**				
		Design, fabrication, assembling, wiring, supply, installation, testing and commissioning of following LT panels fabricated out of 14 guage CRCA sheet steel in cubical formationwith reinforecment of suitable size angle iron and channel T iron flats. All steel material used in the construction of panels shall be powder coated. A solid busbar shall be provided at the bottom of the panel with two connecting eyes for termination. The boards shall be suitable for 415 volts, 50 Hz, 3 phase , 4 wire supply system. All the hardware used in the fabrication of the panel shall be galvanized with zinc passivation.				

		The panel shall be compartmentalized to accommodate one feeder in each compartment. A vertcal cable alley of suitable width shall be provided to serve one or two vertical feeder sections. Also the opening between the busbar chamber and the feeder section shall be shrouded with bakelite / hylam sheet with min.3 mm thickness.				
		The panel drawing shall be approved before taking up the fabrication.				
		In All panel Each starter should have remote control and interlocking facilities including auto manual switch, NO/NC contacts for control and must have auto manual operation suitable to take signal from fire alarm panel for automatic operation of fan in case of fire. All smoke /vent. fan panel the starters shall have suitable facility to operate with fire sensing control modules.				
a		**HVAC AHU/Fan Panel AMCC-01**				
		Incoming				
		1 No. 63 A TP, 25 kA MCCB with TM release for O/C + S/C, Aux + Alarm contact and extended rotary handle				
		Phase indicating lights with control MCB.				
		Breaker ON/OFF/TRIP indicating lights.				
		Bus Bars				
		100 amp TPN Copper Bus Bar with heat shrinkable insulation colored sleeves.				
		Outgoings				
		2 nos. 6-10 A,TP MPCB (with DOL starter)				
		1 nos. 6 A, MCB				
		Panel as described above and in drawings.	No.	1	47,175	47,175.00

b		**HVAC Fan Panel AMCC-02 (Smoke & Pressurization Fan Panel)**				
		Incoming				
		1 No. 80 A TP, 25 kA MCCB with TM release for O/C + S/C, Aux + Alarm contact and extended rotary handle				
		Phase indicating lights with control MCB.				
		Breaker ON/OFF/TRIP indicating lights.				
		Bus Bars				
		100 amp TPN Copper Bus Bar with heat shrinkable insulation colored sleeves.				
		Outgoings				
		3 no. 6-10 A, TP MPCB (with DOL starter)				
		1 no. 9-14 A, TP MPCB (with DOL starter)				
		Panel as described above and in drawings.	No.	1	72,287	72,287.00
c		**HVAC Kitchen Fan Panel HMCC-01**				
		1 no. 20 amp FP MCB with Aux + Alarm Contact				
		Phase indicating lights with control MCB.				
		Breaker ON/OFF/TRIP indicating lights.				
		Outgoings				
		1 no. 2.5-4 A, TP MPCB (with DOL starter)				
		1 no. 4-6.3 A, TP MPCB (with DOL starter)				
		Panel as described above and in drawings.	No.	1	37,911	37,911.00
d		**HVAC Fan Panel HMCC-02 (Pressurization Fan Panel)**				
		1 no. 50 amp FP MCB with Aux + Alarm Contact				
		Phase indicating lights with control MCB.				
		Breaker ON/OFF/TRIP indicating lights.				
		Outgoings				
		2 no. 6-10 A, TP MPCB (with DOL starter)				

		Panel as described above and in drawings.	No.	1	39,983	39,983.00
e		**HVAC Fan Panel GLMCC-02, 2 Nos. (Smoke Fan Panel)**				
		1 no. 20-25 A, TP MPCB (with Star delta starter)				
		Phase indicating lights with control MCB.				
		Breaker ON/OFF/TRIP indicating lights.				
		Panel as described above and in drawings.	No.	2	25,355	50,710.00
7.2	NS	**METER BOARD / SUB PANEL'S**				
		Supplying, Installation, Testing and Commissioning of dust, damp and vermin proof free floor standing / wall mounted factory built sheet steel enclosed modular construction extendable panel, suitable for operation on 415 + 10% volts, 50 Hz AC 3 phase 4 wire system fabricated out of suitable sized square tubular section and covered with 2.0mm thick CRCA sheet, hinged doors of 2mm thick CRCA sheet, duly painted complete with aluminium bus bars, interconnection with solid copper conductor wires / aluminium strips, neutral links, earth bus etc. necessary metering protections & indications and mounted with the following as per drawing and technical specifications attached etc. complete as required. MFM with Ethernet port, equivalent to Schneider PowerLogic PM5000 series on each outgoing circuit for each ODU module to be provided.				
a		**ODU's Panel-AMCC-01**				
		Same as above item but outdoor Panel with following accessories.				
		INCOMING:				
		1 No. 400 amps, 25 kA, 415V TPN MCCB with overcurrent and short circuit protection, extended rotary handle, all indication, push button etc.				
		Coloured (Red, Yellow, Blue) phase indicating lamp - 1 set				

		CT operated MFM of accuracy class 1.0 with RS 485 port				
		BUSBAR:				
		500 Amp. TPN, 35 kA Cu. Bus Bar				
		OUTGOINGS:				
		80A, TPN RCBO with 100mA - 12 Nos. (Incl. 2 Nos. Spare)				
		40A, TPN RCBO with 100mA - 2 Nos. (Incl. 2 Nos. Spare)				
		MFM with Ethernet port, equivalent to Schneider PowerLogic PM5000 series on each outgoing circuit				
		ODU Panel Described as above/As per Manufacturer ODU Configuration.	No.	1	1,82,119	1,82,119.00
b		**ODU's Panel-HMCC-01**				
		Same as above item but outdoor Panel with following accessories.				
		INCOMING:				
		1 No. 250 amps, 25 kA, 415V TPN MCCB with overcurrent and short circuit protection, extended rotary handle, all indication, push button etc.				
		Coloured (Red, Yellow, Blue) phase indicating lamp - 1 set				
		CT operated MFM of accuracy class 1.0 with RS 485 port				
		BUSBAR:				
		300 Amp. TPN, 35 kA Cu. Bus Bar				
		OUTGOINGS:				
		80A,TPN RCBO with 100mA - 8 Nos. (Incl. 2 Nos. Spare)				
		40A, TPN RCBO with 100mA - 2 Nos. (Incl. 2 Nos. Spare)				
		MFM with Ethernet port, equivalent to Schneider PowerLogic PM5000 series on each outgoing circuit				
		ODU Panel Described as above/As per Manufacturer ODU Configuration.	No.	1	1,25,435	1,25,435.00
7.3	NS	**CABLING (POWER)**				
		Power Cabling and Earthing:				

		Supply, installation, testing & commisioning of Cu conductor cables PVC sheathed, armoured cables of 1.1 KV grade with termination glands and GI earthing, identification tags, clamps and saddles etc.				
a		2Cx04 Sqmm	Rmt	20	262	5,240.00
b		3Cx04 Sqmm	Rmt	180	299	53,820.00
c		3Cx06 Sqmm	Rmt	20	321	6,420.00
d		3Cx16 Sqmm	Rmt	200	523	1,04,600.00
f		4Cx04 Sqmm	Rmt	100	464	46,400.00
e		4Cx06 Sqmm	Rmt	410	486	1,99,260.00
7.4	NS	**Control Cabling**				
		Supply, installation, testing & commisioning of Copper conductor , PVC insulated, PVC sheathed armoured cable of 1.1 KV grade (Which is Interconnecting wiring for the fire alarm system with the AHU and the smoke dampers & Touch screen controller).				
a		8C x 1.5 Sqmm	RM	390	386	1,50,540.00
		TOTAL OF ELECTRICAL WORKS				**11,21,900**
8.0		**VRF SYSTEM**				
8.1	NS	**INDOOR UNITS**				
		4-Way Compact Cassette Unit				
8.1.1		Supply, installation, testing and commissioning of following minimum capacity 4-way flow VRV/VRF Compact Cassette Type Indoor ceiling mounted unit equipped with synthetic washable media pre-filter, fan section with low noise fan/ dynamically balanced blower, multispeed motor, coil section with DX Copper coil, electronic expansion valve outer cabinet, drain pump, grill, necessary supports, vibration isolation, cord less remote control etc. , suitable for operation on single phase 230V +/- 10% 50Hz AC supply, complete as				

		required. Aluminum fins within the IDU (evaporator unit) shall be coated with polysiloxane based coating, The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of Indoor Unit will be at Air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature.				
a		315-320 CFM/0.63-0.80 TR	NOS.	24	31,085	7,46,040.00
		Ceiling Mounted HSP Ductable Unit				
8.1.2		Supply, installation, testing and commissioning of following minimum capacity VRV/VRF High Wall Type Indoor unit equipped with synthetic washable media pre-filter, fan section with low noise fan/ dynamically balanced blower, multispeed motor, coil section with DX Copper coil, electronic expansion valve outer cabinet, cord less remote control, drain pan, necessary accessories, etc. , suitable for operation on single phase 230V +/- 10% 50Hz AC supply, complete as required. Aluminum fins within the IDU (evaporator unit) shall be coated with polysiloxane based coating, The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of Indoor Unit will be at Air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature.				
a		2047-2295 CFM / 6.35-6.5 TR	No.	9	73,690	6,63,210.00
8.1.3		**Floor Mounted Horizontal Air Handling Units With Exh. Blower and Enthalpy Recovery Wheel (FM AHU)**				
		Supply, Installation Testing and Commissioning of factory assembled, modular EUROVENT certified double skin, floor mounted AHU's complete with double skin 50 mm thick insulated with CFC free polyurethene foam				

		(PUF) panels of 38±2 Kg/cum density or Rockwool sandwiched between 0.8 mm thick Alu Zinc inner and 0.8 mm precoated GI outer sheet. The AHU casing shall comply to Eurovent standard EN 1886 for casing strength D1, casing air leakage L1, thermal bridging factor TB2, thermal tranmittance T2 and filter by-pass leakage F9. The conttrol wiring and power wiring shall be in the scope of manufacturer and to be carried out at factory with terminations to Marshelling box.				
		AHUs shall be supplied with exhaust air blower with Enthalpy Recovery Wheel (ERW/HRW) with minimum efficiency of ERW/HRW being 75% and suitable to deliver undergiven CFM and static.				
		AHU shall be supplied with AHU blower fans with wall mounted EC Plug Fan with IE-5 motor complete with external rotor BLDC motor and integrated electronic controller and potentiometer for speed control. The fan shall be suitable for BMS connectivity. Single or multiple fans shall be considered depending upon capacity of AHU. AHU manufacturer shall supply cover plate for fans in sufficient quantity for maintenance purpose. EC fan incoming supply to be terminated with MCB and shall be included in the power terminal box for electrical connection of EC fan. Potentiometer shall be provided in the Marshelling box for manual operation of EC fans. Relay for Auto/Manual operation shall be a part of Marshelling box.				
		Pre-filter section with 50 mm thick MERV-8 (90% down to 10 micron) filter according to EN 779. Fine filter scetion with 300 mm thick MERV-13 (99% down to 3 micron) filter according to EN 779. AHUs shall include Supply/Return/Fresh air dampres and thermal break profile.				

		Food grade self adhesive coated EDPM gaskets shall be provided between panles and structure of the AHU to ensure the entire housing air-tight. 100 mm heavy duty GSS base frame shall be powder coated for better aesthetics, cleaning and maintenance. Drain pan for AHUs shall be of stainless steel. They shall be suitable for indoor/outdoor installation. AHUs shall include VI pads.				
		DX cooling coils shall be of 8 row deep. Face velocity across coils shall not exceed 500 FPM. Cooling coils shall be contructed from premium quality seamless copper tubes of 12.5 mm dia and Aluminium fins of 12 FPI. Aluminum fins within the IDU (evaporator unit) shall be Anticorossive coating. AHU shall have marine lamps including adequetly rated LED light inside the AHU cabinet. AHU inspection door shall have view window with perfectly sealed gaskets. All AHUs shall be provided with door limit switch and door safety GI guard. All internals shall be powder coated for corrosion resitance.				
		All AHU shall include Supply/Return/Fresh Air Damper & Thermal Break Profile and with three phase motor suitable for VSD drive and BMS Compitable,Aluminum fins within the IDU (evaporator unit) shall be coated with polysiloxane based coating				
		Each AHU shall be equipped with Controller having appropriate processor and sufficient memory for file storage. Controller shall have ports for BMS connectivity using Modbus/Bacnet protocol. Controller must be compatible to connect to touch display unit and laptop for configuring or viewing unit performance parameters. Controller shall be feasible to accept Temperature/RH/Pressure/CO2 sensors, password protection, auto-restart, accept signal from sensors to regulate fan speed/valve opening/fresh air damper control. DP switch across shall				

		be provided across filters for filter clogging indication. SMPS shall be used for powering Controller. All common alarms shall be displayed on Controller.				
		Supply, installation, commissioning, and testing of AHU coil mounted UVGI system for maintaining Indoor Air Quality & Deep Coil Cleaning. The system must include UV modules with dish antenna shaped parabolic reflectors to ensure that no stray UV-C radiation is leaked. Manufacturer should provide BMS compatibility and scientifically proven CFD design software report to ensure minimum UV intensity on coil. 3. Calculated lamp watts per square foot of coil shall demonstrate greater than 7.5 watts per square foot of coil. UVGI system supplied must be in strict conformity with the specifications.				
a		Double skin **floor mounted** Horizontal 8-Row Depth DX Cooling Coil (2Nos. Coil) with Supply Fan 8750 CFM, S.P. is 80 mm & Exhaust fan 6400 CFM with Pre Filter, S.P. 55 mm , Heat Recovery Wheel (Enthalpy Wheel) AHU Coil is 32.0 TR, mixing box	No.	1	7,87,474	7,87,474.00
8.1.4		Supply, Installation Testing and Commissioning of floor mounted AHU's. The AHU's shall be double skin type made of 0.80 mm thick GI sheet with 23±2mm for indoor application PUF insulation. The Drain Pan for AHU's shall be of SS. They shall be suitable for indoor/outdoor installation. The AHU's selected shall be supplied with Backward direct driven Blower Fans suitable to deliver the undergiven CFM and Static. The AHU's shall be DX-Type Cooling Coil and have electrical push buttnos on starting panel for operating the AHU.				
a		5000 CFM, 10.0 TR,Floor Mounted (Horizontal/Vertical) 6- Row Deep DX cooling coil, 60/80 mm Static Pressure (as per OEM recommendation), with Pre & Fine Filter (MERV-13),thermal Break Profile and with Plug fan with	No.	2	1,50,242	3,00,484.00

		VSD & motor				
8.2	NS	**Accessories**				
a		SITC of Expansion Kit Required for the above AHU to make the system complete	Nos	2	31,085	62,170.00
b		SITC of Control Kit Required for the above AHU to make the system complete	Nos	2	25,904	51,808.00
8.3	NS	**Touch screen controller for indoor units controller - VRV**				
a		Supply, installation, testing and commissioning of touch screen controller (Which can control 100 nos. indoor units in terms of ON/Off Status, temp. Status, Fan Speed, ODU On/Off Status etc.) with all accessories and controls.	Nos	2	93,254	1,86,508.00
8.4	NS	**REFNETS / Y-JOINTS**				
a		Supply, installation, tesing and commissioning of high quality fittings Y-joints insulated, distributer and headers for all Indoor units at both the ends floors layout as per layout drawings. All interconnecting Joints, Y Joints shall be with polysiloxane based coating.	Nos	168	3,627	6,09,336.00
8.5	NS	**TRANSMISSION & CONTROL WIRING**				
		Supply, installation, testing, termination and commissioning of control cum transimission wiring (should be shielded cable in PVC Pipe) of 2C x 1.5 Sqmm Cu between indoor unit and out door unit and indoor units and its remote controller.				
a		2C x 1.5 Sqmm Cu Cable or as specified by OEM	RM	1500	234	3,51,000.00
b		Perforated GI Tray with hangers & supports for copper piping (250 mm wide)	RM	550	351	1,93,050.00

8.6	NS	**Refrigerant-410a**				
a		Supply , charging & Leackage testing of refrigerant -410a in additional copper piping circuit.	Kgs.	70	1,036	72,520.00
8.7	NS	**Air Purifier (UVGI) for AHU/Ductable Units**				
8.7.1		Supply, installation, testing and commissioning of Modular UV Emitters with modules rated 1000 & 2000 CFM which interconnect with earch other. The UV system shall be factory fabricated and plug & play type with possibility of interchangeability. The UV system shall be designed to provide UV dosage of 1500 micro W/cm2. The UV lamp net wattage density shall be greater than 0.8 inch per watt of UV-C produced. The UV lamp shall be single/double ended, pin type Quartz lamp with current of 425 mA each producing UV-C @ 253.7 nm wavelength. Bacteria test or Bio Test to be done before and after installation. Refer technical specififcations for more details and complinace.				
a		Upto 2.6 TR Ductable Indoors		96	14,484	13,90,464
b		Above 2.6 TR Ductable Indoors		22	23,776	5,23,072
8.9	NS	**DRAIN PIPING**				
		Providing & fixing rigid PVC piping complete with fittings, supports as per specifications and pre insulated with 6mm thick closed cell elastomeric nitrile rubber tubular insulation.				
a		25 mm dia	RM	780	218	1,70,040.00
b		32 mm dia	RM	200	259	51,800.00
c		40 mm dia	RM	180	311	55,980.00
d		50 mm dia	RM	110	389	42,790.00
8.10	NS	**CANVAS CONNECTION**				
a		Supply, Installation,Testing and Commissioning of double layer canvas connection with fire rating.	Nos.	128	2,072	2,65,216.00
		TOTAL OF VRF SYSTEM				**65,22,962**

9.0		**Ventilation System**				
		Ventilation Equipments:				
9.1	NS	**Propeller fan**				
		Supply,installation,testing and commissioning of **Propeller fan** of the following capacity of approved make and specification. Fan shall be supplied with aluminum gravity louver & bird screen.				
a		150 mm dia propeller fan, with single phase motor	Nos.	83	3,471	2,88,093.00
b		300 mm dia propeller fan, with single phase motor	Nos.	4	3,782	15,128.00
9.2	NS	**Inline fan**				
		Supply, installation, testing and commissioning of **AMCA Certified circular type Inline fan** of the following capacity of approved make and specification. Fan shall be supplied with Speed Regulator, aluminum gravity louver & bird screen.				
a		100-400 CFM, 5-7mm SP WG with Single phase motor with three speed	Nos.	4	7,512	30,048.00
b		500-750 CFM, 12-15mm SP WG with Single phase motor with three speed	Nos.	3	16,060	48,180.00
9.3	NS	**Tube Axial Flow fans**				
		SITC of Long case Tube axial flow fans, as per specifications and approved makes suitable for three phase operation at 960/1450 RPM respectively Normal/Smoke case.				
9.3.1		AMCA Certified Long case tube axial flow fans complete with all accessories, suitable for wall mounted /Floor Mounted/ ceiling suspended installation. The fan shall be supplied with suitable 3PH/4P motor at 1450 RPM , and shall be selected for 25 mm static pressure (WG), For 2hrs fire rated (H Class motor insulation) All fan with fire retardent Canvas connection,bird screen and Gravity dampers. Fans capacity as mentioned below:				
a		18000 CFM (For Smoke Extract fan)	Nos.	1	1,29,519	1,29,519.00
b		31000 CFM (For Smoke Extract fan)	Nos.	1	2,27,953	2,27,953.00

9.3.2		AMCA Certified Long case tube axial flow fans complete with all accessories, suitable for wall mounted /Floor Mounted/ ceiling suspended installation. The fan shall be supplied with suitable 3PH/4P motor at 1450 RPM , and shall be selected for 40 mm static pressure (WG), (F Class motor insulation) All fan with fire retardent Canvas connection,bird screen and Gravity dampers .Fans capacity as mentioned below:				
a		6000 CFM (for Liftwell pressurization)	Nos.	4	54,398	2,17,592.00
b		8000 CFM (for Liftwell pressurization)	Nos.	1	62,169	62,169.00
9.4	NS	**Evaporative air cooler(Air Washer)**				
		Supply, Install, test and commission **double skin Evaporative air washer** as per specifications, suitable for the following capacity given below at 90% efficiency of evaporative medium. The fan shall be of DIDW centrifugal construction, Packaged Type.				
a		1800-2000 CFM, 40 mm (WG) static pressure, Floor/ ceiling mounted including unit isolator (For Kitchen Ventilation).	Nos.	1	56,988	56,988.00
9.5	NS	**Air Scrubber (DRY Type)**				
9.5.1		**DIDW FAN : CSSD/Laundry/Kitchen Exhaust**				
		Supply, installation, testing and commissioning of DIDW Backward curved horizontal floor mounted fan unit comprising of accurately cut scroll & side plates, heavy gauge with all welded construction, sheet steel fabricated impeller, drive with blower pulley, motor pulley, V-belts, squirrel cage motor, unit isolator complete as per specification (fan-motor efficiency exceeding ASHRAE 90.1-2007 Criteria). (The bidder shall submit fan performance curves for all fans).				
a		3000 CFM / 75 mm WG SP (For Kitchen Ventilation)	No.	1	62,169	62,169.00

9.5.2		**DRY SCRUBBER : Kitchen Exhaust**				
		Supply, Installation, Testing and Commissioning of Dry Scrubber comprising of extract air intake section, electrostatic precipitation technology, dry type air cleaner to remove odour, smoke and fumes from exhaust air.				
		Electrostatic section shall be made of 16 gauge galvanised sheet,high bake epoxy powder coated, washable type aluminium mesh filters, stainless steel spiked ionizers to create high voltage DC field, Stainless Steel 316 collector plates which should be alternatively charged positive and negative with large collecting area with 14" deep cell, to work as magnet for charged smoke and oil particles. Average efficiency of 95% and more in single pass as per DOP test method. Electrostatic Precipitator should be able to charge particles from 0.01 micron to 10 microns through solid state power supply. The system should be fitted with interlock switch for safety. The system should allow connection to a fan section to achieve 500 FPM velocity across the air cleaner. Cost to be inclusive of unit isolator.				
a		3000 CFM / 75 mm WG SP (For Kitchen Ventilation)	No.	1	93,254	93,254.00
9.6	NS	**AIR CURTAIN**				
		Supply,installation testing and commissioning of AIR CURTAIN of following size as per approved make .(At ground entrance)				
a		1800 mm long (High flow type)	Nos.	1	24,868	24,868.00
b		2100 mm long (High flow type)	Nos.	1	29,530	29,530.00
		TOTAL OF VENTILATION SYSTEM				**12,85,491**
10	**Maintenance during Defect Liability Period**					

10.1		Comprehensive maintenance of complete VRF based HVAC system installed as per above schedule (including variations if any) during Defect Liability Period as per scope mentioned in technical specification.			0	0.00
	TOTAL OF NON-SCHEDULE ITEMS					**1,05,21,789.00**
	GRAND TOTAL					**2,40,61,863.00**

Explanatory Notes for BOQ:

1. All Scheduled DSR items contain item nos. and, if any discrepancy is found in nomenclature,then scheduled nomenclature of CPWD DSR 2018 will prevail.
2. **Schedule DSR Items:** The cost of Schedule items given above are as per CPWD DSR 2018 excluding GST component @ 12%.
3. **Non-Schedule Items:** The cost of Non-Schedule items given above *(other than CPWD DSR 2018)* are as per current market rate analysis ***(excluding GST)***.
4. The Quantity mentioned in the above Schedules is tentative and DFCCIL reserves the right to increase / decrease and/or delete or include any of the quantities given above as per site conditions.

BILL OF QUANTITIES FOR LOW VOLTAGE WORKS						
S.NO	**DSR-2018/ 2019**	**ITEM DESCPRITION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
V		**SCHEDULE-V**				
		LOW VOLTAGE WORKS				
(i)		**SCHEDULE ITEMS**				
1	1.19	Supplying and drawing co-axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed steel/ PVC conduit as required.	Metre	7000	29	2,03,000.00
2	1.24.7 + 1.27.1	TV antenna socket outlet	Nos.	100	323	32,300.00
		TOTAL FOR LOW VOLTAGE WORKS (SCHEDULE ITEMS) – V (i)				**2,35,300.00**
(ii)		**NON-SCHEDULE ITEMS**				
		SUBHEAD 1 : FIRE ALARM/PA SYSTEM				
1	NS	Supply, Installation, Testing and Commissioning of addressable fire alarm control panel, expandable upto 20 loops. Controller shall be min 5.7 inch color LVD screen display, inbuilt networking port (both RS485&Ethernet), Serial port for printer with 10000 history event. The Panel shall be modular, decentralized, with redundancy in CPU and Power Supply with full functionality, Bidder not having redundancy shall supply 2 panels to comply. The panel shall be capable of providing BACnet/MODbus protocol for integration with BMS system. The number of loops should be calculated to accommodate all detector and devices with 20% spare. Seamless integration with Public Address System. Panel shall have battery backup of 24 hour in standby and 30 minute in alarm condition. The Panel shall be VDS-EN 54/UL-FM approved.				
1.1		2 Loops Panel	Nos.	1	3,02,737.00	3,02,737.00

2	NS	Supply, Installation, Testing and Commissioning Active Repeater Panel. Controller shall be 640 character/6 inch color touch screen display, inbuilt networking port(both RS485&Ethernet),Serial port for printer. The Repeater Panel shall allow users to acknowledge, reset, silence, program, view history events...etc. (All functions similar to main panel)The user interface of the repeater panel shall be same as the Main Controller. The Panel shall be VDS/EN 54 approved/UL-FM approved.	Nos.	2	1,38,740.00	2,77,480.00
3	NS	Supply, Installation, Testing and Commissioning of intelligent addressable Multicriteria detector (Smoke + thermal). Detector should have inbuilt isolators as per NFPA 72 style 7 wiring requirements and have an option of soft addressing. Detector should monitor Electromagnetic interference and report to the panel - current and average values. The detector shall have tri color LED, Green for Normal, Amber /yellow for trouble and Red for alarm. Shall have pre-programmed sensitivity parameter sets Sensitive,Standard,Robust. Shall be Polarity Insensitive. It ShallbeEN54/VDs/UL certification.(Detectors without Inbuilt Isolators may be considered with an additional Isolator Module per detector)	Nos.	32	2,823.00	90,336.00
4	NS	Supply, Installation, Testing and Commissioning of intelligent addressable Smoke detector. Detector should have inbuilt isolators as per NFPA 72 style 7 wiring requirements and have an option of both soft & hard addressing. Detector should monitor Electromagnetic interference and report to the panel - current and average values. The detector shall have tri color LED, Green for Normal, Amber /yellow for trouble and Red for alarm. . Shall be Polarity Insensitive. It	Nos.	172	2,734.00	4,70,248.00

		ShallbeEN54/VDs/UL certification.(Detectors without Inbuilt Isolators may be considered with an additional Isolator Module per detector)				
5	NS	Supply, Installation, Testing and Commissioning of intelligent addressable Heat detector. Detector should have inbuilt isolators as per NFPA 72 style 7 wiring requirements and have an option of both soft & hard addressing. Detector should monitor Electromagnetic interference and report to the panel - current and average values. Provides seven (7) field-selectable settings in the 135° − 174°F (57.2° − 78.9°F) temperature range and can be configured to provide a low-temperature warning signal at 40°F (4.4°C). Tri color LED, Green for Normal, Amber /yellow for trouble and Red for alarm. Shall be Polarity Insensitive. It ShallbeEN54/VDs/UL certification.(Detectors without Inbuilt Isolators may be considered with an additional Isolator Module per detector)	Nos.	10	2,705.00	27,050.00
6	NS	Supply, Installation, Testing and Commissioning of Addressable Control Relay Module with inbuilt isolators as per NFPA 72 style 7 wiring requirements & with flexible network. Shall have multi-color light-emitting diode (LED) which indicates system status Green, Amber and Red. It Shall be Polarity Insensitive. It Shall be EN54/ Vds Certification/UL.	Nos.	1	4,533.00	4,533.00
7	NS	Supply, Installation, Testing & Commissioning of Response Indicator with matching screws complete with GI Junction box, Cable lugs at cable end and ferruling. Response indicator shall be of same make as main Panel.	Nos.	4	520.00	2,080.00
8	NS	Supply, Installation, Testing and	Nos.	8	4,052.00	32,416.00

		Commissioning of addressable Manual Pull Station. Shock and Vibration Resistant, Pull Down Lever Remains Down Until Reset with inbuilt isolators as per NFPA 72 style 7 wiring requirements, with flexible network structures & necessary fixing arrangements with key complete as required. Shall be EN 54 / Vds/UL Certification. It Shall be Polarity Insensitive .				
9	NS	Supply, Installation, Testing and Commissioning of sounder as per NFPA 72 style 7 wiring requirements & with 20 different tone variants selection options & adjustable sound pressure by 5 levels, the sound pressure 92 dB(A), should be programmed from the panel. Shall be EN54 / Vds/UL Certification.	Nos.	21	7,556.00	1,58,676.00
10	NS	Supply, Installation, Testing and Commissioning of UL listed red strobe with field selectable 15/30/75/110 candelas. Shall be EN54 / Vds/UL Certification.	Nos.	8	7,232.00	57,856.00
11	NS	Supply, Installation, Testing and Commissioning of Addressable Duct detector with Housing of same make, Shall have inbuilt isolators as per NFPA 72 style 7 wiring requirements, should be programmed from the panel. Shall be EN54 / Vds/UL Certification.	Nos.	1	11,888.00	11,888.00
12	NS	Supply, Installation, Testing and Commissioning of Beam Detector with range of 10 - 100 mtr, with addressable interface module with inbuilt isolators as per NFPA 72 style 7 wiring requirements, should be programmed from the panel. Shall be EN54 / Vds/UL Certification.	Nos.	12	46,064.00	5,52,768.00
13	NS	Supply, Installation, Testing & Commissioning of LPCB certified 2 C x 1.5 sq.mm Fire Survival Armoured cable, clamped directly on wall/Ceiling /structural member with the use of GI clamps/saddle etc. Cable shall be	Mtrs	710	127	90,170.00

		600/1000V rated, twisted with Class-2 annealed stranded copper conductor having special cross-linkable Low Smoke Zero Halogen Ceramified Silicon insulation as per BS EN 50363, galvanized steel wire armour and Low Smoke Zero Halogen inner & outer sheath. Should comply to EN 61034-2 & EN 60754-1. Should meet fire performance circuit integrity test as per BS EN 50200 & BS 6387 CWZ (950 Deg. C for 180 mins). Outer sheath will be in Red colour				
14	NS	SITC of EN-54 certified Call Station for 15 zone selection keys for Zone selection, source selection, level control, emergency on/off, message on/off, failure acknowledge/reset, Switching output trigger on/off or 0 to 10V, select scheduled events, scheduled event on/off. Multilanguage LC display(122 × 32) pixel ,Five menu/function keys, gooseneck microphone with supervised electret microphone, pop shield and permanent monitoring, integrated loudspeaker for system sounds. The call station should have the provision to be configured as a numeric keypad.	Nos	1	88,118.00	88,118.00
15	NS	SITC of 6W ceiling mount EN 54 certified speaker with suitable fire dome having the following specification: - Max Power: 9W,Rated Power: 6Watts, Power Tapping: 6/3/1.5W - Effective frequency range(-10 dB) :90 Hz to 20KHz - SPL at rated power (1Khz at 1 m) 98 dB - Opening Angle 1 KHz / 4 KHz (-6 dB): 180/50 - Diameter 216 mm (8.5 in) Maximum depth 90 mm (3.54 in)	Nos	115	3789.00	435735.00
16		**Cables & Accessories**				
17	NS	Supply, Installation of Brackets for Mounting Speakers	Nos	26	743	19,318.00
		TOTAL for FIRE ALARM/PA			**-**	**26,21,409.00**

		SUBHEAD 2 : ACCESS CONTROL SYSTEM/PANIC BAR				
18	NS	Supply, Installation, Testing & Commissioning of 2 - reader - 2 door Intelligent I.P Controller with TWO READERS, FOUR RELAY OUTPUTS AND FOUR SUPERVISED INPUTS TO THE CONTROLLER, Microprocessor: 32 Bit, Memory: 30000 User and 20000 Logs, Card Holder Capacity : 30,000 Min, Event Buffer : 20,000 Min, Inputs : 4 Supervised, dual-resistor, 2 state end-of-line inputs, Hi-impedance, active low 5 VDC 8 supervised expandable inputs, Outputs : 4 fully programmable 5 A, N.O. and N.C. relay outputs 4 expandable outputs.	Nos.	1	66,892.00	66,892.00
18.1	NS	Supply, Installation, Testing & Commissioning of On Board 4 Reader Expander	Nos.	1	24,516.00	24,516.00
18.2	NS	Supply, Installation, Testing & Commissioning of On Board 2 Reader Expander	Nos.	1	14,111.00	14,111.00
18.3	NS	Supply, Installation, Testing & Commissioning of 16 relay board	Nos.	1	22,939.00	22,939.00
18.4	NS	Supply, Installation, Testing & Commissioning of 16 input board	Nos.	1	22,939.00	22,939.00
18.5	NS	Supply, Installation, Testing & Commissioning of 16 input board,8 output board	Nos.	1	1,09,864.00	1,09,864.00
18.6	NS	Supply, Installation, Testing & Commissioning of housing for above	Nos.	1	14,489.00	14,489.00
18.7	NS	Supply, Installation, Testing & Commissioning of Biometric reader	Nos.	2	38,848.00	77,696.00
18.8	NS	SITC of Bluetooth smart card readers as per specifications suitable for mounting on metal surface/metal frames or wooden frames wall or as required based on site conditions including all accessories	Nos.	2	10,081.00	20,162.00
18.9	NS	SITC of smart cards as per specifications	Nos	25	131	3,275.00
18.10'	NS	SITC of emergency door open break glass unit as per specifications	Nos	3	1,062.00	3,186.00
18.11	NS	SITC of Buzzer	Nos	10	539	5,390.00

18.12	NS	SITC of workstation i-7 PC with 8 GB RAM and 1 TB HDD, 10/100 Mbps Ethernet card, USB connection and internal modem, Microsoft(R) Windows(R) 10 OS Professional Enterprise or latest, Web Server Software, DVD-ROM Drive (with RAM), 100/1000 Mbps NIC for Network connection and antivirus software with 24" colour graphics monitor as per Tender Specifications. (Accessories included Wireless Optical Mouse and Key Pad.)	Nos	1	1,08,172.00	1,08,172.00
18.13	NS	SITC of Access Control Software, Software shall be based on a standard Client-Server architecture, The server connects to the database the clients draw the information from the server: Clients connect to the server using a LAN remote communication :The server runs as a Windows service by default.	Nos	1	29071.00	29071.00
18.14	NS	Supply, laying, termination, testing and commissioning of 8 core 1.5 sq.mm shielded cable for reader	RM	1440	141	2,03,040.00
18.15	NS	Supply, laying, termination, testing and commissioning of 2 core 1.5 sq.mm power cable.	RM	1460	47	68,620.00
18.16	NS	Supply, laying, termination, testing and commissioning of 4 core 1.5 sq.mm cable for EM Lock, EDR & Push Button.	RM	92	77	7,084.00
18.17	NS	Supply, laying, termination, testing and commissioning of 4 core 1.5 sq.mm communication cable from controller to controller.	RM	920	77	70,840.00
18.18	NS	Supply, Installation, Testing and commissioning of 25mm PVC conduit.	RM	1920	41	78,720.00
		TOTAL OF ACCESS CONTROL				**9,51,006.00**
		SUBHEAD 3 : CCTV SYSTEM				

19	NS	SITC Dome camera 2 MP -IP network IR Dome Camera, 1/2.8" CMOS, 2 MP @ 25fps or better, triple stream, Min. Illumination required 0.001 lux @ F1.4 (color), 120dB True WDR, Min. Pixels 1920 × 1080, triple stream, 2.8–12 mm motorized focus & zoom lens, BLC, ROI,HLC, 3DNR, Privacy Mask, 3 IR LEDs Smart IR with upto 30m IR distance, Corridor Mode, 128GB SD card support, IP67, IK10, PoE, H.265 High Profile and MJPEG, PoE Class 3 and 12V DC, Having Operating temp range : –35°C to 60° C. Certifications: ONVIF Profile,UL,FCC,CE,IK10,IP67,DC 12V±25%, PoE (IEEE 802.3af)	Nos.	48	24,406.00	11,71,488.00
20	NS	SITC Bullet Camera 2 MP - IP Network IR Bullet Camera, 1/2.8" CMOS, 2 MP @ 25fps or better,ANR, triple stream, Min. Illumination required 0.001 lux @ F1.4 (color), 120dB True WDR, Min. Pixels 1920 × 1080, triple stream, 2.8–12 mm motorized focus & zoom lens, BLC, HLC, 3DNR, Privacy Mask, 4 IR LEDs Smart IR with upto 50m IR distance, 128GB SD card support, Corridor Mode, 1 RJ45 10M/100M Base-TX Ethernet, PoE, H.264 High Profile and MJPEG,Alarm I/Audio I/O PoE Class 3 and 12V DC, Having Operating temp range : –35°C to 60° C.DC 12V±25%, PoE (IEEE 802.3af) Power consumption: Max 9W, Certifications: ONVIF Profile S & Profile G compliant, UL,FCC,CE,IK10,IP67	Nos.	10	25,254.00	2,52,540.00
21	NS	SITC 32-ch NVR,Two-way Audio Input:1-ch, RCA, Network: 320Mbps/ 320Mbps, 1-ch, RCA, 128, IPV4, IPV6, SNMP,P2P, UPnP, NTP, DHCP, PPPoE, HTTP, SMTP, TCP/IP, RTSP, HDMI1/VGA: 1920x1080p /60Hz, 1920x1080p /50Hz, 1600x1200 /60Hz, 1280x1024 /60Hz, 1280x720 /60Hz, 1024x768 /60Hz, HDMI2:4K (3840x2160) /60Hz, 4K (3840x2160) /30Hz, 1920x1080p /60Hz, 1920x1080p /50Hz, 1600x1200 /60Hz,	Nos.	2	132883.00	265766.00

		1280x1024 /60Hz, 1280x720 /60Hz, 1024x768 /60Hz, 1-ch, BNC, Recording Resolution- upto 12 Mp, Audio Output :1-ch, RCA, Synchronous Playback: 16-ch, Corridor Mode Screen:3/4/5/7/9/10/12/16/32, Decoding: Ultra 265, H.265, H.264, Live view/ Playback:Upto 12 Mp, Capability: 3 x 12MP@25, 4 x 4K@30, 8 x 4MP@30, 16 x 1080P@30, 32 x 960P@25, 36 x 720P@30, 64 x D1, Hard Disk: 8 SATA interfaces, up to 10TB for each HDD, 1 eSATA interface, Complete with N+1 redundancy for auto failover, Smart: Face detection, Intrusion detection, Cross line detection, Audio detection, Defocus detection, Scene change detection, Auto tracking, Face search, Behavior search, People counting, Disk Array: RAID 0, 1, 5, 6, 10, External Interface: 2 RJ45 10M/100M/1000M self-adaptive Ethernet Interfaces, 1 x RS232, 1 x RS485, Front panel: 2 x USB2.0,Rear panel: 1 x USB3.0, Alarm In/out: 16/4 ch, General: 100 ~ 240 VAC, Power Consumption: ≤ 20 W(without HDD), -10°C ~ + 55°C (+14°F ~ +131°F), Humidity ≤ 90% RH(non-condensing), 442mm ×425mm× 86mm (17.4" × 16.7"× 3.4"), ≤ 5.13 Kg (11.31 lb), CE, FCC,UL				
22	NS	SITC of 8 TB SATA Surveillance HDD	Nos.	3	26,842.00	80,526.00
23	NS	SITC of 55"LED Display	Nos.	2	98,259.00	1,96,518.00
24	NS	SITC of workstation i-7 PC with 8 GB RAM and 1 TB HDD, 10/100 Mbps Ethernet card, USB connection and internal modem, Microsoft(R) Windows(R) 10 OS Professional Enterprise or latest, Web Server Software, DVD-ROM Drive (with RAM), 100/1000 Mbps NIC for Network connection and antivirus software with 24" colour graphics monitor as per Tender Specifications. (Accessories included Wireless Optical Mouse and Key Pad.)	Nos.	1	1,08,172.00	1,08,172.00
25		Providind and Laying Power Cable for CCTV cable 1.5 Sqm 3 core.	Rmt	50	264	13,200.00

		TOTAL for CCTV				**20,88,210.00**
		NETWORKING COMPONENTS				
		SUBHEAD 4 : PASSIVE NETWORKING COMPONENTS				
26	NS	Supply & installation of CAT6 RJ45 I/O with a separator to eliminate crosstalk, on concealed wall mounted boxes, impacting of I/O's (CAT6 RJ45 I/O) & installation /impacting of surface mount boxes (includes labelling) Terminates 8 conductors at the same time reducing installation time 45˚ silver-plated IDCs provide secure, reliable gas-tight connections	Nos	24	522	12528.00
27	NS	Supply of Patch cords (2m) CAT6 (with molded boots) Over-molded boot at each end provide strain relief and maintains minimum bend radius of the cable. Assembled with RJ45 50µ" gold plated contacts according to IEC 603.7/class A.	Nos	36	648	23328.00
28	NS	Supply of Patch cords (1m) CAT6 (with molded boots)	Nos.	250	580	1,45,000.00
29	NS	Supply & Installation/ Laying of Fiber Cable Multimode (06 core OM4) outdoor in Meters (Armoured) 50/125 µm – OM4 (supporting upto 300m) Tight buffered	Mtr.	660	172	1,13,520.00
30	NS	Supply of Duplex Fiber optic patch cords Multimode (LC to SC) 3m - OM4 50/125 Factor SFP Connector SC - Standard Connector ("Shove & Click") SC stands for Subscriber Connector- a general purpose push/pull style connector developed by NTT	Nos.	8	2219.00	17752.00
		TOTAL FOR PASSIVE NETWORKING				**3,12,128.00**
		SUBHEAD 5 : ACTIVE NETWORKING COMPONENTS				

31	NS	Supply, Installation, testing and commissioning of 24-port 10/100/1000T PoE+ stackable switch with 4 SFP+ ports and 2 fixed power supplies	Nos.	9	1,22,652.00	11,03,868.00
32	NS	Supply, Installation, testing and commissioning of additional 250W AC System PSU	Nos.	1	42,220.00	42,220.00
33	NS	Supply & Installation of Wireless Manager License to manage up to 20 wireless access points and premium software	Nos.	1	1,51,877.00	1,51,877.00
34	NS	Supply, Installation, testing and commissioning of Enterprise-class Wireless Access Point with IEEE 802.11/a/b/g/n/ac dual-band radios and embedded/integrated antenna, No AC Power adapter provided, with DC power interface,Console with Mounting Kit.	Nos.	35	32,838.00	11,49,330.00
35	NS	Supply, Installation, testing and commissioning of SFP+ "Twinax" Copper cable	Nos.	35	9,851.00	3,44,785.00
36	NS	Supplying, installing, testing and commissioning of 24 port Cat 6 patch panels available with block of four equipped with tool less IO, Rack Mountable. 19" Modular Patch Panel, loaded CAT6 U/UTP 24 port LCS2 rack mountable to be compatible in 4nos of 6 X RJ 45 Tool less connector U/UTP unit in a block along with the Cable Manager to be afixed in Rack	Nos.	9	8,869.00	79,821.00
37	NS	Supplying, installing, testing and commissioning of Cabinet. Size 42U (2026 X 800 x 1000 mm) (WXD) following accessories, Width (mm) 800, Depth (mm) 1000, Approx.Net Wt (kg) 75, CRCA 'D' Grade thickness (mm) 1.2, RAL 9017(Matt Black), Glass: 4mm Toughened Tinted Glass Door,Injected one piece polyurethane gasket on frame, Accessories: Cooling Fan (230V A/C 90	Nos.	3	51,734.00	1,55,202.00

		CFM) - 4 Nos, Cable Manager Metal- 10 Nos,PDU 230VAC - 1 No (12 nos. 6A/16A sockets with plugs 6A/16A - 1/1pc & MCB 16A/32A -0/1 Pc), cable channel 100mm wide 42 U- 2 Nos,Heavy Duty Stationary shelf M6 screws,washer,cage nuts (nickel coated))3 Nos. Earthling Strips 150mm H - 1 No, Door Lock - 1 No, Castor Wheels (with Brake) - 2 Nos, Castor Wheels (without Brake) - 2 Nos, Front Metal Band - 1 No. Packing: 5 ply cardboard & Inside 28 ply EP foam. In the rack there must be maintained 1 U = 1.75 inches space. Nos. 1 etc complete as required				
38	NS	Same spec as above but 9U Rack in place of 42 U	Nos.	4	11,145.00	44,580.00
39	NS	Supply ,laying ,installing , testing and commmissioning of the 2 pair telephone wire	Rmt.	7000	23.00	1,61,000.00
40	NS	Supply, laying, installation, testing and commissioning of Cat-6 4Pair UTP Data Cable 23 AWG in existing conduits/raceway/furniture	Rmt.	12000	46.00	5,52,000.00
41	NS	SITC GI Box for face plate size 3X3	Nos.	240	211.00	50,640.00
42	NS	Supply and fixing of I/Os in face plate				
42.1	NS	I/O for Cat 6 cable (RJ 45)	Nos.	240	164.00	39,360.00
42.2	NS	I/O for telephone cable/ voice (RJ 11)	Nos.	240	164.00	39,360.00
43	NS	Supply and fixing of Face Plate 3" x 3" (Single with shutters)	Nos.	190	123.00	23,370.00
44	NS	Supply and fixing of Face Plate 3" x 3" (dual with shutters)	Nos.	145	123.00	17,835.00
45	NS	SITC of Firewall for minimum 200 users with 1 year UTM feature subscription and support (INCLUDING THE COST OF 200 port Licance)	Nos	1	5,16,171.00	5,16,171.00

46	NS	SITC 200 pair Krone (MDF) box including crimping & fixing with all acessories	Nos	1	30,501.00	30,501.00
		TOTAL FOR ACTIVE NETWORKING				**45,01,920.00**
		SUBHEAD 6: Voice Solution				
47	NS	**IPPBX for HHRI Building**				
		Supply, Installation, testing and Commissioning of IP based EPABX System complete with following specifications as required.	Set	1	575765	5,75,765.00
		SIP enabled communication system with self survivable Remote node/ GW, TDM/ ISDN/ SIP & H.323, 19" Rack Mount design, Universal Slot, Non Blocking IP Distributed archietecture with Hot swap support, ROHS Compliant				
		VOIP Gateway:				
		250 Channel VOIP Gateway- 01 Nos.				
		Trunk Side:				
		ISDN PRI Line (30 Channel)- 01 Nos.				
		Extension Side:				
		IP Extension- 10 Nos. (IP/SIP Phone/ Mobile Client)				
		Analog Extension- 128 Nos. (IP/SIP Phone/ Mobile Client)				
47.1		**Operator Console:**				
		IP based Operator Console along with noise canceling wired headset as per below specifications	Nos	1	30372	30,372.00
		Minimum 4.3 Inch Tiltable Colour Display, 24 Multiline/ Programmable keys with Dual color LED, 60 Key DSS with Dual color LED, 4 Soft Keys, 4 Way Navigator Keys, 8 Fixed function keys, Dual Gigabit (10/100/1000 Mbps) Port for LAN and PC, Headset Port, Serial call, XML browser, Caller details i.e. Name, Number, Image through database, EHS, Analog Port Adapter with ringer option, POE, Dual Colour LED, ROHS Compliant				
47.2		**Type 1- IP Phone: (same OEM as of EPABX)**	Nos	10	17538	1,75,380.00
		Min 4.5 inch LCD touch panel with 32				

		Multiline/ Programmable Keys having Self labeling feature, 4 Soft Keys, 8 fixed function keys, 4 Way Navigator Keys, Dual Gigabit (10/100/1000 Mbps) Port for LAN and PC, Bluetooth, Screen saver, Security lock, XML browser, Caller details i.e. Name, Number, Image through database, EHS, POE, Recording Adapter option, Dual Colour LED, ROHS Compliant				
47.3		**Analog Phone: (same OEM as of EPABX)**	Nos	128	1,466.00	1,87,648.00
		Push Button Analog phone with caller line identification, 2 way speaker, massage wait lamp, call history and phone memory				
		TOTAL FOR Voice Solution				**9,69,165.00**
		LECTURE ROOM & CONFERENCE ROOM				
		SUBHEAD 7 : WEB CONFERENCING & LECTURE HALL EQUIPMENT				
48	NS	**Speaker**				
48.1		Supply, Installation, Testing and Commissioning of Two way Wall mount speaker with 100W Continuous Program, 3" LF Driver, 0.5" Tweeter, Transformer Taps: 15W, 7.5W, 3.7W @ 100V, Frequency Range(-10 dB): 70 Hz – 20 kHz, Frequency Response (±3 dB): 95 Hz – 19 kHz, Maximum SPL: 103 dB, Sensitivity: 86 dB, 1W/1m, Coverage Angle: 100° x 100°, High Impact Polystyrene (HIPS), painted enclosure etc. complete as required. JBL Make	NO.	16	15,097.00	2,41,552.00
48.2		Supply, Installation, Testing and Commissioning of Dual Channel amplifier with 2 x 80 W @ 4 ohm / 8 ohm / 70/100V, Frequency response: 20 Hz to 20 KHz, THD: 97 dB, Channel seperation (Crosstalk): <-70 dB etc. complete as required. JBL Make	NOS.	3	65,222.00	1,95,666.00
48.3		Supply, Installation, testing and commissioning of Digital Signal processor with 12 Input x 8 output , 12 In and 6 out GPIO connection, A/D and D/A Converters: 24-bit, Frequency	NOS.	3	1,89,952.00	5,69,856.00

		Response: 20 Hz to 20kHz (+0.5 dB/-1 dB), THD+N: 0.01 % , Channel Separation (Crosstalk): < -70 dB, Dynamic Range: > 105 dB, 48 Channel, Low Latency, Fault Tolerant Digital Audio Bus along with display front panel interface complete as required				
48.4		Supply, Installation, Testing and Commissioning of Digital Wireless Handheld Microphone with cardioid pick up pattern, operating on 1.9 GHz bandwidth, 256 bit AEC Encryption, AF Frequency response: 20 Hz- 20 kHz, Dynamic range: > 120 dB, Audio Sampling: 24 bit/48 kHz, RF Power: adaptive 200 mW , Receiver with front panel LCD/LED Display, 7-band Graphic equalizer, LAN port for control and Monitoring, Complete as per the Specifications complete as required. Shure/JLB	NOS.	2	44,133.00	88,266.00
48.5		Supply, Installation, Testing and Commissioning of Digital Wireless Lapel Microphone with omni directional pick up Pattern, operating on 1.9 GHz bandwidth, 256 bit AEC Encryption, AF Frequency response: 20 Hz-20 kHz, Dynamic range: > 120 dB, Audio Sampling: 24 bit/48 kHz, RF Power: adaptive 200 mW, Receiver with front panel LCD/LED Display, 7- band Graphic equalizer, LAN port for control and Monitoring, complete as required	NOS.	3	1,22,560.00	3,67,680.00
48.6		Supply, Installation, Testing and Commissioning of 2 core 1.5 sq mm two core speaker cable complete as required.	Rmt.	240	122.00	29,280.00
48.7		Supply, Installation, Testing and Commissioning of 2 Core Shielded Microphone Cable complete as required.	Rmt.	200	130.00	26,000.00
48.8		Supply, Installation, Testing and Commissioning of 65" display with Brightness- 500 nits, Native Contrast Ratio- 5000:1, Haze- 44%, Operating Hour- 24/7, Input- DVI-D, Display Port 1.2 (1), HDMI 2.0 (2), USB 2.0 x 2,Processor-Coretex A72 1.7GHz Quad-Core CPU,Storage (FDM)- 8GB (3.88GB Occupied by O/S, 4.12GB Available), Certification- BIS,EMC Class A, Safety 60950-1 complete as required.	NOS.	3	1,42,800.00	4,28,400.00

48.9		Supply, Installation, Testing and Commissioning of 75" display with Brightness- 500 nits, Native Contrast Ratio- 5000:1, Haze- 44%, Operating Hour- 24/7, Input- DVI-D, Display Port 1.2 (1), HDMI 2.0 (2), USB 2.0 x 2,Processor-Coretex A72 1.7GHz Quad-Core CPU,Storage (FDM)- 8GB (3.88GB Occupied by O/S, 4.12GB Available), Certification- BIS,EMC Class A, Safety 60950-1 complete as required.	NOS.	2	3,36,000.00	6,72,000.00
48.10'		Supply, Installation, Testing and Commissioning of 98" display with Brightness- 500 nits, Native Contrast Ratio- 5000:1, Haze- 44%, Operating Hour- 24/7, Input- DVI-D, Display Port 1.2 (1), HDMI 2.0 (2), USB 2.0 x 2,Processor-Coretex A72 1.7GHz Quad-Core CPU,Storage (FDM)- 8GB (3.88GB Occupied by O/S, 4.12GB Available), Certification- BIS,EMC Class A, Safety 60950-1 complete as required.	NOS.	1	10,08,000.00	10,08,000.00
48.11		Supplying, installation, testing and commissioning of Full HD PTZ Camera for capturing the Presenter, minimum 20X Optical Zoom, min 100 Presets, 60 Frames per Second, Ethernet Out, HDMI Out, 3G-SDI Out, Audio In, RS232/422/Ethernet Controls, -170° ~+170° Panning angle, -30° ~ +90° Tilting angle, Should support PoE+.	NOS.	2	3,67,772.00	7,35,544.00
48.12		Supplying, installation, testing and commissioning of Joystick controller for controlling above PTZ Camera.	NOS.	2	1,39,366.00	2,78,732.00
48.13		Supplying, installation, testing and commissioning of Recording & Webcasting Hardware, Recording, Streaming and Web casting simultaneously, media processor that allows you to record and create live streaming by mixing, encoding , and switching up to 4 HDMI or 3 IP video sources, and 4 audio sources, Flexible scaling and window processing, supports PIP, PBP and up to 4 windows layout and mixing, Supports HDMI-embedded audio or analog stereo audio with 4 channels Audio Input mixing and gain control, Built-in 1TB HDD storage, as	NOS.	1	8,38,777.00	8,38,777.00

		per technical specification etc. as required.				
48.14		Supply, Installation, Testing and Commissioning of Mettalic Podium with provision to place Interactive 21.5" or higher Tablet Monitor with Presentation Plate, document camera, Switcher, Amplifier, PC, etc complete with standard accessories complete as required.	NOS.	2	89,743.00	1,79,486.00
48.15		Supply, installation, testing and commissioning of Intel ultrasmall factor PC with min i7 or better processor with 1 x HDMI output, min 4 x USB2.0 /3.0 ports, 4GB DDR RAM, along with licence and window for operating sytem with required accessories and connectors complete as required.9th Generation Intel Core i7 processor 8GB DDR4 RAM 2TB HDD 5400 rpm Window 10 Pro	NOS.	2	84,758.00	1,69,516.00
48.16		Supply, installation, testing and commissioning of 15.5” IPS interactive touch display with HD resolution, 178° x 178° viewing angle, Brightness: 210 cd/m2, Contrast ratio 900:1, Colors depth: 16.7 million, Aspect ratio: 16:9 along with Patented cordless, battery - free pen with 1024 levels of pressure sensitivity for premium signing/writing experience. It should have 2 USB ports to provide easy access to your USB devices, It should have DVI or VGA interface ports. It should be HDCP compliant complete as required.	NOS.	2	1,19,658.00	2,39,316.00

48.17		Supply, Installation, testing & commissioning of 4K Video over 1Gbps Ethernet Encoder with 2 x HDMI / VGA / Display port Inputs, 1 x RJ-45, SFP Outputs, and stand alone with PoE, Embedded 7.1 digital audio or balanced/unbalanced analog audio & Control (RS232 & IR) supporting transmission of HDCP2.2 and EDID management, Analog-To-Digital Conversion: 48KHz, Bandwidth: 160 Mb/s along with 10/100/1000 Mbps, auto-negotiating, auto-sensing, full/half duplex, DHCP, Auto IP, and Static IP ethernet port along with Power, status LED controls and indicators on front panel complete as required. Extron	NOS.	3	1,51,117.00	4,53,351.00
48.18		Supply, Installation, testing & commissioning of 4K Video over 1Gbps Ethernet Decoder with inbuilt scaling, 1 x RJ-45, SFP Inputs, 1 x HDMI Outputs, and stand alone with PoE, Embedded 7.1 digital audio & Control (RS232 & IR) supporting transmission of HDCP2.2 and EDID management, Analog-To- Digital Conversion: 48KHz, Bandwidth: 160 Mb/s along with 10/100/1000 Mbps, autonegotiating, auto-sensing, full/half duplex, DHCP, Auto IP, and Static IP ethernet port along with Power, status LED controls and indicators on front panel complete as required. Extron	NOS.	3	1,51,117.00	4,53,351.00
48.19		Network switcher 24 Port 10/100/1000 gigabit managed POE Switch, QOS Support, IPV4/IPV6 Support, Advance Security Management, Switching Capacity in Gigabits per Second: 56.0Gbps, 1 Gbps Non-blocking ports and Internet Group Management Protocol: IGMP V2/V3, Mac, windows, Linux complete as required.	NOS.	3	77,426.00	2,32,278.00
48.20'		Supply, Installation, Testing and Commissioning of Control Processor with UltraFast 1600 MIPS processor,512 MB Onboard RAM, 1 M Non-Volatile Memory, 4 GB SDHC FLASH Memory, 4 Digital I/O Ports, 1 RS232/422/485 Port, 1 RS232- Only Port, 2 IR/Serial Output Ports, 1 IR Receive Port etc.	NOS.	3	2,75,171.00	8,25,513.00

48.21		Supply, Installation, testing & commissioning of 2m HDMI- HDMI Patch Cord complete as required	NOS.	8	2,065.00	16,520.00
48.22		Supply, Installation, testing & commissioning of 2m VGA-VGA Patch Cord complete as required.	NOS.	8	3,957.00	31,656.00
48.23		Supply, Installation, testing & commissioning of 15m HDMI- HDMI Patch Cord complete as required.	NOS.	4	16,296.00	65,184.00
48.24		Supply, Installation, testing & commissioning of unshielded twisted pairCat6 Cable complete as required.	NOS.	300	194.00	58,200.00
48.25		Supply, Installation, testing & commissioning of Connectors and other Miscellaneous accessories complete as required.	NOS.	3	12,904.00	38,712.00
48.26		SITC of 2ft x 2ft ceiling tile with 29 nos. Omni directional microphone, with 60 sq mtr minimum coverage etc required as per secifications	NOS.	1	3,78,000.00	3,78,000.00
		TOTAL FOR LECTURE ROOM & CONFERENCE ROOM				**86,20,836.00**
		SUBHEAD 8 : DISPLAYS				
49	NS	Supply, Installation, Testing and Commissioning of 4K LED Display of Screen Size of minimum 42 inches with native resolution of min. 3840X2160, 3 or more HDMI 2.0 Input, it shall have RJ-45 port, 1 or more USB Port or better, and shortened respond time. It shall support Time Scheduler, RJP Mode, One Channel Map and Embedded Content Manager with other features complete with all accessories. It shall support HDCP 2.2 or better and highly resistant to RF and EMI interference.	Nos.	4	38,560.00	1,54,240.00
		TOTAL for DISPLAYS				**1,54,240.00**
		TOTAL FOR LOW VOLTAGE WORKS (SCHEDULE ITEMS)				**2,35,300.00**
		TOTAL FOR LOW VOLTAGE WORKS (NON-SCHEDULE ITEMS) – V (ii)				**2,02,18,914.00**
		TOTAL FOR LOW VOLTAGE WORKS (SCHEDULE AND NON-SCHEDULE ITEMS) – V [(i) + (ii)]				**2,04,54,214.00**

Explanatory Notes for BOQ:

1. All Scheduled DSR items contain item nos. and, if any discrepancy is found in nomenclature,then scheduled nomenclature of CPWD DSR 2018 will prevail.
2. **Schedule DSR Items:** The cost of Schedule items given above are as per CPWD DSR 2018 excluding GST component @ 12%.
3. **Non-Schedule Items:** The cost of Non-Schedule items given above *(other than CPWD DSR 2018)* are as per current market rate analysis ***(excluding GST)***.
4. The Quantity mentioned in the above Schedules is tentative and DFCCIL reserves the right to increase / decrease and/or delete or include any of the quantities given above as per site conditions.

FORM No. 5

CONTRACT AGREEMENT OF WORKS
(To be executed on non-judicial stamp paper of appropriate value)

CONTRACT AGREEMENT NO. _____ DATED _____

ARTICLES OF AGREEMENT made this _____ day of _____ 20_____ BETWEEN

Dedicated Freight Corridor Corporation of India Limited (a Govt. of India Enterprise under Ministry of Railways) a company incorporated under the provisions of the Companies Act, 1956 having it's registered office at 5th Floor, Supreme Court Metro Station Complex, New Delhi, India – 110001, represented through it's Chief General Manager *(hereinafter refered to as "DFCCIL" which expression shall, unless repugnant to the context, be deemed to include its successors and assigns and called **'the Employer')*** as one part and _____ a company / corporation / JV incorporated under the laws of ----------having its principal place of business at ---------- *(hereinafter called "**the Contractor**") as other part.*

WHEREAS the Contractor has agreed with the DFCCIL for performance of the works _____ set forth in the Schedule hereto annexed upon the Standard General Conditions of Contract, corrected upto latest correction slips and the Specifications of _____ CPWD/Railway/DFCCIL corrected upto the latest correction slips and the Schedule of Rates of _____ CPWD/Railway/DFCCIL, corrected upto latest correction slips and the Special Conditions and Special Specifications, if any and in conformity with the drawings here-into annexed AND WHEREAS the performance of the said works is an act in which the public are interested.

NOW THIS INDENTURE WITNESSETH that in consideration to the payments to be made by the DFCCIL, the Contractors will duly perform the said works in the said schedule set forth and shall execute the same with great promptness, care and accuracy in a workman like manner to the satisfaction of the DFCCIL and will complete the same in accordance with the said specifications and said drawings and said conditions of contract on or before the _____ day of _____ 20___ and will maintain the said works for a period of _____Calendar months from the certified date of their completion and will observe, fulfill and keep all the conditions therein mentioned (which shall be deemed and taken to be part of this contract, as if the same have been fully set forth herein), AND the DFCCIL, both hereby agree that if the Contractor shall duly perform the said works in the manner aforesaid and observe and keep the said terms and conditions, the DFCCIL will pay or cause to be paid to the Contractor for the said works on the final completion thereof the amount due in respect thereof at the rates specified in the Schedule hereto annexed.

For and on behalf of the Contractor	For and on behalf of the Employer
Signature of the authorized official	Signature of the authorized official
Name of the official	Name of the official
Stamp/seal of the Contractor	Stamp/Seal of the Employer

SIGNED, SEALED AND DELIVERED

By the said

_____Name

_____

on behalf of the Contractor in the
of:

Witness _____
Name _____
Address _____

By the said

_____Name

_____

on behalf of the Employer in the presence
presence of:

Witness _____
Name _____
Address _____

Enclosures: -

1. Annexure 'A' - Tender Papers No.

2. Annexure 'B' - Letter of Acceptance of Tender No._____Dated_____

along with Summary of Prices

3. Other enclosures -

FORM No. 6

Format of Bank Guarantee for Performance Security

Bank Guarantee no…….. Dated……..…

To,
Chief Genera Manager,
Dedicated Freight Corridor Corporation of India Ltd/Noida Unit
D-89, 1st Floor, Sector-2,
Noida-20 1301

Reference:-Contract No……., awarded on …….

This deed of Guarantee made this day of_____between _____*(name of Bank)* having registered office at _____ and branch office at _____ *(hereinafter referred to as "Bank")* of the one part and Dedicated Freight Corridor Corporation of India Limited *(hereinafter called the Employer)* of the other Part.

Whereas Dedicated Freight Corridor Corporation of India Limited has awarded the Contract no…… for construction of ……*(hereinafter called "the Contract")* to M/s……..its registered office at ……..*(hereinafter called "the Contractor").*

Whereas the contractor is bound by the said Contract to submit to the Employer an irrevocable performance security guarantee bond for a total amount of Rs…….. *(Rs. In Words)* only.

Now, we the undersigned *(Name of Bank officials),* of the bank being fully authorized to sign and to incur obligations for and on behalf of the Bank hereby declare that the said Bank will guarantee the Employer the full amount of Rs……. *(Rs. In Words)* as stated above.

After the Contractor has signed the aforesaid contract with the Employer, the Bank further agree and promise to pay the amount due and payable under this guarantee without any demure merely on a demand from the Employer stating that the amount claimed is due by way of loss or damage cause to or would be caused or suffered by the employer by reason of any breach by the said contractor of any of the terms or conditions contained in the said agreement or by reason of the contractor failure to perform the said agreement. 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…….. *(Rs. in Words)* only.

We…….. *(indicate the name of Bank),* further undertake to pay to the Employer any money so demanded notwithstanding any dispute or dispute raised by the contractor in any suit or proceeding pending before any court or Tribunal relating to liability under this present being absolute and unequivocal.

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

We…….. *(indicate the name of Bank),* to 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 Employer under or by virtue of the said agreement have been full paid and its claims satisfied or discharged by …… *(Designation & Address of Contract signing authority)* on behalf of Employer certify that the terms and conditions of the said agreement have been fully and properly carried out by the said contractor and accordingly discharges this guarantee.

Notwithstanding anything to the contrary contained herein the liability of the bank under this guarantee will remain in force and effect until such time as this guarantee is discharged in writing by the employer or until *(date of validity/extended validity)* whichever is earlier and no claim shall be valid under the guarantee unless notice in writing thereof is given by the Employer within validity/extended validity period of guarantee from the date aforesaid.

Provided always that we …….. *(Name of Bank)* unconditionally undertakes to renew this guarantee or to extend the period of guarantee from year to year before the expiry of the period or the extended period of guarantee, as the case may be on being called upon to 3o so by the Employer. If the guarantee is not renewed or the period extended on demand, we ……. *(Name of Bank)* shall pay the Employer the full amount of the guarantee on demand without demur.

We…… *(indicate the name of Bank),* to further agree with the Employer that the Employer shall have the fullest liberty without our consent and without effecting in any manner out of obligation hereunder to vary any of the terms and conditions of the said contract from time to time or to postpone for any time or from time to time any to power exercisable by the Employer against the said contractor and to forbear or enforce any of the terms and conditions of the said agreement and we shall not be relieved from our liabilities by reason of such variation, or extension being granted to the said contractor for any bearance act or omission on the part of the Employer or any indulgence by the Employer to the said contractor or by any such matter or thing whatsoever which under the law relating to sureties for the said reservation would relieve us from the liability.

The Guarantee hereinbefore contained shall not be affected by any change in the constitution of Bank or of the Contractor.

The expressions "the Employer", "the Bank" and "the Contractor" hereinbefore used shall include their respective successors and assigns.

We…….. *(Name of the bank)* lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinbefore:

i) Our liability under this Bank Guarantee shall not exceed and restricted to Rs……*(Rs. in words).*

ii) This Bank Guarantee shall be valid up to …..., unless extended on demand by Employer.

iii) The Bank is liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only if Employer serve a written claim or demand on or before……

IN WITNESS WHEREOF we of the Bank have signed and stamped this guarantee on this day of …… being herewith duly authorized.

Bank seal

Signature of Bank Authorize Official with seal

Name……

Designation:

Address:

Witness:

1. Name: ……..

   Designation:

   Address:

2. Name: ……..

   Designation:

Address:

FORM No. 7

STANDING INDEMNITY BOND FOR "ON ACCOUNT" PAYMENTS

(To be executed on non-judicial stamp paper of appropriate value)

We, M/s _____hereby undertake that we hold at our stores Depot/s at _____for and on behalf of the Managing Director/ DFCCIL acting in the premises through the Chief Project Manager / DFCCIL/Noida or his successor (hereinafter referred to as "The Employer") all materials for which "On Account" payments have been made to us against the Contract for *(*_____*)* on the section _____DFCCIL also referred to as Group/s _____vide letter of Acceptance of Tender _____dated _____ and material handed over to us by the employer for the purpose of execution of the said contract, until such time the materials are duly erected or otherwise handed over to him.

We shall be entirely responsible for the safe custody and protection of the said materials against all risk till they are duly delivered as erected equipment to the employer or as he may direct otherwise and shall indemnify the employer against any loss/damage or deterioration whatsoever in respect of the said material while in our possession and against disposal of surplus materials. The said materials shall at all times be open to inspection by any officer authorized by the Chief Project Manager /DFCCIL/Noida in charge of Dedicated Freight Corridor Corporation of India Limited (*Whose address will be intimated in due course).*

Should any loss, damage or deterioration of materials occur or surplus material disposed off and refund becomes due, the Employer shall be entitled to recover from us the 85% of supply portion *(as applicable)* and also compensation for such loss or damage if any long with the amount to be refunded without prejudice to any other remedies available to him by deduction from any sum due or any sum which at any time hereafter becomes due to us under the said or any other Contract.

Dated this day ___ of ___

for and on behalf of

M/s _____(Contractor)
Signature of witness

Name of witness in Block letter.

Address.

FORM No. 7A

INDEMNITY BOND

(To be executed on non-judicial stamp paper of appropriate value)

This deed of Indemnity Bond is made at NOIDA, on this day of , we, ……through its Authorized Signatory (hereinafter called 'Contractor) AND M/s DFCCIL, D-89, Sector-2, Noida, District Gautam Budh Nagar, U.P., (Hereinafter called 'Client').

We,indemnify and save harmless the Railway/DFCCIL from and against all actions, suit proceedings losses, costs, damages, charges, claims and demands of every nature and description brought or recovered against the Railways/DFCCIL by reason of any act or omission of----------(Contractor), his agents or employees, in the execution of the works or in his guarding of the same. All sums payable by way of compensation under any of these conditons shall be considered as reasonable compensation to be applied to the actual loss or damage sustained, and whether or not any damage shall have been sustained.

IN WITNESS WHEREOF the Contractor has executed this Bond of Indemnity at Noida, on this……. of ……..

For and Behalf of
Signature of Witness-1
Name of Witness-1
(in Block Letter)
Address-1

Authorized Signatory

for and Behalf of
Signature of Witness-1
Name of Witness-1
(in Block Letter)
Address-1

Authorized Signatory

FORM No. 8

ECS / NEFT / RTGS

MANDATE FORM

Date :-

To,
Chief General Manager/Noida
DFCCIL, New Delhi.
Sub : ECS / NEFT / RTGS payments

We refer to the ECS / NEFT / RTGS set up by DFCCIL for remittance of our payments using RBI's NEFT / RTGS scheme, our payments may be made through the above scheme to our under noted account.

Name of Bank	
Name of City	
Bank Code No	
Name of Bank Branch	
Branch Code No	
Address of Bank Branch	
Telephone Number of Bank Branch	
Fax No of Bank Branch	
Name of customer / Tenderer as per account	
Account Number of Tenderer appearing on cheque book	
Type of Account *(S. B. / Current / Cash credit)*	
IFSC code for NEFT	
IFSC code for RTGS	
9-Digit-code number of the bank and branch appearing on the MICR cheque issued by the bank.	
Details of Cancelled Cheque leaf	
Telephone no of tenderer	
Cell Phone Number of the tenderer to whom details with regard to the status of bill submitted to Accounts Office i.e Co6 & Co7 & Cheque Purchase Orders particulars can be intimated through SMS	
Tenderer's E - mail ID	

Confirmed by Bank signature of tenderer With stamp and address

Enclose a copy of crossed cheque.

FORM No. 9

DRAFT MEMORANDUM OF UNDERSTANDING (MOU) For

JOINT VENTURE PARTICIPATION
BETWEEN

(To be executed on non-judicial stamp paper of appropriate value)

M/s …….. having its registered office at …… *(hereinafter referred to as ……..)* acting as the Lead Partner of the first part,

and

M/s …….having its registered office at ……. *(hereinafter referred to as `……..')* in the capacity of a Joint Partner of the other part.

and

M/s …….having its registered office at ……. *(hereinafter referred to as `……..')* in the capacity of a Joint Partner of the other part.

The expressions of …….. and …….. shall wherever the context admits, mean and include their respective legal representatives, successors-in-interest and assigns and shall collectively be referred to as "the Parties" and individually as "the Party"

WHEREAS:

Dedicated Freight Corridor Corporation of India Limited (DFCCIL) [hereinafter referred to as "Client"] has invited bids for … "[Insert name of work] ……..."

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

1. The following documents shall be deemed to form and be read and construed as an integral part of this MOU.
   (i) Notice for Bid, and
   (ii) Bidding document
   (iii) Any Addendum/Corrigendum issued by Dedicated Freight Corridor Corporation of India Limited
   (iv) The bid submitted on our behalf jointly by the Lead Partner.
2. The 'Parties' have studied the documents and have agreed to participate in submitting a `bid' jointly.
3. M/s ……shall be the lead member of the JV for all intents and purpose and shall represent the Joint Venture in its dealing with the Client. For the purpose of submission of bid proposals, the parties agree to nominate …….. as the leader duly authorized to sign and submit all documents and subsequent clarifications, if any, to the Client. However M/s …… shall not submit any such

proposals, clarifications or commitments before securing the written clearance of the other partner which shall be expeditiously given by M/s……..…….to M/s…….

4. The `Parties' have resolved that the distribution of responsibilities and their proportionate share in the Joint Venture is as under:

   (a) Lead Partner;

   (i) ……

   (ii) …….

   (iii) …..

   (b) Joint Venture Partner

   (i) ……

   (ii) …….

   (iii) …..

   [Similar details to be given for each partner]

5. JOINT AND SEVERAL RESPONSIBILITY

The Parties undertake that they shall be jointly and severally liable to the Client in the discharge of all the obligations and liabilities as per the contract with the Client and for the performance of contract awarded to their JV.

6. ASSIGNMENT AND THIRD PARTIES

The parties shall co-operate throughout the entire period of this MOU on the basis of exclusivity and neither of the Parties shall make arrangement or enter into agreement either directly or indirectly with any other party or group of parties on matters relating to the Project except with prior written consent of the other party.

7. EXECUTIVE AUTHORITY

The said Joint Venture through its authorized representative shall receive instructions, payments from the Client. The management structure for the project shall be prepared by mutual consultations to enable completion of project to quality requirements within permitted cost and time.

8. BID SECURITIES

Till the award of the work, JV firm/Lead Partner of JV firm shall furnish Bid Security to the Client on behalf of the joint venture which shall be legally binding on all the members of the Joint Venture.

9. BID SUBMISSION

Each Party shall bear its own cost and expenses for preparation and submission of the bid and all costs until conclusion of a contract with the Client for the Project. Common expenses shall be shared by all the parties in the ratio of their actual participation.

10. INDEMNITY

Each party hereto agrees to indemnify the other party against its respective parts in case of breach/default of the respective party of the contract works of any liabilities sustained by the Joint Venture.

11. For the execution of the respective portions of works, the parties shall make their own arrangements to bring the required finance, plants and equipment, materials, manpower and other resources.

12. DOCUMENTS & CONFIDENTIALITY

Each Party shall maintain in confidence and not use for any purpose related to the Project all commercial and technical information received or generated in the course of preparation and submission of the bid.

13. ARBITRATION

Any dispute, controversy or claim arising out of or relating to this agreement shall be settled in the first instance amicably between the parties. If an amicable settlement cannot be reached as above, it will be settled by arbitration in accordance with the Indian Arbitration and Conciliation Act 1996 or any amendments thereof. The venue of the arbitration shall be Delhi.

14. VALIDITY

This Agreement shall remain in force till the occurrence of the earliest to occur of the following, unless by mutual consent, the Parties agree in writing to extend the validity for a further period.

a. The bid submitted by the Joint Venture is declared unsuccessful, or

b. Cancellation/ shelving of the Project by the client for any reasons prior to award of work

c. Execution of detailed JV agreement by the parties, setting out detailed terms after award of work by the Client.

15. This MOU is drawn in …. number of copies with equal legal strength and status. One copy is held by M/s …… and the other by M/s……. & …….M/s ……. and a copy submitted with the proposal.

16. This MOU shall be construed under the laws of India.

17. NOTICES

Notices shall be given in writing by fax confirmed by registered mail or commercial courier to the following fax numbers and addresses:

Lead Partner	Other Partner(s)
…….	……
(Name & Address)	(Name & Address)

IN WITNESS WHEREOF THE PARTIES, have executed this MOU the day, month and year first before written.

M/s……..	M/s…….
…….……	……..
(Seal)	(Seal)

Witness

1……..(Name & Address)

2…….. (Name & Address)

Notes: (1) In case of existing joint venture, the certified copy of JV Agreement may be furnished.

FORM No. 10

DRAFT FORMAT OF JOINT VENTURE AGREEMENT

To be executed on non-judicial stamp paper of appropriate value in accordance with relevant Stamp Act and to be registered with appropriate authority under Registration Act.

The JV agreement shall be structured generally as per contents list given below:

A. CONDITIONS AND TERMS OF JV AGREEMENT

1. Definitions and Interpretation
2. Joint Venture – Include Equity of members, transferability of shareholding of equity of a partner leaving during the subsistence of the contract.
3. Proposal Submission
4. Performance – To indicate scope of responsibility of each member
5. Language and Law
6. Exclusively
7. Executive Authority
8. Documents
9. Personnel
10. Assignment and Third Parties
11. Severability
12. Member in Default
13. Duration of the Agreement
14 Liability and sharing of risks
15. Insurance
16. Sharing of Promotion and Project Costs, Profits, Losses and Remuneration
17. Financial Administration and Accounting
18. Guarantees and Bonds
19. Arbitration
20. Notices
21. Sole Agreement and Variation

B. SCHEDULES

1. Project and Agreement Particulars
2. Financial Administration Services
3. Allocation of the obligations
4. Financial Policy and Remuneration

*****

FORM No. 11

PRO-FORMA LETTER OF PARTICIPATION FROM EACH PARTNER OF JOINT VENTURE (JV)

(To be executed on non-judicial stamp paper of appropriate value in accordance with relevant Stamp Act and to be registered with appropriate authority under Registration Act.)

No…. Dated

From:
……..
……..

To,
The Chief General Manager/Noida Unit,
Dedicated Freight Corridor Corporation of India Limited
D-89, 1st Floor, Sector-2
Noida- 201301.

Gentlemen,

Re: **Interior Fitout works such as False Ceiling, Partitioning, Wood work, Electrical, HVAC, IT, Furniture and other allied works for under construction DFCCIL HHRI Building complex and 2nd Floor of CTP-14 office at Sec-145, Noida.**

Ref: Your notice for Invitation for Tender No. **CGM/DFCCIL/NOIDA UNIT/INTERIOR FITOUT WORKS/HHRI & CTP-14 OFFICE BUILDING /SEC-145/NOIDA/2021/05**.

We wish to confirm that our company/firm has formed a Joint Venture with(i)……. & ii) ……. for the purposes associated with IFB referred to above.

*(Members who are not the lead partner of the JV should add the following paragraph) *.*

2. 'The JV is led by … whom we hereby authorise to act on our behalf for the purposes of submission of Bid for ……. and authorise to incur liabilities and receive instructions for and on behalf of any and all the partners or constituents of the Joint Venture.'

OR

*(Member(s) being the lead member of the group should add the following paragraph) **

2. 'In this group we act as leader and, for the purposes of applying for Bid, represent the Joint Venture:

3. In the event of our JV being awarded the contract, we agree to be jointly with i) & ii) …… *(names of other members of our JV)* and severally liable to the Dedicated Freight Corridor

Corporation of India Limited, its successors and assigns for all obligations, duties and responsibilities arising from or imposed by the contract subsequently entered into between Dedicated Freight Corridor Corporation of India Limited and our JV.

4. *I/We, further agree that entire execution of the contract shall be carried out exclusively through the lead partner.

Yours faithfully,
(Signature)

(Name of Signatory) …….

(Capacity of Signatory) ……

Company Seal * Delete as applicable

Note: In case of existing joint venture, the certified copy of JV Agreement may be furnished.

FORM No. 12

FORMAT FOR POWER OF ATTORNEY FOR AUTHORISED SIGNATORY OF JOINT VENTURE (JV) PARTNERS

POWER OF ATTORNEY*

(*To be executed on non-judicial stamp paper of the appropriate value in accordance with relevant stamp Act. The stamp paper to be in the name of the company who is issuing the power of Attorney*)

Know all men by these presents, we … do hereby constitute, appoint and authorise Mr/Ms. …. who is presently employed with us and holding the position of ……as our attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our bid for the work of…….… Including signing and submission of all documents and providing information / responses to Dedicated Freight Corridor Corporation of India Limited, representing us in all matters, dealing with Dedicated Freight Corridor Corporation of India Limited in all matters in connection with our bid for the said project.

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

Dated this the …… day of ……..

(Signature of authorised Signatory)

Signature of Lead Partner **Signature of JV Partner(s)**

…… **…….**

(Signature and Name in Block letters of Signatory)

Seal of Company

Witness

Witness 1: Name: Witness 2: Name:

Address: Occupation: Address: Occupation:

**Notes:*

i) To be executed by all the partners jointly, in case of a Joint Venture.

FORM No. 13

FORMAT FOR POWER OF ATTORNEY TO LEAD PARTNER OF JOINT VENTURE (JV)

(To be executed on non-judicial stamp paper of the appropriate value in accordance with relevant stamp Act. The stamp paper to be in the name of the company who is issuing the power of Attorney)

POWER OF ATTORNEY*

Whereas Dedicated Freight Corridor Corporation of India Limited has invited Bids for the work of *"***Interior Fitout works such as False Ceiling, Partitioning, Wood work, Electrical, HVAC, IT, Furniture and other allied works for under construction DFCCIL HHRI Building complex and 2nd Floor of CTP-14 office at Sec-145, Noida.**"

Whereas, the members of the Joint Venture comprising of M/s. …, M/s. …, M/s. ……, and M/s. …. are interested in submission of bid for the work of *"***Interior Fitout works such as False Ceiling, Partitioning, Wood work, Electrical, HVAC, IT, Furniture and other allied works for under construction DFCCIL HHRI Building complex and 2nd Floor of CTP-14 office at Sec-145, Noida.**" in accordance with the terms and conditions contained in the bidding documents.

Whereas, it is necessary for the members of the Joint Venture to designate one of them as the Lead Partner, with all necessary power and authority to do, for and on behalf of the Joint Venture, all acts, deeds and things as may be necessary in connection with the Joint Venture's bid for the project, as may be necessary in connection the Joint Venture's bid for the project.

NOW THIS POWER OF ATTORNEY WITNESSETH THAT:

We, M/s. ……, hereby designate M/s. ……, being one of the partners of the Joint Venture, as the lead partner of the Joint Venture, to do on behalf of the Joint Venture, all or any of the acts, deeds or things necessary or incidental to the Joint Venture's bid for the contract, including submission of bid, participating in conferences, responding to queries, submission of information/ documents and generally to represent the Joint Venture in all its dealings with the Railway / DFCCIL or any other Government Agency or any person, in connection with the Bid/contract for the said work until culmination of the process of bidding till the contract agreement if successful,is entered into with the Dedicated Freight Corridor Corporation of India Limited and thereafter till the expiry of the contract agreement.

**To be executed by all the members of the JV except the lead member. The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under*

common seal affixed in accordance with the required procedure.

We hereby agree to ratify all acts, deeds and things lawfully done by lead member, our said attorney, pursuant to this power of attorney and that all acts deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us/ Joint Venture.

Dated this the …… Day of ……...

……

(Signature)

……
(Name in Block letters of Executants)
Seal of Company

Witness 1	
Name:	
Address:	
Occupation:	
Witness 2	
Name:	
Address:	
Occupation:	

FORM No. 14
Referece Para 17(b)
Registered Acknowledgement Due

PROFORMA FOR TIME EXTENSION

No. _____ Dated: _____

Sub: (i) _____*(name of work).*

(ii) Acceptance letter no. _____

(iii) Understanding/Agreement no. _____

Ref: _____*(Quote specific application of Contractor for extension to the date received)*_____

Dear Sir,

1. The stipulated date for completion of the work mentioned above is _____.From the progress made so far and the present rate of progress, it is unlikely that the work will be completed by the above date *(or 'However, the work was not completed on this date').*

2. Expecting that you may be able to complete the work, if some more time is given, the competent authority, although not bound to do so, hereby extends the time for completion from_____ to _____.

3. Please note that an amount equal to the liquidated damages for delay in the completion of the work after the expiry of _____*(give here the stipulated date for completion with/without any penalty fixed earlier)*will be recovered from you as mentioned in Clause, 17-B of the Standard General Conditions of Contract for the extended period, notwithstanding the grant of this extension. You may proceed with the work accordingly.

4. The above extension of the completion date will also be subject to the further condition that no increase in rates on any account will be payable to you.

5. Please intimate within a week of the receipt of this letter your acceptance of the extension of the conditions stated above.

6. Please note that in the event of your declining to accept the extension on the above said conditions or in the event of your failure after accepting or acting upto this extension to complete the work by _____ *(here mention the extended date),* further action will be taken in terms of Clause 62 of the Standard General Conditions of Contract.

Yours faithfully
For and on behalf of the Employer
Name of the Official:-
Stamp/Seal of the Employer

FORM No. 15

Referece Para 60(2)

CERTIFICATE OF FITNESS

1. (a) Serial Number _____
   (b) Date _____
2. Name of person examined _____
3. Father's Name: son/daughter of _____
   Residing at _____
4. Sex_____
5. Residence:
   _____
   __
6. Physical fitness _____
7. Identification marks _____
8. Date of birth, if available, and/or certified age _____
   I certify that I have personally examined (name) _____ who is desirous of being employed in a factory or on a work requiring manual labour and that his/her age as nearly as can be ascertained from my examination, is _____ years.

   I certify that he/she is fit for employment in a factory or on a work requiring manual labour as an adult/child.

9. Reasons for:

(a) refusal to grant certificate, or _____

(b) revoking the Certificate _____

Signature or Left Hand
Thumb Impression of the person Examined

Signature of Certifying Surgeon

Note: In case of physical disability, the exact details of the cause of the physical disability should be clearly stated.

FORM No. 16

Referece Para 62(1)

Registered Acknowledgement Due

PROFORMA OF 7 DAYS NOTICE FOR WORKS AS A WHOLE/IN PARTS

(DETAILS OF PART OF WORK TO BE MENTIONED)

DFCCIL
(Without Prejudice)

To

M/s _____
_____

Dear Sir,

Contract Agreement No. _____

In connection with _____

1. In spite of repeated instructions to you by the subordinate offices as well as by this office in various letters of even no. _____, dated _____; you have failed to start work/show adequate progress and/or submit detailed programme for completing the work.

2. Your attention is invited to this office/Chief Engineer's office letter no. _____ _____, dated _____in reference to your representation, dated _____.

3. As you have failed to abide by the instructions issued to commence the work/to show adequate progress of work you are hereby given 7 days' notice in accordance with Clause 62 of Standard General Conditions of Contract to commence works / to make good the progress, failing which further action as provided in Clause 62 of the Standard General Conditions of Contract viz. to terminate your Contract and complete the balance work without your participation will be taken.

Kindly acknowledge receipt.

Yours faithfully

For and on behalf of the Employer
Name of the Official:-

Stamp/Seal of the Employer

FORM No. 17

Reference Para 62(1)

Registered Acknowledgement Due

PROFORMA OF 48 HRS. NOTICE FOR WHOLE WORK
_____DFCCIL

(Without Prejudice)

To

M/s _____

_____

Dear Sir,

Contract Agreement No. _____

In connection with _____

1. Seven days' notice under Clause 62 of Standard General Conditions of Contract was given to you under this office letter of even no., dated _____; but you have taken no action to commence the work/show adequate progress of the work.

2. You are hereby given 48 hours' notice in terms of Clause 62 of Standard General Conditions of Contract to commence works / to make good the progress of works, failing which and on expiry of this period your above contract will stand rescinded and the work under this contract will be carried out independently without your participation and your Security Deposit shall be forfeited and Performance Guarantee shall also be encashed and consequences which may please be noted.

Kindly acknowledge receipt.

Yours faithfully

and on behalf of the Employer
Name of the Official: -
Stamp/Seal of the Employer

FORM No. 17 A

Reference Para 62.(1)

Registered Acknowledgement Due

PROFORMA OF 48 HRS. NOTICE FOR PART OF THE WORK…….

(DETAILS OF PART OF WORK TO BE MENTIONED)

DFCCIL
(Without Prejudice)

To

M/s_____

_____

Dear Sir,

Contract Agreement No._____

In connection with_____

1. Seven days' notice under Clause 62 of Standard General Conditions of Contract was given to you under this office letter of even no., dated; but you have taken no action to commence the work/show adequate progress of the part of work……. (details of part to be mentioned).

2. You are hereby given 48 hours' notice in terms of Clause 62 of Standard General Conditions of Contract to commence works / to make good the progress of works, failing which and on expiry of this period your above part of work…… (Details of part to be mentioned) in contract will be rescinded and the work will be carried out independently without your participation.

3. Your full Performance Guarantee for the contract shall be forfeited and you shall not be issued any completion certificate for the contract. However, no additional Performance Guarantee shall be required for balance of work being executed through the part terminated contract.

4. The contract value of part terminated contract shall stands reduced to_____

Kindly acknowledge receipt.

Yours faithfully
For and on behalf of the Employer
Name of the Official: -
Stamp/Seal of the Employer

FORM No. 18

Reference Para 62.(1)

Registered Acknowledgement Due

PROFORMA OF TERMINATION NOTICE

DFCCIL
(Without Prejudice)

No. _____ Dated _____

To
M/s _____
_____

Dear Sir,

Contract Agreement No. _____

In connection with _____

Forty-eight hours (48 hrs.) notice was given to you under this office letter of even no., dated _____; but you have taken no action to commence the work/show adequate progress of the work.

Since the period of 48 hours' notice has already expired, the above contract stands rescinded in terms of Clause 62 of Standard General Conditions of Contract and the balance work under this contract will be carried out independently without your participation. Your participation as well as participation of every member/partner in any manner as an individual or a partnership firm/JV is hereby debarred from participation in the tender for executing the balance work and your Security Deposit shall be forfeited and Performance Guarantee shall also be encashed.

Kindly acknowledge receipt.

Yours faithfully

For and on behalf of the Employer
Name of the Official: -
Stamp/Seal of the Employer

FORM No. 18A
Reference Para 62(1)
Registered Acknowledgement Due

PROFORMA OF TERMINATION NOTICE FOR PART OF THE WORK…….
(DETAILS OF PART OF WORK TO BE MENTIONED)

DFCCIL
(Without Prejudice)

No._____ Dated_____

To

M/s _____

_____

Dear Sir,

Contract Agreement No._____

In connection with_____

1. Forty-eight hours (48 hrs.) notice was given to you under this office letter of even no., dated_____; but you have taken no action to commence the work/show adequate progress of the part of work……. (details of part to be mentioned).

2. Your above part of work in contract ……. (details of part to be mentioned) stands rescinded in terms of Clause 62 of Standard General Conditions of Contract and the same will be carried out independently without your participation. Your participation as well as participation of every member/partner in any manner as an individual or a partnership firm/JV is hereby debarred from participation in the tender for executing the balance work

3. Your full Performance Guarantee for the contract shall be forfeited and you shall not be issued any completion certificate for the contract. However, no additional Performance Guarantee shall be required for balance of work being executed through the part terminated contract.

4. The contract value of part terminated contract stands reduced to …….. Kindly acknowledge receipt.

Yours faithfully

For and on behalf of the Employer
Name of the Official: -

Stamp/Seal of the Employer

FORM No. 19

PRE-CONTRACT INTIGRITY PACT

GENERAL:

This pre-bid contract Agreement *(hereinafter called the Integrity Pact)* is made on _____ day of the month of_____ 2021, between, on one hand, the DFCCIL acting through Shri _____ Designation of the officer, *(hereinafter called the CLIENT, which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns)* of the First Part and M/s _____ represented by Shri _____ Chief Executive Officer *(herein after called the "BIDDER/SELLER" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns)* of the Second Part.

WHEREAS, the CLIENT proposes to procure *(Name of the Stores/Equipment/Item, Name of the Consultancy Service, Name of Works Contract, Name of Services)* and the [A] is willing to offer/has offered for stores or works.

WHEREAS, the [A] is a private company/public company/Government undertaking/partnership/registered export agency, constituted in accordance with the relevant law in the matter and the CLIENT is a PSU performing its functions on behalf of the President of India.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to: -

Enabling the CLIENT to obtain the desired said *(Name of the Stores/Equipment/Item, Name of the Consultancy Service, Name of Works Contract, Name of Services)* at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling BIDDERs to abstain from bribing or indulging in any corrupt practice in order to secure [B] by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the CLIENT will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this integrity pact and agree as follows:

Commitments of the CLIENT:

1.0 The CLIENT undertakes that no official of the CLIENT, connected directly or indirectly with the [B], will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any

material or immaterial benefit or any other advantage from the [A] either for themselves or for any person, organization or third party related to the [B], in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the [B].

1.1 The CLIENT will, during the pre-contract stage, treat all BIDDERs alike, and will provide to all BIDDERs the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular [A] in comparison to other BIDDERs.

1.2 All the officials of the CLIENT will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.

2.0 In case any such preceding misconduct on the part of such officials(s) in reported by the [A] to the CLIENT with full and verifiable facts and the same is prima facie found to be correct by the CLIENT, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the CLIENT and such a person shall be debarred from further dealings related to the [B] process. In such a case while an enquiry is being conducted by the CLIENT the proceedings under the [B] would not be stalled.

3.0 Commitments of BIDDERS:

The [A] commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the [B] contract or in furtherance to secure it and in particular committee itself to the following: -

3.1 The [A] will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the CLIENT, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the [B] in exchange for any advantage in the bidding, evaluation, contracting and implementation of the [B].

3.2 The [A] further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the CLIENT or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the [B] or any other [B] with the Government for showing or forbearing to show favour or disfavour to any person in relation to the [B] or any other [B] with the Government.

3.3* [A] shall disclose the name and address of agents and representatives and Indian [A] shall disclose their foreign principals or associates.

3.4* [A] shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract.

3.5 The [A] further confirms and declares to the CLIENT that the [A] is the original manufacturer/integrator/authorized government sponsored export entity of the defence stores and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the CLIENT or any of its functionaries, whether officially or unofficially to the award of the [B] to the [A] nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation:

3.6 The [A] either while presenting the bid or during pre-contract negotiations or before signing the [B] shall disclose any payments he has made, is committed to or intends to make to officials of the CLIENT or their family members, agents, brokers or any other intermediaries in connection with the [B] and the details of services agreed upon for such payments.

3.7 The [A] will not collude with other parties interested in the [B] to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the [B].

3.8 The [A] will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.

3.9 The [A] shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the CLIENT as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The [A] also undertakes to exercise due and adequate care lest any such information is divulged.

3.10 The [A] commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.

3.11 The [A] shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.

3.12 If the [A] or any employee of the [A] or any person acting on behalf of the [A], either directly or indirectly, is a relative of any of the officers of the CLIENT, or alternatively, if any relative of an officer of the CLIENT has financial interest/stake in the BIDDER's firm, the same shall be disclosed by the [A] at the time of filling of tender.

The term 'relative' for this purpose would be as defined in Section 6 of the Companies Act 1956.

3.13 The [A] shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the CLIENT.

4.0 Previous Transaction:

4.1 The [A] declares that no previous transgression occurred in the last three years immediately before signing of this integrity pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify BIDDER'S exclusion from the tender process.

4.2 The [A] agrees that if it makes incorrect statement on this subject, [A] can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

5.0 Earnest Money *(Security Deposit):*

5.1 While submitting commercial bid, the [A] shall deposit an amount _____ *(to be specified in RFP)* as Earnest Money/Security Deposit, with the CLIENT through any of the following instruments:

(i) Bank Draft or a Pay order in favour of _____

(ii) A confirmed guarantee by an Indian Nationalized Bank, promising payment of the guaranteed sum to the CLIENT on demand within three working days without any demur whatsoever and without seeking any reasons whatsoever. The demand for payment by the CLIENT shall be treated as conclusive proof or payment.

(iii) Any other mode or through any other instrument *(to be specified in the BID).*

5.2 The Earnest Money/Security Deposit shall be valid upto a period of five years or the contractual obligations to the complete satisfaction of both the BIDDER and the CLIENT, including warranty period, whichever is later.

5.3 In case of the successful [A] a clause would also be incorporated in the Article pertaining to Performance Guarantee in the [B] that the provisions of Sanctions for Violation shall be applicable for forfeiture of Performance Bond in case of a decision by the CLIENT to forfeit the same without assigning any reason for imposing sanction for violation of this pact.

5.4 No interest shall be payable by the CLIENT to the [A] on Earnest Money/Security Deposit for the period of its currency.

6.0 Sanctions for violations:

6.1 Any breach of the aforesaid provisions by the [A] or any one employed by it or acting on its behalf (whether with or without the knowledge of the [A] shall entitle the CLIENT to take all or any one of the following actions, wherever required: -

(i) To immediately call off the pre-contract negotiations without assigning any reason or giving any compensation to the [A]. However, the proceedings with the other BIDDER(s) would continue.

(ii) The Earnest Money Deposit *(in pre-contract stage)* and/or Security Deposit/performance Bond *(after the [B] is signed)* shall stand forfeited fully and the CLIENT shall not be required to assign any reason therefore.

(iii) To immediately cancel the [B], if already signed, without giving any compensation to the [A].

(iv) To recover all sums already paid by the CLIENT, and in case of an Indian [A] with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a [A] from the country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the [A] from the CLIENT in connection with any other [B], such outstanding payment could also be utilized to recover the aforesaid sum and interest.

(v) To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the [A], in order to recover the payments, already made by the CLIENT, along with interest.

(vi) To cancel all or any other Contracts with the [A]. The [A] shall be liable to pay compensation for any loss or damage to the CLIENT resulting from such cancellation/rescission and the CLIENT shall be entitled to deduct the amount so payable from the money(s) due to the [A].

(vii) To debar the [A] from participating in future bidding processes of the Government of India for a minimum period of five years, which may be further extended at the discretion of the CLIENT.

(viii) To recover all sums paid in violation of this Pact by [A] to any middleman or agent or broker with a view to securing [B] the contract.

(ix) In cases where irrevocable Letters of Credit have been received in respect of any [B] signed by the CLIENT with the [A], the same shall not be opened.

(x) Forfeiture of Performance Bond in case of a decision by the CLIENT to forfeit the same without assigning any reason for imposing sanction for violation of this pact.

6.2 The CLIENT will entitled to take all or any of the actions mentioned at para 6.1(i) to (x) of this pact also on the Commission by the [A] or any one employed by it or acting on its behalf (whether with or without the knowledge of the [A], of an offence as defined in Chapter IX of the Indian Penal Code, 1860 or Prevention of Corruption Act, 1988 or any other stature enacted for prevention of corruption.

6.3 The decision of the CLIENT to the effect that a breach of the provisions of this Pact has been committed by the [A] shall be final and conclusive on the [A]. However, the [A] can approach the independent monitor(s) appointed for the purposes of this pact.

7.0 Fall Clause:

7.1 The [A] undertakes that it has not supplied / is not supplying similar product/systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India or PSU and if it is found at any stage that similar product/systems or sub systems was supplied by the [A] to any other Ministry/Department of the Government of India or a PSU at a lower price, then that vary price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the [A] to the CLIENT, if the [B] has already been concluded.

8.0 Independent Monitors:

8.1 The CLIENT has appointed independent Monitors *(hereinafter referred to as Monitors)* for this Pact in Consultant with the Central Vigilance Commission (Name and Addresses of the Monitors to be given).

8.2 The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this pact.

8.3 The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.

8.4 Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.

8.5 As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the CLIENT.

8.6 The BIDDER(s) accepts that the Monitor has the right to access without restriction to all project documentation of the CLIENT including that provided by the BIDDER. The [A] will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor

shall be under contractual obligation to treat the information and documents of the [A] with confidentiality.

8.7 The CLIENT will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.

8.8 The Monitor will submit a written report to the MD/DFCCIL within 8 to 10 weeks from the date of reference or intimation to him by the CLIENT/BIDDER and, should the occasion arise, submit proposals for correcting problematic situations.

9.0 Facilitation of Investigation:

In case of any allegation of violation of any provisions of this Pact or payment of commission, the CLIENT or its agencies shall be entitled to examine all the documents including the Books of Accounts of the [A] and the [A] shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

10.0 Law and Place of Jurisdiction:

This pact is subject to Indian Law. The Place of performance and jurisdiction is the seat of the CLIENT.

11.0 Other Legal Actions:

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

12.0 Validity:

12.1 The validity of this Integrity Pact shall be from date of its signing and extend upto 5 years or the complete execution of the [B] to the satisfaction of both the CLIENT and the [A] including warranty period, whichever is later. In case [A] is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the [B].

12.2 Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

12.3 The parties hereby sign this Integrity Pact at_____on _____.

CLIENT:	BIDDER:
Name of the Officer	CHIEF EXECUTIVE OFFICER

Designation

Deptt./Ministry/PSU

Witness:

1._____

2._____

Witness:

1._____

2._____

Note:

[A] To be replaced by BIDDER/Seller/Consultant/Consultancy firm/Service Provider as the case was may be.

[B] To be replaced by Contract/Supply Contract/Consultancy Contract/Works Contract as the case was may be.

FORM No. 20

FINAL SUPPLEMENTARY AGREEMENT

1. Articles of agreement made this day_____ in the year _____between DFCCIL, acting through the_____ DFCCIL Administration having his office at _____ herein after called the DFCCIL of the one part and _____of the second part.

2. Whereas the party hereto of the second part executed an agreement with the party hereto of the first part being agreement Number_____ dated_____ for the performance_____ herein after called the 'Principal Agreement'.

3. And whereas it was agreed by and between the parties hereto that the works would be completed by the party hereto of the second part on_____ date last extended and whereas the party hereto of the second part has executed the work to the entire satisfaction of the party hereto of the first part.

4. And whereas the party hereto of the first part already made payment to the party hereto of the second part diverse sums from time to time aggregating to ₹ _____ including the Final Bill bearing voucher No._____ dated _____ of value _____ duly adjusted as per price variation clause, if applicable (the receipt of which is hereby acknowledged by the party hereto of the second part in full and final settlement of all his /its claims under the principal agreement.

   And whereas the party hereto of the second part have received sum of ₹_____ through the Final Bill bearing voucher No_____ dated_____ duly adjusted as per price variation clause (PVC), if applicable (the receipt of which is hereby acknowledged by the party thereto of the second part) from the party hereto of the first part in full and final settlement of all his/its disputed claims under principal agreement.

   Now, it is hereby agreed by and between the parties in the consideration of sums already paid by the party hereto of the first part to the party hereto of the second part against all outstanding dues and claims for all works done under the aforesaid principal agreement excluding the security deposit, the party hereto of the second part have no further dues of claims against the party hereto of the first part under the said Principal Agreement. It is further agreed by and between the parties that the party hereto of the second part has accepted the said sums mentioned above in full and final satisfaction of all its dues and claims under the said Principal Agreement.

   (Applicable in case Final Supplementary Agreement is signed after release of Final Payment)

   Or

   And whereas the party hereto of the first part already made payment to the party hereto of the second part diverse sums from time to time aggregating to ₹_____ through various On Account Bills (the receipt of which is hereby acknowledged by the party hereto of the second part).

And whereas the party hereto of the second part have received sum of ₹ _____

through various On Account Bills (the receipt of which is hereby acknowledged by the party thereto of the second part) from the party hereto of the first part and party hereto of the second part have accepted final measurements recorded on Page No….. to Page No…. of Measurement Book No…….and corresponding Final Bill duly adjusted as per price variation clause (PVC), if applicable, for full and final settlement of all his/its disputed claims under principal agreement.

Now, it is hereby agreed by and between the parties in the consideration of sums already paid through various On Account Bills and sums to be paid through Final Bill duly adjusted as per price variation clause (PVC), if applicable, based on accepted final measurements including the security deposit by the party hereto of the first part to the party hereto of the second part against all outstanding dues and claims for all works done under the aforesaid principal agreement, the party hereto of the second part have no further dues of claims against the party hereto of the first part under the said Principal Agreement.

(Applicable in case Final Supplementary Agreement is signed before release of Final Payment)

5. It is further agreed and understood by and between the parties that the arbitration clause contained in the said principal agreement shall cease to have any effect and/or shall be deemed to be non-existent for all purposes.

Signature of the Contractor/s

for and on behalf of the DFCCIL

Witnesses

_____

ADDRESS: _____

Form No. 21

Deleted

Form No. 22

Format for Power of Attorney for Authorized representative

Know all men by these presents, We, *[name of organization and address of the registered office]* do hereby constitute, nominate, appoint and authorize Mr/Ms *[name]*, son /daughter/ wife of *[name]*, and presently residing at *[address]*, who is presently employed with/retained by us and holding the position of *[designation]* as our true and lawful attorney *(herein after referred to as the "Authorized Representative")*, with power to sub-delegate to any person, to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our Bid for *[name of assignment]*, to be developed by Dedicated Freight Corridor Corporation of India Ltd. *(the "Authority")* including but not limited to signing and submission of all applications/bids, proposals and other documents and writings, participating in pre-bid and other conferences and providing information/responses to the Authority, representing us in all matters before the Authority, signing and execution of all contracts and undertakings consequent to acceptance of our bid and generally dealing with the Authority in all matters in connection with or relating to or arising out of our Bid for the said Project and/or upon award thereof to us until the entering into of the Contract with the Authority.

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

IN WITNESS WHEREOF WE, *[name of organization]*, THE ABOVE-NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS *[date in words]* DAY OF *[month] [year in 'yyyy' format]*.

For *[name and registered address of organization] [Signature]*

[Name]

[Designation]

Witnesses:

1. *[Signature, name and address of witness]*

2. *[Signature, name and address of witness]*

Accepted

[Signature]

[Name]

[Designation] [Address]

Notes:

1. The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executants(s) and when it is so required, the same should be under seal affixed in accordance with the required procedure.

2. Wherever required, the Bidder should submit for verification the extract of the charter documents and other documents such as a resolution/power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.

Form No. 23

NO DEVIATION CERTIFICATE

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of DFCCIL inviting the Tender)

Dear Sir,

Sub : No Deviation Certificate.

Ref: 1) NIT/Tender Specification No: ……,

2) All other pertinent issues till date

We hereby confirm that we have not changed/ modified/materially altered any of the tender documents as downloaded from the website/ issued by DFCCIL and in case of such observance at any stage, it shall be treated as null and void.

We also hereby confirm that we have neither set any Terms and Conditions and nor have we taken any deviation from the Tender conditions together with other references applicable for the above referred NIT/Tender Specification.

We further confirm our unqualified acceptance to all Terms and Conditions, unqualified compliance to Tender Conditions, Integrity Pact etc.

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized

representative of the bidder)

Form No.24

GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR

FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF

WATER-PROOFING WORKS/ANTI TERMITE TREATMENT

(To be executed on non-judicial stamp paper of the

appropriate value in accordance with relevant stamp Act.)

The agreement made this..... day of ..... *(Two Thousand_____ only)*
..... between .....S/o .....*(hereinafter called the GUARANTOR of the one part)* and the DFCCIL *(hereinafter called the Employer of the other part)*

WHEREAS THIS agreement is supplementary to a contract *(hereinafter called the Contract)* dated ..... and made between the GUARANTOR OF THE ONE PART AND the DFCCIL of the other part whereby the contractor inter alia undertook to render the building and structures in the said contract recited completely water and leak-proof.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said work will remain water and leak proof, for ten years from the date of completion of work.

NOW THE GUARANTOR hereby guarantees that work executed by him will render the structures completely leak proof and the minimum life of such water proofing treatment shall be ten years to be reckoned from the date of completion of work.

The decision of the Engineer/DFCCIL with regard to nature and cause of defect shall be final and binding on Guarantor.

During this period of guarantee, the guarantor shall make good all defects and in case of any defect being found render the building ***water proof/anti termite*** to the satisfaction of the Engineer/DFCCIL calling upon him to rectify the defects failing which the work shall be got done by the Department by some other contractor at the Guarantor's cost and risk. The decision of the Engineer/DFCCIL as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to execute the water proofing/anti termite treatment and fails to control all kinds of leakage and seepage or commits breach there under, then the guarantor will indemnify the principal and his successor against all loss, damage, cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and / or cost incurred by the DFCCIL, the decision of the Engineer/DFCCIL will be final and binding on both the parties.

IN WITNESS WHEREOF these presents have been executed by the obligator.....and ..... by ..... for and on behalf of the DFCCIL on the day, month and year first above written.

SIGNED, sealed and delivered by OBLIGATOR in the presence of: -

1.....

2. .....

SIGNED FOR AND BEHALF OF DFCCIL BY ..... in

the presence of: -

1.....

2.....

Form No. 25
Reference Para 64.3 & 64.6

Agreement towards Waiver under Section 12(5) and Section 31A (5)

of Arbitration and Conciliation (Amendment) Act

I/we..... (Name of agency/Contractor) with reference to agreement no..... raise disputes as to the construction and operation of this contract, or the respective rights and liabilities, withholding of certificate and demand arbitration in respect of following claims:

Brief of claim:

(i) Claim 1- Detailed at Annexure-
(ii) Claim 2 –
(iii) Claim 3 –

I/we..... (post of Engineer) with reference to agreement no..... hereby raise disputes as to the construction and operation of this contract, or the respective rights and liabilities, withholding of certificate and demand arbitration in respect of following claims:

I/we.....do/do not agree to waive off applicability of section 12(5) of Arbitration and Conciliation (Amendment) Act.

Signature of Claimant_____ Signature of Respondent _____

Agreement under Section 31(5)

I/we..... (Name of claimant) with reference to agreement no..... hereby waive off the applicability of sub section 31-A (2) to 31-A (4) of the Arbitration and Conciliation (Amendment Act. We further agree that the cost of arbitration will be shared by the parties as per Clause 64(6) of GCC.

Signature of Claimant_____ Signature of Respondent_____

*Strike out whichever not applicable.

Form No.26
Reference Para 64.(3)

Certification by Arbitrators appointed under Clause 63 & 64

of Indian Railways General Conditions of Contract

1. Name:
2. Contact Details:
3. Prior experience (Including Experience with Arbitrations):
4. **I do not have more than ten on-going Arbitration cases with me**.
5. I hereby certify that I have retired from Railways/DFCCIL w.e.f. _____ and empanelled as Railway Arbitrator as per 'The Arbitration and Conciliation Act- 1996'.
6. I have no any past or present relationship in relation to the subject matter in dispute, whether financial, business, professional or other kind.

Or

I have past or present relationship in relation to the subject matter in dispute, whether financial, business, professional or other kind. The list of such interests is as under:

7. I have no any past or present relationship with or interest in any of the parties whether financial, business, professional or other kind, which is likely to give rise to justifiable doubts as to my independence or impartiality in terms of The Arbitration and Conciliation Act-1996.

Or

I have past or present relationship with or interest in any of the parties whether financial, business, professional or other kind, which is likely to give rise to justifiable doubts as to my independence or impartiality in terms of The Arbitration and Conciliation Act-1996. The details of such relationship or interests are as under:

8. There are no concurrent Circumstances which are likely to affect my ability to devote sufficient time to the arbitration and in particular to finish the entire arbitration within twelve months.

Or

There are Circumstances which are likely to affect my ability to devote sufficient time to the arbitration and in particular to finish the entire arbitration within twelve months.

****END of Tender Document****