

অসম চৰকাৰ



GOVERNMENT OF ASSAM  
O/o-THE PROJECT DIRECTOR

ASSAM HEALTH INFRASTRUCTURE DEVELOPMENT AND MANAGEMENT SOCIETY  
NAYANTARA SUPER MARKET COMPLEX, SIXMILE, GUWAHATI – 781022

**Response to second set of Pre-Bid Queries**

**Project Name :** Assam Health System Strengthening Project supported by JICA

**JICA Loan No. :** ID-P 302

**Name of the Contract :** Construction of Super-specialty Hospital Block and allied buildings within Tezpur Medical College, Jorhat Medical College and Diphu Medical College campus involving Civil, MEP Works, External Development Works **(Package 1-1B)**.

**IFB No: the Employer/JICA/SUPER SPECILATY TENDER/2025/ECF NO. 598510/01-B**

Sl.No.	Reference Clause & Page No.	Tender Condition	Query / Clarification required by the bidder	Pre-bid Replies /Response by the Employer
1	General	<b>Table 1: Summary of Milestones :</b> The said Summary of Milestones have been given in Section 1-IX of the Tender Document.	Tender document states Completion Schedule of 30 Months for both the packages. Your goodself is aware that both packages contain three individual locations with variation in scope & site conditions. Looking in the scope & conditions, we realise that completion time of individual site may vary and it would be justified to consider individual site as an independent contract for <b>Taking Over and issuance of Completion Certificate</b> rather than linking all the sites together. We request you to consider Phase-wise/ Site-wise completion and taking over.	The Tender Conditions shall prevail.
2	General	<b>Procedure of RA Bill :</b> Package wise RA Bill system mentioned in Tender document	We request to consider site-wise submission & release of RA Bills in place of Package wise to ensure good work progress and healthy cash flow of individual sites.	The Tender Conditions shall prevail.
3	General	<b>Type of Cement (OPC/PPC/PSC)</b> to be used for construction has not been specified in theTender document /BOQ properly.	We request to clarify type of Cement viz. OPC,PPC or PSC to be used for Concrete & other Architectural Works.	Refer sl no.50 of the Responses to 1st set of Pre-bid queries published on 04/02/2025
4	General	<b>Green Building Norms:</b> Nothing has been mentioned in the Bid Document	Kindly clarify if the said project is planned for any GRIHA rating.	GRIHA ratings not to be considered.
5	Section IV, Annexure -1, BOQ	Item No. 6.38 , 6.47 : Providing and laying autoclaved aerated cement blocks masonry -----	Normal Cement Plaster items have been given in the BOQ. Kindly verify the suitability of Cement Plaster on AAC Block surface. As per our experience, cracks will appear on normal cement plastered surface if applied on AAC block. May please be clarified.	Refer SI no. 1, Corrigendum-2 dated 07/02/2025 Updated Annexure-1 Bill of Quantities (Excel format). In the revised BOQ, refer sl no. 150, 169.
6	Section VI, Works Requirements , Annexure-2 : Technical Specifications	LIST OF PREFERRED MAKE / MANUFACTURERS FOR DIFFERENT MATERIALS TO BE USED FOR CIVIL WORKS Sl. No.48 Page 134 <b>AAC Block :</b> Superlite, Ultralyte, Genex & Equivalent	We request to include <b>BrikOLite</b> in the make list. This manufacturer is also Assam based and supplying material to several ongoing projects in the state.	Refer Annexure-C(List Of approved make list),Corrigendum No.1 Dated 30/01/2025. Please note, the make list given as Annexure-C under Corrigendum no. 1 shall supersede any other makes mentioned elsewhere in the Bid Document.

Sl.No.	Reference Clause & Page No.	Tender Condition	Query / Clarification required by the bidder	Pre-bid Replies /Response by the Employer
7	Section IV_ Annexure 1 _ P1 - 1A BOQ Sub Head 34 : Fire Alarm and Dection System Item SI No. 668	Supplying, installation, testing and commissioning of micro processor based intelligent addressable main fire alarm panel, central processing unit with the following loop modules and capable of supporting not less than 240 devices (including detectors) and minimum 120 detectors per loop and loop length up to 2 km, network communication card, minimum 320 character graphics/ LCD display with touch screen or other keypad and minimum 4000 events history log in the non volatile memory (EPROM), power supply unit (230 ± 5% V, 50 hz), 48 hrs back-up with 24 volt sealed maintenance free batteries with automatic charger. The panel shall have facility to connect printer to printout log and facility to have seamless integration with analog/digital voice evacuation system (which is part of the schedule of work under SH: PA System) and shall be complete with all accessories . The panel shall be compatible for IBMS system with open protocol BACnet/ Modbus over IP complete as per specifications.	As a genral practice kindly accept for 24hrs battery backup with 30 min alarm condition.	BOQ descriptions as given in the BOQ shall remain unchanged.
8	Section IV_ Annexure 1 _ P1 - 1A BOQ Sub Head 39 : Air cooled Chiller Item SI No. 707-708 ANNEXURE - 2 SECTION VI : WORKS REQUIREMENT SPECIFICATIONS Page No. 525 of 700	Ambiant Condition :DB temp. 90 deg F and WB temp. 78 Deg F, <u>3.0 Air Cooled Condenser</u> 3.3 Air Entry temperature -- 45 Deg Centigrade	We understand that the BOQ Clause shall prevail. i.e. Ambiant Condition shall be : DB temp. 90 deg F and WB temp. 78 Deg F. --- Kindly Confirm	Yes. BOQ clause shall prevail. BOQ descriptions as given in the BOQ shall remain unchanged.
9	Section IV_ Annexure 1 _ P1 - 1A BOQ Bill No. : 5 , HVAC Works Item SI No. 687-899		It was noted and understood from the BOQ for HVAC System, that supply of VFD-s are not in scope for this tender / project. ----kindly confirm.	The Supply of VFD's are not in the scope of this HVAC tender Bill of Quantities
10	Section IV_ Annexure 1 _ P1 - 1A BOQ Item SI No. 908	625 KVA DG set with suitable capacity of Day Oil Tank describe as above	From the Manufacturers , it was noted that no DG sets of rating 625 KVA are manufactured. Available Nearest Rating shall be 650 KVA. Hence, we request to amend the capacity of DG sets in BOQ.	Refer SI no. 1, Corrigendum-2 dated 07/02/2025 Updated Annexure-1 Bill of Quantities (Excel format). In the revised BOQ, refer sl no. 941, 942,947,958.

Sl.No.	Reference Clause & Page No.	Tender Condition	Query / Clarification required by the bidder	Pre-bid Replies /Response by the Employer																					
11	Section IV_ Annexure 1 _ P1 - 1A BOQ Public Address System Item SI No. 1217 (A)- 1235 (A)	SITC of Cable Tray of Bends , Tee-s, Cross Membars & Reducers ---- UOM-s are mentioned in Metre.	We understand that Units of Cable Tray Bends, Tee-s , Cross Membars and Reducers shall be "Nos" of "Each" instaed of Metre.--- Kindly confirm.	Refer SI no. 1, Corrigendum-2 dated 07/02/2025 Updated Annexure-1 Bill of Quantities (Excel format). In the revised BOQ, refer sl no. 1217 (A)- 1235 (A)																					
12	Section IV_ Annexure 1 _ P1 - 1A BOQ Public Address System Item SI No. 1255	Supply,Installation, Testing & Commissioning of 8 zone IP based, digital Voice Alarm controller expandable upto 128 zones. The voice alarm controller should be able to connect directly over Ethernet. It should have functions like the audio playing, zone control, fault monitoring, log recording, volume control and amplifier switchover. The Voice alarm controller should also have the following functions: . 255 Priorities . Time schedule broadcasts . Its own PTT microphone . Capable of amplifier redundancy	We request your goodself to kindly review the requirement of 3 nos of controllers for each hospital block and confirm.	BOQ descriptions as given in the BOQ shall remain unchanged.																					
13	Section IV_ Annexure 1 _ P1 - 1A BOQ Public Address System Item SI No. 1256	Supply,Installation, Testing & Commissioning of IP based Networkable touch screen paging station for selection of zones, supervision of system status, setting of scheduled broadcasts with the following functions: . Built-in monitoring loudspeaker . Detachable goose-neck microphone LCD touchscreen display	Kindly accept for keypad based paging station.	BOQ descriptions as given in the BOQ shall remain unchanged.																					
14	Section IV_ Annexure 1 _ P1 - 1A BOQ Public Address System Item SI No. 1257 & 1258	SITC of 1x250W Class-D Amplifier with 4 independent channels --- 2 Nos SITC of 1x500W Class-D Amplifier with 4 independent channels --- 3 Nos	It was noted from the approved manufacturers that the combination of either 1X250W or 1X500W or both of Class D Amplifiers are not available with most of them. Kindly advise.	Refer SI no. 1, Corrigendum-2 dated 07/02/2025 Updated Annexure-1 Bill of Quantities (Excel format). In the revised BOQ, refer sl no. 1257-1258.																					
15	Section IV_ Annexure 1 _ P1 - 1A BOQ Item SI No. 1366-1367	<table border="1"> <tr> <td colspan="7">CAMC (Comprehensive Annual Maintenance Contract) Comprehensive Maintenance of the complete Medical Gas Pipeline System installation for 5 years after completion of Defect Liability Period / Warranty Period of Five Years as per terms and conditions of comprehensive maintenance described in the IIT as per following. The Comprehensive Maintenance of MGPS Installations include complete MGPS Installations, Labour, Spares, all consumables etc. as required including the following: a) All MGPS Equipments in the IIT. b) Preventive Maintenance including Testing &amp; Calibration as per Technical / Service / Operational Manual of the Manufacturer. c) MGPS Installation inside the MGPS Plant Room</td> </tr> <tr> <td>1366</td> <td>1st Year</td> <td>nos.</td> <td>1</td> <td>1</td> <td>1</td> <td>3.00</td> </tr> <tr> <td>1367</td> <td>2nd Year</td> <td>nos.</td> <td>1</td> <td>1</td> <td>1</td> <td>3.00</td> </tr> </table>	CAMC (Comprehensive Annual Maintenance Contract) Comprehensive Maintenance of the complete Medical Gas Pipeline System installation for 5 years after completion of Defect Liability Period / Warranty Period of Five Years as per terms and conditions of comprehensive maintenance described in the IIT as per following. The Comprehensive Maintenance of MGPS Installations include complete MGPS Installations, Labour, Spares, all consumables etc. as required including the following: a) All MGPS Equipments in the IIT. b) Preventive Maintenance including Testing & Calibration as per Technical / Service / Operational Manual of the Manufacturer. c) MGPS Installation inside the MGPS Plant Room							1366	1st Year	nos.	1	1	1	3.00	1367	2nd Year	nos.	1	1	1	3.00	The Description of the Item for CAMC for Medical Gas Pipeline System calls for comprehensive contract for a period of 5 years. However, the BOQ SI No. 1366 & 1367 ask for Comprehensive Maintenance for two years only. We understand that CAMC for 2 years only will be executed for MGPS under this contract. ----- Kindly confirm.	yes. The CAMC for MGPS shall be for 2 years. Refer SI No.1366,1367 of the revised BOQ.
CAMC (Comprehensive Annual Maintenance Contract) Comprehensive Maintenance of the complete Medical Gas Pipeline System installation for 5 years after completion of Defect Liability Period / Warranty Period of Five Years as per terms and conditions of comprehensive maintenance described in the IIT as per following. The Comprehensive Maintenance of MGPS Installations include complete MGPS Installations, Labour, Spares, all consumables etc. as required including the following: a) All MGPS Equipments in the IIT. b) Preventive Maintenance including Testing & Calibration as per Technical / Service / Operational Manual of the Manufacturer. c) MGPS Installation inside the MGPS Plant Room																									
1366	1st Year	nos.	1	1	1	3.00																			
1367	2nd Year	nos.	1	1	1	3.00																			
16	General	Approved Make List	For some items , it was noted that makes mentioned in BOQ and Approved Make List are not similar. We understand that makes mentioned in both BOQ and Make Lists can be considered	Refer Response given against sl no. 6 above.																					

Sl.No.	Reference Clause & Page No.	Tender Condition	Query / Clarification required by the bidder	Pre-bid Replies /Response by the Employer
17	ANNEXURE - 2 SECTION VI : WORKS REQUIREMENT SPECIFICATIONS Page No. 298	<u>Intelligent Multi Criteria Acclimating Detector</u> The detector design shall allow a wide sensitivity window, no less than 1 to 4% per foot obscuration	Kindly accept for sensitivity level UL268 3.52-4.17% / ft obs. As per the UL requirement.	BOQ descriptions as given in the BOQ shall remain unchanged.
18	ANNEXURE - 2 SECTION VI : WORKS REQUIREMENT SPECIFICATIONS Page No. 529-533	Electrical Make List. List of Makes for Lifts.	No list of Makes for Lifts are mentioned in the list. We propose Kone , OTIS , Johnson . Please confirm.	Please refer Annexure C (List Of approved make list),Corrigendum No.1 Dated-30/01/2025
19	ANNEXURE - 2 SECTION VI : WORKS REQUIREMENT SPECIFICATIONS Page No. 588-590	HVAC Make List. List of Makes for Chillers.	No List of Makes for Chillers are mentioned in the list. We propose Daikin , Kirloskar , Blue Star , Voltas and Dunham Bush . Please Confirm.	Refer SI no. 2, Corrigendum No.2 Dated 07/02/2025
20	ANNEXURE - 2 SECTION VI : WORKS REQUIREMENT SPECIFICATIONS Page no. 592- 627	<u>7.1 MEDICAL GAS PIPELINE SYSTEM (MGPS)</u> All the items Shall be European CE Certified with 4 digit notified body number or American ETL/ American UL listed <u>MAKE IN INDIA POLICY</u> The MGPS work shall fully comply to Public Procurement (preference to make in India).	It was noted from the approved manufacturers ( Indian Only ) and their products are not European CE Certified with 4 digit notified body number or American ETL/ American UL listed.  We also request to add some more Indian Makes in the list like M/s MDD , M/s Medfreshe , M/s PES & M/s SITA Medicare etc.	Since the bidding has been invited as ICB following JICA SBD,the specification clause shall prevail.  Refer SI no. 3, Corrigendum No.2 Dated 07/02/2025
21	ANNEXURE - 2 SECTION VI : WORKS REQUIREMENT SPECIFICATIONS Page No. 641	<u>LIST OF APPROVED MAKES FOR NURSE CALL SYSTEM</u> ZKR / AMBA / HELIX	As understand from M/s HELIX, they are not dealing with Nurse Call System. We request you to include M/s MDD , M/s Medfreshe & M/s PES Installations in the list.	Refer SI no. 4, Corrigendum No.2 Dated 07/02/2025

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ASSAM HEALTH INFRASTRUCTURE DEVELOPMENT AND MANAGEMENT SOCIETY  
NAYANTARA SUPER MARKET COMPLEX, SIXMILE, GUWAHATI – 781022

Corrigendum No.2

Date : 07/02/2025

**Project Name :** Assam Health System Strengthening Project supported by JICA

**JICA Loan No. :** ID-P 302

**Name of the Contract :** Construction of Super-specialty Hospital Block and allied buildings within Tezpur Medical College, Jorhat Medical College and Diphu Medical College campus involving Civil, MEP Works, External Development Works (Package 1-1B).

**IFB No: the Employer/JICA/SUPER SPECILATY TENDER/2025/ECF NO. 598510/01-B**

Sl.No.	Reference Clause	Page No.	Instead of	Now read as
1	Section IV. Bidding Forms Annexure-1 Bill of Quantities	BF-10	Updated Annexure-1 Bill of Quantities (Excel format) enclosed to this document as <b>Annexure-A</b> under <b>Corrigendum-1</b>	Updated Annexure-1 Bill of Quantities (Excel format) enclosed to this document as <b>Annexure-A</b> under <b>Corrigendum-2</b>
2	Annexure C (List Of approved make list),Corrigendum No.1 Dated-30/01/2025	NA	Air Cooled Chiller- Makes missing Motor For AHU Fan- Makes missing Motor for Ventilation Fan- Makes missing Pan humidifier/ Strip Heater- Makes missing	Makes approved- Air Cooled Chiller- Kirloskar / Blue star / Voltas / Daikin / York / Trane Dunham Bush or equivalent  Motor For AHU Fan- Seimens / ABB/ Crompton or equivalent  Motor for Ventilation Fan- Seimens / ABB/ Crompton or equivalent  Pan humidifier/ Strip Heater- KEPL / Rapidcool/ Emerald/ Danfoss/ Siemens or equivalent  Any missing item- Prior permission is required from Employer.
3	Annexure C (List Of approved make list),Corrigendum No.1 Dated-30/01/2025	pdf 27	LIST OF APPROVED MAKES FOR MEDICAL GAS PIPELINE SYSTEM- attached under Annexure C (List Of approved make list), <b>Corrigendum No.1 Dated-30/01/2025</b>	LIST OF REVISED APPROVED MAKES FOR MEDICAL GAS PIPELINE SYSTEM- attached as <b>Annexure B</b> as <b>Corrigendum No.2 Dated-07/02/2025</b>
4	Annexure C (List Of approved make list),Corrigendum No.1 Dated-30/01/2025		LIST OF APPROVED MAKES FOR NURSE CALL SYSTEM- attached under Annexure C (List Of approved make list),Corrigendum No.1 Dated-30/01/2025  ZKR / AMBA MEDI NEX / HELIX / NIPPON ENGINEERING COMPANY/ CAREWELL / RELISON OR EQUIVALENT	Revised Approved Makes for Nurse call System-  ZKR / AMBA MEDI NEX / NIPPON ENGINEERING COMPANY/ CAREWELL/ RELISON / MPS/ MDD/ MEDFRESHE OR EQUIVALENT

Project Name : Assam Health System Strengthening Project supported by JICA

JICA Loan No. : ID-P 302

Name of the Contract : Construction of Super-specialty Hospital Block and allied buildings within Tezpur Medical College, Jorhat Medical College and Diphu Medical College campus involving Civil, MEP Works, External Development Works.

IFB No:

#### A.Preamble

1. The Bill of Quantities shall be read in conjunction with the General and Particular Conditions of Contract, Specification, and Drawings.
2. The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The payment shall be made based on the actual quantities of the work executed in accordance with the Contract.
3. The rates and prices in the priced Bill of Quantities shall, except insofar as it is otherwise provided under the Contract, include all costs for construction plant, labour, supervision, materials, erection, maintenance, insurance, profit, taxes, and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract.
4. A rate or price shall be entered against each item in the Bill of Quantities, irrespective of whether quantities are stated or not. Items against which no rate or price is entered in the priced Bill of Quantities shall be deemed to be covered by the rates or prices entered for other items therein, and will not be paid for separately.
5. The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Bill of Quantities, and where no items are provided, the cost shall be deemed to be included in the rates or prices entered for the related items of work.
6. General requirements, directions and/or descriptions of work and materials are not necessarily repeated or summarized in the Bill of Quantities. Relevant sections of the Contract documents shall be referred before entering prices against each item in the priced Bill of Quantities.
7. Provisional Sums included and so designated in the Bill of Quantities shall be expended in whole or in part at the direction and discretion of the Engineer in accordance with Sub-Clause 13.5 or Sub-Clause 13.6 of the General Conditions of Contract, as applicable. Notwithstanding the above, the Provisional Sum for the cost of the DB shall require no prior instruction of the Engineer.
8. No Contractor's overhead charges or profit shall be included or payable on the Provisional Sum for the cost of the DB.
9. The method of measurement of completed work for payment shall be in accordance with IS 1200 (All parts) and CPWD specifications as applicable.
10. Any unit rates and/or prices quoted in the Bill of Quantities in:
  - (a) Indian Rupees (INR), there shall be no decimal places below zero.
  - (b) Japanese Yen (JPY), there shall be no decimal places below zero.
  - (c) United States Dollar (USD), there shall be two decimal places below zero.
 Any price(s) resulting from computations (such as unit price multiplied by quantity) shall be rounded down to the nearest decimal place(s) as indicated for each relevant currency above.
11. All rates quoted for individual items shall be excluding GST. GST shall be added separately and payable at prevailing rates over and above the quoted rate as indicated in the Price Bid.
12. Where there are any items of work provided in the Bills of Quantities for complying with requirements of sub-clauses 6.1 through 6.24 of the General Conditions of Contract, payment for such items are made only by monthly instalments upon the Contractor's compliance with all contract requirement with respect of that item, for each month, to the satisfaction of the Engineer.
13. The Engineer shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work
14. Notwithstanding anything stated anywhere in the bid documents / contract, the rate to be quoted by the bidder shall be deemed to include overheads, profits, labour cess, ESIC, health insurance, PF, cost index and any other such items not specifically stated. However, the quoted rate for each item is excluding GST.
15. The Contractor shall make all arrangements for ground breaking ceremony/ Inaugral function etc . for the project as required and the cost towards it deemed to be included in his rates/offer.

Project Name : Assam Health System Strengthening Project supported by JICA			
JICA Loan No. : ID-P 302			
Name of the Contract : Construction of Super-specialty Hospital Block and allied buildings within Tezpur Medical College, Jorhat Medical College and Diphu Medical College campus involving Civil, MEP Works, External Development Works.			
IFB No:			
<b>GRAND SUMMARY</b>			
Description	Amount		
	INR	JPY	USD
Facility No-1 Super Speciality Hospital at Tezpur (TMCH)	-	-	-
Facility No-2 Super Speciality Hospital at Jorhat (JMCH)	-	-	-
Facility No-3 Super Speciality Hospital at Diphu (DMCH)	-	-	-
(A) Total (TMCH+JMCH+DMCH)	-	-	-
(B) Specified Provisional Sums	19,109,250.00	-	-
(C) Total (A+B)	19,109,250.00	-	-
(D) Add contingency allowance (20%)	3,821,850.00	-	-
(E) <b>Bid Price (C+D) [carried forward to Letter of Price Bid]</b>	<b>22,931,100.00</b>	-	-
Note: The Employer shall add GST @ 18% during the contract signing			

Project Name : Assam Health System Strengthening Project supported by JICA				
JICA Loan No. : ID-P 302				
Name of the Contract : Construction of Super-specialty Hospital Block and allied buildings within Tezpur Medical College, Jorhat Medical College and Diphu Medical College campus involving Civil, MEP Works, External Development Works.				
IFB No:				
<b>Specified Provisional Sums</b>				
1. The Bill of	Description	Amount		
		INR	JPY	USD
1	Cost of Dispute Board (DB)	19,109,250.00		
	Total Specified Provisional Sums	19,109,250.00	-	-

#### Notes for the Bidders

- 1 Provisional Sums included and designated above shall be expended in whole or in part at the direction of the Engineer and in accordance with Sub-Clause 13.5 of the General Conditions. Notwithstanding the above, the Provisional Sum for the cost of the DB shall require no prior instruction of the Engineer.
- 2 No Contractor's overhead charges or profit shall be included or payable on the Provisional Sum for the Cost of the DB.





ASSAM HEALTH INFRASTRUCTURE DEVELOPMENT & MANAGEMENT SOCIETY MEDICAL EDUCATION & RESEARCH DEPARTMENT, GOVT. OF ASSAM

JICA Loan no : ID-P 302 - ASSAM HEALTH SYSTEM STRENGTHENING PROJECT SUPPORTED BY JICA

Name of the Contract : Construction of Super-specialty Hospital Block and allied buildings within Tezpur Medical College, Jorhat Medical College and Diphu Medical College campus involving Civil, MEP Works, External Development Works.

IFB no:

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19				
	<b>Bill No - 1 CIVIL WORKS</b>																					
<b>1</b>	<b>Pre construction Work- Salvage/Tree cutting</b>																					
I-1	Credit for demolition of building structures etc. complete and taking away all fetched material out of campus within 30 days after completing demolition part except the C&D waste kept for recycling and used the recycle product product for non structural work such as in foot path, manhole, lean concrete, filling under plinth re-filling of foundation etc. or as approved by Engineer-in-charge complete in all respect. The serviceable material received from dismantling/demolishing to be kept with executing agency and take away from the site as per direction of engineer-in-charge. Note : This amount to be paid by agency to the department. Quote the lump sum amount (in minus)	Job	-1	-1	-1	-3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
I-2	Felling trees of the girth (measured at a height of 1 m above ground level), including cutting of trunks and branches, removing the roots and stacking of serviceable material and disposal of unserviceable material.	Nos	28	10	52	90.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 1 : Earth Work &amp; Carriage of Materials</b>																					
	Carriage of material by mechanical transport including loading, unloading and stacking																					
	Earth									-	-	-	-	-	-	-	-	-	-	-	-	-
1	Up to 5 km.	cum	24536.00	0.00	36782.00	61318.00				-	-	-	-	-	-	-	-	-	-	-	-	-
2	5km to 10 km	cum	24536.00	1344.00	36782.00	62662.00				-	-	-	-	-	-	-	-	-	-	-	-	-
3	10km to 20km	cum	24536.00	23030.25	36782.00	84348.25				-	-	-	-	-	-	-	-	-	-	-	-	-
4	Disposal of moorum/building rubbish/ malba/ similar unserviceable, dismantled or waste material by mechanical transport including loading, transporting, unloading to approved municipal dumping ground for lead upto 10 km for all lifts, complete as per directions of Engineer-in-charge.	cum	3835.00	23246.00	2848.00	29929.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Banking excavated earth in layers not exceeding 20 cm in depth, breaking clods, watering, rolling each layer with ½ tonne roller, or wooden or steel rammers, and rolling every 3rd and top-most layer with power roller of minimum 8 tonnes and dressing up, in embankments for roads, flood banks, marginal banks, and guide banks etc., lead upto 50 m and lift upto 1.5 m :																					
5	All kinds of soil	cum	1477.00	1248.00	30.00	2755.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	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 10sqm 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.																					
6	All kinds of soil	cum	29370.86	22323.00	14789.81	66483.68				-	-	-	-	-	-	-	-	-	-	-	-	-
	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.																					
7	All kinds of soil	cum	573.20	537.00	835.02	1945.22				-	-	-	-	-	-	-	-	-	-	-	-	-
	Close timbering in case of shafts, wells, cesspits, manholes and the like including strutting, shoring and packing cavities (wherever required) etc. complete. (Measurements to be taken of the face area timbered).																					
8	Depth not exceeding 1.5 m	sqm	171.93	119.58	238.84	530.34				-	-	-	-	-	-	-	-	-	-	-	-	-
9	Depth exceeding 1.5 m but not exceeding 3 m	sqm	120.93	68.58	208.84	398.34				-	-	-	-	-	-	-	-	-	-	-	-	-

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)
4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19			
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
10	Depth exceeding 3 m but not exceeding 4.5 m	sqm	111.67	50.50	176.34	338.51				-	-	-	-	-	-	-	-	-	-	-	-
11	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	6812.19	3752.62	12829.10	23393.90				-	-	-	-	-	-	-	-	-	-	-	-
12	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete	cum	3215.80	539.00	4161.52	7916.33				-	-	-	-	-	-	-	-	-	-	-	-
	Extra for every additional lift of 1.5 m or part thereof in excavation / banking excavated or stacked materials.																				
	All kinds of soil																				
13	1.5 to 3.0	cum	1523.36	775.66	3651.49	5950.51				-	-	-	-	-	-	-	-	-	-	-	-
14	3.0 to 4.5	cum	1206.04	749.11	3494.92	5450.07				-	-	-	-	-	-	-	-	-	-	-	-
15	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.	cum	2.00	0.00	2.00	4.00				-	-	-	-	-	-	-	-	-	-	-	-
	Anti termite treatment																				
	Supplying chemical emulsion in sealed containers including delivery as specified.																				
16	Chlorpyrifos/ Lindane emulsifiable concentrate of 20%	litre	1671.00	2299.00	1498.00	5468.00				-	-	-	-	-	-	-	-	-	-	-	-
	Diluting and injecting chemical emulsion for POST-CONSTRUCTIONAL anti-termite treatment (excluding the cost of chemical emulsion) :																				
	Treatment of soil under existing floors using chemical emulsion @ one litre per hole, 300 mm apart including drilling 12 mm diameter holes and plugging with cement mortar 1 :2 (1 cement : 2 Coarse sand) to match the existing floor :																				
17	With Chlorpyrifos/Lindane E.C. 20% with 1% concentration.	sqm	2074.93	1718.93	1645.63	5439.48				-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 2 : Concrete Work</b>																				
	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :																				
18	1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	cum.	880.25	987.00	715.34	2582.59				-	-	-	-	-	-	-	-	-	-	-	-
19	1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	cum.	68.95	1803.25	63.34	1935.54				-	-	-	-	-	-	-	-	-	-	-	-
20	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone - III) : 6 graded stone aggregate 20 mm nominal size) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including necessary excavation, levelling & dressing & finishing the top smooth.	sqm	324.30	234.00	255.00	813.30				-	-	-	-	-	-	-	-	-	-	-	-
21	Providing and laying in position ready mixed or site batched design mix cement concrete for plain cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana/Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering and finishing as per direction of the engineer-in-charge; for the following grades of concrete. Concrete of M10 grade with minimum cement content of 220 kg /cum	Cum	83.55	22.00	572.61	678.16				-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 3 : RCC Work including Form work, Reinforcement &amp; Expansion Joint.</b>																				
	<b>Form Work</b>																				
	Centering and shuttering including strutting, propping etc. and removal of form for :																				
22	Foundations, footings, bases of columns, etc. for mass concrete.	sqm	1755.06	1615.67	2439.32	5810.05				-	-	-	-	-	-	-	-	-	-	-	-

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
23	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc	sqm	17651.71	14061.60	23590.40	55303.71				-	-	-	-	-	-	-	-	-	-	-	-	-
24	Suspended floors, roofs, landings, balconies and access platform.	sqm	34869.23	40474.86	15967.81	91311.91				-	-	-	-	-	-	-	-	-	-	-	-	-
25	Shelves (Cast in situ)	sqm	102.46	631.19	47.03	780.67				-	-	-	-	-	-	-	-	-	-	-	-	-
26	Lintels, beams, plinth beams, girders, bressumers and cantilevers	sqm	17997.00	16079.49	11433.02	45509.52				-	-	-	-	-	-	-	-	-	-	-	-	-
27	Columns, Pillars, Piers, Abutments, Posts and Struts	sqm	12825.06	11362.00	6372.00	30559.06				-	-	-	-	-	-	-	-	-	-	-	-	-
28	Stairs, (excluding landings) except spiral-staircases	sqm	1354.00	596.04	1141.40	3091.44				-	-	-	-	-	-	-	-	-	-	-	-	-
29	Extra for shuttering in circular work (20% of respective centering and shuttering items)	sqm	515.02	52.36	269.01	836.40				-	-	-	-	-	-	-	-	-	-	-	-	-
30	Small lintels not exceeding 1.5 m clear span, moulding as in cornices, window sills, string courses, bands, copings, bed plates, anchor blocks and the like	sqm	12.86	4.00	6.86	23.71				-	-	-	-	-	-	-	-	-	-	-	-	-
31	Edges of slabs and breaks in floors and walls																					
31	Under 20 cm wide	metre	2592.88	335.70	1881.50	4810.08				-	-	-	-	-	-	-	-	-	-	-	-	-
32	Weather shade, Chajias, corbels etc., including edges	sqm	1571.90	1374.50	755.58	3701.98				-	-	-	-	-	-	-	-	-	-	-	-	-
33	Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc. including cost of de-shuttering and decentering at all levels, over a height of 3.5 m, for every additional height of 1 metre or part thereof (Plan area to be measured)																					
33	Suspended floors, roofs, landing, beams and balconies (Plan area to be measured).	sqm	16072.24	22543.50	10059.67	48675.40				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Reinforcement Steel</b>																					
	Steel Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.																					
34	Thermo-Mechanically Treated bars of grade Fe-500D or more.	kg	1289730.28	1973366.07	947852.08	4210948.44				-	-	-	-	-	-	-	-	-	-	-	-	-
35	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.																					
35	Thermo-Mechanically Treated bars of grade Fe-500 D or more.	kg	1834814.72	2009012.11	1074307.41	4918134.24				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Reinforced Cement Concrete</b>																					
	Providing and laying in position ready mixed or site batched design mix concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.																					
	All works upto plinth level																					
36	Concrete of M25 grade with minimum cement content of 330 kg /cum	cum	898.73	1051.75	1665.10	3615.58				-	-	-	-	-	-	-	-	-	-	-	-	-
37	Concrete of M30 grade with minimum cement content of 350 kg /cum	cum	8588.94	8613.91	5155.32	22358.17				-	-	-	-	-	-	-	-	-	-	-	-	-
38	Concrete of M40 grade with minimum cement content of 390 kg /cum	cum	368.45	229.71	261.37	859.54				-	-	-	-	-	-	-	-	-	-	-	-	-
	All works above plinth level upto floor V level																					
39	Concrete of M25 grade with minimum cement content of 330 kg /cum	cum	376.25	468.58	194.70	1039.53				-	-	-	-	-	-	-	-	-	-	-	-	-
40	Concrete of M30 grade with minimum cement content of 350 kg /cum	cum	7580.96	9255.13	3941.21	20777.30				-	-	-	-	-	-	-	-	-	-	-	-	-
41	Concrete of M40 grade with minimum cement content of 390 kg/cum	cum	3256.28	2972.31	1907.43	8136.02				-	-	-	-	-	-	-	-	-	-	-	-	-
42	Add for using extra cement in the items of design mix over and above the specified cement content therein	quintal	13115.35	3690.66	6608.46	23414.47				-	-	-	-	-	-	-	-	-	-	-	-	-
43	Extra for R.C.C./ B.M.C/ R.M.C. work above floor V level for each four floors or part thereof.	cum	3889.92	477.40	5.00	4372.32				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Expansion Joint</b>																					
	Providing and fixing in position Stainless steel Grade 304 plate-1.0 mm thick as per design for expansion joints.																					
44	200 mm wide.	metre	73.45	277.08	118.01	468.54				-	-	-	-	-	-	-	-	-	-	-	-	-

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Providing and fixing of expansion joint system related with floor location as per drawings and direction of engineer-In-Charge. The joints system will be of extruded aluminum base members, self aligning / self centering arrangement and support plates etc. as per ASTM B221-02. The system shall be such that it provides floor to floor /floor to wall expansion control system for various vertical localtion in load application areas that accommodates multi directional seismic movement without stress to it's components. System shall consist of metal profiles with a universal aluminum base member designed to accommodate various project conditions and finish floor treatments. The cover plate shall be designed of width and thickness required to satisfy projects movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self- centering arrangement that freely rotates / moves in all directions. The Self - centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. Provision of Moisture Barrier Membrane in the Joint System to have watertight joint is mandatory requirement all as per the manufactures design and as approved by Engineer -inCharge. (Material shall confirm to ASTM 6063).																					
45	Floor Joint of 200 mm gap	metre	73.45	67.20	118.01	258.66				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing of expansion joint system related with wall joint (internal/external) location as per drawings and direction of Engineer-InCharge. The joints shall be of extruded aluminum base members, self aligning / centering arrangement and support plates as per ASTM B221-02. The material shall be such that it provides an Expansion Joints System suitable for vertical wall to wall/ wall to corner application, both new and existing construction in office Buildings & complexes with no slipping down tendency amongst the components of the Joint System. The Joint System shall utilize light weight aluminum profiles exhibiting minimal exposed aluminum surfaces mechanically snap locking the multicellular to facilitate movement. (Material shall confirm to ASTM 6063).																					
46	Wall Joint of 200 mm gap	metre	577.20	261.60	235.20	1074.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing of expansion joint system of approved make and manufactures for various roof locations as per approved drawings and direction of Engineer-In-Charge. The joints shall be of extruded aluminum base members with, self aligning and self centering arrangement support plates asper ASTM B221-02. The system shall be such that it provides watertight roof to roof/roof to corner joint cover expansion control system that is capable of accommodating multidirectional seismic movement without stress to its components. System shall consist of metal profile that incorporates a universal aluminum base member designed to accommodate various project conditions and roof treatments. The cover plate shall be designed of width and thickness required to satisfy movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self-centering arrangement that freely rotates / moves in all directions. The Self centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. The Joint System shall resists damage or deterioration from the impact of falling ice, exposure to UV, airborne contaminants and occasional foot traffic from maintenance personnel. Provision of Moisture Barrier Membrane in the Joint System to have water tight joint is mandatory requirement. (Material shall confirm to ASTM 6063).																					
47	Roof Joint of 200 mm gap	metre	64.71	33.60	49.15	147.46				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 4 : Brick Work / Blockwork</b>																					
	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:																					
48	Cement mortar 1:6 (1 Cement : 6 coarse sand)	cum	164.11	115.22	89.04	368.37				-	-	-	-	-	-	-	-	-	-	-	-	-
	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 :																					
49	Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	232.47	73.06	188.96	494.49				-	-	-	-	-	-	-	-	-	-	-	-	-



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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
50	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	1174.00	530.00	10.00	1714.00				-	-	-	-	-	-	-	-	-	-	-	-	-
51	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundations and plinth in : cement mortar 1:4 (1 cement : 4 coarse sand)	sqm	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
52	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. Cement mortar 1:4 (1 cement :4 coarse sand)	sqm	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
53	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in super structure above plinth level up to floor V level in : Cement mortar 1:6 (1 cement : 6 Coarse sand)	cum	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
54	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 cement mortar 1:4 (1 cement : 4 coarse sand ). The rate includes providing and placing in position 2 Nos 6 mm dia M.S. bars at every third course of masonry work.	cum	1303.15	1076.00	475.00	2854.15				-	-	-	-	-	-	-	-	-	-	-	-	-
55	Providing and laying autoclaved aerated cement blocks masonry with 150mm to 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 Engineer-in-Charge.	cum	4651.29	3204.00	1626.22	9481.51				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 5 : Cladding Work</b>																					
56	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. Granite stone slab of colour black, Cherry/Ruby red	sqm	20.96	97.92	20.96	139.84				-	-	-	-	-	-	-	-	-	-	-	-	-
57	Area of slab upto 0.50 sqm	sqm	5.24	24.48	5.24	34.96				-	-	-	-	-	-	-	-	-	-	-	-	-
58	Area of slab over 0.50 sqm	sqm	420.00	78.00	104.00	602.00				-	-	-	-	-	-	-	-	-	-	-	-	-
59	Extra for fixing marble /granite stone, over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive, including cleaning etc. complete.	metre	12.00	12.00	12.00	36.00				-	-	-	-	-	-	-	-	-	-	-	-	-
60	Extra for providing opening of required size & shape for wash basin/ kitchen sink in kitchen platform, vanity counter and similar location in marble/ Granite/ stone work, including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	each	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
61	Providing and fixing stone slab with <b>table rubbed, edges rounded and polished</b> , of size 75x50 cm deep and 1.8 cm thick, fixed in <b>urinal partitions</b> by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) as per direction of Engineer-in-charge and finished smooth. Granite Stone of approved shade	sqm	36.18	51.30	30.78	118.26				-	-	-	-	-	-	-	-	-	-	-	-	-
62	Providing and fixing 1st quality ceramic glazed 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 Engineer-in-Charge, 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 slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	sqm	8441.18	10558.00	2899.00	21898.18				-	-	-	-	-	-	-	-	-	-	-	-	-

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
	<b>Sub Head 6 : Wood &amp; Pvc Work</b>																				
	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).																				
63	Second class teak wood	cum	21.98	17.91	15.17	55.06				-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing <b>panelling or panelling and glazing</b> in panelled or panelled and glazed shutters for doors, windows and clerestory windows (Area of opening for panel inserts excluding portion inside grooves or rebates to be measured). Panelling for panelled or panelled and glazed shutters 25 mm to 40 mm thick :																				
64	4 mm thick glass pane (weight not less than 10kg/sqm)	sqm	717.69	684.43	338.96	1741.08				-	-	-	-	-	-	-	-	-	-	-	-
65	5.0 mm thick glass panes (weight not less than 12.50 kg/sqm).	sqm	69.06	85.68	50.22	204.96				-	-	-	-	-	-	-	-	-	-	-	-
66	<b>Fly proof stainless</b> steel grade 304 wire gauge with 0.5 mm dia. wire and 1.4mm wide aperture with matching wood beading	sqm	99.89	79.20	44.46	223.55				-	-	-	-	-	-	-	-	-	-	-	-
	Extra for providing heavy sheet float glass panes instead of ordinary float glass in glazed doors, windows and clerestory window shutters.(Area of opening for glass panes excluding portion inside rebate shall be measured)																				
67	5.0 mm thick instead of 4 mm thick.	sqm	76.08	85.68	50.22	211.98				-	-	-	-	-	-	-	-	-	-	-	-
68	Extra for providing frosted glass panes 4 mm thick instead of ordinary float glass panes 4 mm thick in doors, windows and clerestory window shutters. (Area of opening for glass panes excluding portion inside rebate shall be measured).	sqm	422.40	492.80	167.20	1082.40				-	-	-	-	-	-	-	-	-	-	-	-
69	Extra for providing pin headed glass panes instead of ordinary float glass panes weighing 4 mm thick in doors, windows and clerestory windows shutters (Area of opening for glass panes excluding portion inside rebate shall be measured).	sqm	301.96	191.63	171.76	665.35				-	-	-	-	-	-	-	-	-	-	-	-
70	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS: 1786, having minimum cross section as 23 mmx25mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	each	36.00	24.00	36.00	96.00				-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and fixing C.I. cover without frame for manholes :																				
71	560 mm diameter C.I. cover (heavy duty) the weight of the cover to be not less than 108 kg	each	6.00	6.00	6.00	18.00				-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing ISI marked flush door shutters conforming to IS: 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters .																				
72	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	sqm	1212.91	979.29	829.54	3021.74				-	-	-	-	-	-	-	-	-	-	-	-
73	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	1165.65	977.19	815.04	2957.88				-	-	-	-	-	-	-	-	-	-	-	-
	Extra for providing vision panel not exceeding 0.1 sqm in all type of flush doors (cost of glass excluded) (overall area of door shutter to be measured):																				
74	Rectangular or square	sqm	1165.65	977.19	815.04	2957.88															
75	Extra for cutting rebate in flush door shutters (Total area of the shutter to be measured).	sqm	1165.65	977.19	815.04	2957.88				-	-	-	-	-	-	-	-	-	-	-	-

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	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.																					
76	Fixed to steel windows by welding	kg	22452.60	15852.00	12697.00	51001.60				-	-	-	-	-	-	-	-	-	-	-	-	-
77	Fixed to openings /wooden frames with rawl plugs screws etc.	kg	6975.61	18961.00	6629.00	32565.61				-	-	-	-	-	-	-	-	-	-	-	-	-
78	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	2789.00	3527.00	1885.00	8201.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing IS : 12817 marked stainless steel butt hinges with stainless steel screws etc. complete :																					
79	100X58X1.90 mm	each	23.00	5.00	13.00	41.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing bright finished brass handles with screws etc. complete																					
80	75 mm	each	10.00	10.00	4.00	24.00				-	-	-	-	-	-	-	-	-	-	-	-	-
81	Providing and fixing aluminium die cast body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 35 kg and door width upto 700 mm), with necessary accessories and screws etc. complete.	each	20.00	14.00	10.00	44.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing ISI marked aluminium butt hinges 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:																					
82	125x75x4 mm	each	506.00	435.00	206.00	1147.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing aluminium sliding door 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 nuts and screws etc. complete :																					
83	250x16 mm	each	108.00	112.00	46.00	266.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	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 :																					
84	150x10 mm	each	108.00	112.00	46.00	266.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing aluminium handles, 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 :																					
85	125 mm	each	1006.00	598.00	438.00	2042.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	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.																					
86	Twin rubber stopper	each	108.00	1286.00	46.00	1440.00				-	-	-	-	-	-	-	-	-	-	-	-	-
87	Providing and fixing bright finished brass 100 mm mortice latch and lock, ISI marked, with six levers and a pair of anodised (anodic coating not less than grade AC 10 as per IS : 1868) aluminium lever handles of approved quality with necessary screws etc. complete.	each	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	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 floor and 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 34 mm 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 etc.																					



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	wait 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, M.S. fixing channel of 99 mm width (0.9 mm thick having two flanges of 9.5 mm each) 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.																					
88	75 mm overall thickness <b>partition</b> with 12.5 mm thick double skin fire rated <b>Glass Reinforced Gypsum</b> (GRG) plaster board conforming to IS: 2095: part 3 (Board with BIS certification marks)	sqm	1560.14	1830.99	839.60	4230.73				-	-	-	-	-	-	-	-	-	-	-	-	-
89	Providing and fixing bright finished 100 mm mortice lock with 6 levers without pair of handles of approved quality for aluminium door, with necessary screws etc complete as per direction of Engineer- in-charge.	each	98.00	662.00	43.00	803.00				-	-	-	-	-	-	-	-	-	-	-	-	-
90	Providing and fixing <b>Fiber Glass Reinforced plastic (FRP) Door Frames</b> of cross-section 90 mm x 45 mm having single rebate of 32 mm x 15 mm to receive shutter of 30 mm thickness. The laminate shall be moulded with fire resistant grade unsaturated polyester resin and chopped mat. Door frame laminate shall be 2mm thick and shall be filled with suitable wooden block in all the three legs. The frame shall be covered with fiber glass from all sides. M.S. stay shall be provided at the bottom to steady the frame.	metre	1222.00	1031.80	454.40	2708.20				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing to existing door frames.																					
91	30 mm thick <b>Fiberglass Reinforced Plastic (F.R.P.) flush door shutter</b> in different plain and wood finish made with fire retardant grade unsaturated polyester resin, moulded to 3 mm thick FRP laminate all around, with suitable wooden blocks inside at required places for fixing of fittings and polyurethane foam (PUF)/Polystyrene foam to be used as filler material throughout the hollow panel, casted monolithically with testing parameters of F.R.P. laminate conforming to table - 3 of IS: 14856, complete as per direction of Engineer-in-charge.	sqm	433.32	367.50	160.44	961.26				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing & Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt/ suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality.																					
92	1.0 mm thick	sqm	1208.41	977.19	825.04	3010.64				-	-	-	-	-	-	-	-	-	-	-	-	-
93	Providing and fixing panic bar / latch (Double point) fitted with a singlebody, Trim Latch & Lock on back side of the Panic Latch of reputedbrand and manufacture to be approved by the Engineer- in-charge, all complete.	each	16.00	0.00	0.00	16.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing factory made uPVC white colour fixed glazed windows/ventilators comprising of uPVC multi-chambered frame and mullion (where ever required) extruded profiles duly reinforced with 1.60 ± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), , uPVC extruded glazing beads of appropriate dimension, EPDM gasket, G.I fasteners 100 x 8 mm size for fixing frame to finished wall, plastic packers, plastic caps and necessary stainless steel screws etc. Profile of frame shall be mitred cut and fusion welded at all corners, mullion (if required) shall be also fusion welded including drilling of holes for fixing hardware's and drainage of water etc.After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. (Single / double glass panes and silicon sealant shall be paid separately). Variation in profile dimension in higher side shall be accepted but no extra payment on this account shall be made.																					

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94	Fixed window / ventilator made of (small series) frame 47 x 50 mm & mullion 47 x 68 mm both having wall thickness of 1.9 ± 0.2 mm and single glazing bead of appropriate dimension. (Area upto 0.75 sqm.)	sqm	127.82	99.00	59.00	285.82				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing factory made uPVC white colour sliding glazed window upto 1.50 m in height dimension comprising of uPVC multi-chambered frame with in-built roller track and sash extruded profiles duly reinforced with 1.60 ± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), appropriate dimension of uPVC extruded glazing beads and uPVC extruded interlocks, EPDM gasket, wool pile, zinc alloy (white powder coated) touch locks with hook, zinc alloy body with single nylon rollers (weight bearing capacity to be 40 kg), G.I fasteners 100 x 8 mm size for fixing frame to finished wall and necessary stainless steel screws etc. Profile of frame & sash shall be mitred cut and fusion welded at all corners, including drilling of holes for fixing hardware's an drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-charge. (Single / double glass panes, wire mesh and silicon sealant shall be paid separately). Variation in profile dimension in higher side shall be accepted but no extra payment on this account shall be made.																					
95	Three track three panels sliding window with fly proof SS wire mesh (Two Nos. glazed & one no. wire mesh panels) made of (small series) frame 92 x 44 mm & sash 32 x 60 mm both having wall thickness of 1.9 ± 0.2 mm and single glazing bead of appropriate dimension (Area of window upto 1.75 sqm).	sqm	398.00	264.00	211.00	873.00				-	-	-	-	-	-	-	-	-	-	-	-	-
96	Two track two panels sliding window made of (big series) frame 67 x 50 mm & sash 46 x 62 mm both having wall thickness of 2.3 ± 0.2 mm and single glazing bead / double glazing bead of appropriate dimension . (Area of window above 1.75 sqm upto 2.50 sqm).	sqm	144.87	139.00	100.22	384.09				-	-	-	-	-	-	-	-	-	-	-	-	-
97	Providing and fixing Pre -laminated medium density fibre board exterior grade (Grade-I) IS:14587:1998 marked, to frame, backing or studding with screws etc. complete ( Frames, backing or studding to be paid separately). Pre-laminated with decorative lamination on both side exterior Grade - I MDF Board 12 mm thick conforming to IS:14587	sqm	134.00	115.00	57.00	306.00				-	-	-	-	-	-	-	-	-	-	-	-	-
98	Providing and fixing fire resistant door frame of section 50 x 60 mm on horizontal side & 35 x 60 mm on vertical sides having built in rebate made out of 1.6 mm thick GI sheet ( Zinc coating not less than 120gm/m²) suitable for mounting 120 min Fire Rated Glazed Door Shutters. The frame shall be filled with Mineral wool Insulation having density min 96kg/m³ . The frame will have a provision of G.I. Anchor fastners 14 Nos ( 5 each on vertical style & 4 on horizontal style of size M10 x 80 ) suitable for fixing in the opening along with Factory made Template for SS Ball Bearing Hinges of Size 100x89x3mm for fixing of fire rated glazed shutter . The frame shall be finished with a approved fire resistant primer or Powder coating of not less than 30 micron in desired shade as per the directions of Engineer - in- charge . (Cost of SS ball bearing hinges is excluded).	Rm	776.20	643.00	491.00	1910.20				-	-	-	-	-	-	-	-	-	-	-	-	-
99	Providing and fixing 60 mm thick glazed fire resistant door shutters of 120 min Fire Rating conforming to IS:3614 (Part II) or EN1634-1:1999, tested and certified as per laboratory approved by Engineer-in-charge, with suitable mounting on door frame, consisting of vertical styles, top rail & side rail 60 mm x 60 mm wide and bottom rail of 110 mm x 60 mm made out of 1.6mm thick G.I. sheet (zinc coating not less than 120gm/m²) duly filled mineral wool insulation having density min 96 kg/ m³ and fixing with necessary stainless steel ball bearing hinges of size 100x89x3mm of approved make, including applying a coat of approved fire resistant primer or powder coating not less than 30 micron etc all complete as per direction of Engineer-in-charge (panelling to be paid for seperately).	sqm	574.10	474.00	343.00	1391.10				-	-	-	-	-	-	-	-	-	-	-	-	-

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100	Providing and fixing glazing in fire resistant door shutters, fixed panels & partitions etc., with G.I. beading made out of 1.6 mm thick G.I. sheet (zinc coating not less than 120 gm/m <sup>2</sup> ) of size 20 x 33 mm screwed with M4 x 38 mm SS screws at distance 75 mm from the edges and 150 mm c/c, including applying a coat of approved fire resistant primer/ powder coating of not less than 30 micron on G.I. beading, & special ceramic tape of 5 x 20 mm size etc complete in all respect as per NBC 2016, IS 16231 (Part 3):2016 and as per direction of Engineer-in-charge with glass of required thickness having 120 minutes of fire resistance both integrity & radiation control (EW120) and minimum 20 minutes of insulation (EI20). The manufacturer have to give test report/certification of fire glass and the glass should have the stamp showing the value of E, EW & EI. The glass shall be tested in approved NABL accredited lab or by any other accreditation body which operates in accordance with ISO/IEC 17011 and accredits labs as per ISO/IEC 17025 for testing and calibration scopes shall be eligible. The maximum glazing size shall not be more than 1100x2200 mm (w x h) or 2.42 sqm.	sqm	34.09	26.00	17.00	77.09				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete.																					
101	100 mm Flush door hardware	each	118.00	66.00	50.00	234.00				-	-	-	-	-	-	-	-	-	-	-	-	-
102	Providing and fixing Stainless steel (SS 304) Mortice door lock with handles and matching to LOM provided lever handles of approved quality with necessary screws etc. complete.	each	1155.00	1111.00	763.00	3029.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing stainless steel (Grade 304) tower bolts approved equivalent with necessary screws etc. complete.																					
103	150 x 10mm Providing and fixing SS (304)hanging floor door stopper, ISI marked, matt finish with necessary screws etc. complete.	each	1053.00	1088.00	598.00	2739.00				-	-	-	-	-	-	-	-	-	-	-	-	-
104	Single rubber stopper	each	510.00	486.00	351.00	1347.00				-	-	-	-	-	-	-	-	-	-	-	-	-
105	3M Glass Film plain/ colored at All height and Level.Providing and fixing 3M Frosted Translucent, cast PVC, self-adhesive vinyl, special CRYSTAL-effect film to reproduce Sand-blasting effect on glass with customised designs, thickness of 2 mil (0.05mm) without adhesive & 3mil (0.8)with adhesive having minimum tensile strength of 3.5 pound/inch at 73 F(0.6 kg/cm at 23 C). Adhesion after 24hrs of installation should be 4 pounds/inch (0.7 kg/cm) on Acrylic, Glass Polycarbonate, all complete.with required materials of approved make, for all floor heights as per approved design, pattern and drawings and direction of Engineer-In-Charge.(Actual film area shall be measured in sqm up to decimal place for payment)(Basic rate of film is Rs.1055/sqm)	sqm	35.25	68.40	25.11	128.76				-	-	-	-	-	-	-	-	-	-	-	-	-
106	Supply & Fixing of Lead Lined Stainless steel Clean room door frames and shutters made of Stainless steel grade of 304 hairline finish, frame with 1.60mm (16SWG) thick hairline finish Stainless steel grade of 304 formed to Single/double rebate profile of size 100 mm x 58mm/ 143 x 58 mm, door frames with a single / multi Layer of Lead sheet varying thickness from 3mm /1mm to 2mm depends on radiation level, the shutter with 1.2 mm thick hairline finish Stainless steel grade of 304 formed to provide a 46mm thick fully flush, double skin door shell with Lock Seam joints at stile edges with a single / multi Layer of Lead sheet varying thickness from 3mm /1mm to 2mm depends on radiation level. The lead sheets extend the full width and height of the door. Lead thickness is to be equal to the shielding in the adjacent wall. Hardware can be provided with Stainless Steel Ball Bearing Butt Hinges 3 mm thick fixed flush to the frame and shutter etc., including overheads and contractor profit etc., complete for finished item of work in all floors	sqm	61.10	41.60	31.00	133.70				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 7 : Steel Work</b>																					

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	Supplying and fixing <b>rolling shutters</b> of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters.																					
107	80x1.25 mm M.S. laths with 1.25 mm thick top cover	sqm	38.20	22.00	28.00	88.20				-	-	-	-	-	-	-	-	-	-	-	-	-
108	Providing and fixing <b>ball bearing</b> for rolling shutters.	each	6.00	2.00	4.00	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Extra for providing <b>mechanical device chain and crank operation</b> for operating rolling shutters.																					
109	Exceeding 10.00 sqm and upto 16.80 sqm in the area	sqm	38.20	22.00	28.00	88.20				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing pressed steel door frames conforming to IS: 4351, manufactured from commercial mild steel sheet of 1.60 mm thickness, including hinges, jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50x25 mm, or base ties of 1.60 mm, pressed mild steel welded or rigidly fixed together by mechanical means, including M.S. pressed butt hinges 2.5 mm thick with mortar guards, lock strike-plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer-in-charge:																					
	Profile B									-	-	-	-	-	-	-	-	-	-	-	-	-
110	Fixing with carbon steel galvanised dash fastener of required dia and size (to be paid for separately)	metre	11.00	5.20	11.00	27.20				-	-	-	-	-	-	-	-	-	-	-	-	-
	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.																					
111	Hot finished welded type tubes	kg	6599.00	60.00	675.00	7334.00				-	-	-	-	-	-	-	-	-	-	-	-	-
112	Hot finished seamless type tubes	kg	1183.20	1183.20	1085.76	3452.16				-	-	-	-	-	-	-	-	-	-	-	-	-
	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.																					
113	In stringers, treads, landings etc. of stair cases, including use of chequered plate wherever required, all complete	kg	1426.72	1526.72	1426.72	4380.16				-	-	-	-	-	-	-	-	-	-	-	-	-
114	In gratings, frames, guard bar, ladder, railings, brackets,gates and similar works	kg	4527.16	7848.66	2479.63	14855.45				-	-	-	-	-	-	-	-	-	-	-	-	-
	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.																					
115	10 x 80 mm	each	8.00	4.00	8.00	20.00				-	-	-	-	-	-	-	-	-	-	-	-	-
116	Providing and fixing <b>stainless steel ( Grade 304) railing</b> made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-incharge. (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	kg	6052.85	4144.00	4303.00	14499.85				-	-	-	-	-	-	-	-	-	-	-	-	-
117	Providing and fixing angle iron frames for doors, windows and ventilators of mild steel Angle sections of size 35x35x5 mm, joints mitred and welded by angle iron 35x35x5 mm or 35x 5 mm flat pieces to the existing T-iron frame or to the wall with dash fastener, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer, all complete as per the direction of Engineer-In-charge.	kg	3728.50	2933.65	1336.13	7998.28				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 8 : Flooring</b>																					



SL. no	Description of Item	Unit	Quantity				Rate			Amount												
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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
118	62 mm thick cement concrete flooring with concrete hardener topping, under layer 50 mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) and top layer 12mm thick cement hardener consisting of mix 1:2 (1 cement hardener mix : 2 graded stone aggregate, 6mm nominal size) by volume, hardening compound mixed @ 2 litre per 50 kg of cement or as per manufacture's specifications. This includes cost of cement slurry, but excluding the cost of Nosing of steps etc. complete.	sqm	1158.83	7526.00	990.46	9675.29				-	-	-	-	-	-	-	-	-	-	-	-	-
119	40 mm thick marble chips flooring, rubbed and polished to granolithic finish, under layer 28 mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 12.5 mm nominal size) and top layer 12 mm thick with white, black, chocolate, grey yellow or green marble chips of sizes from 7 mm to 10 mm nominal size, laid in cement marble powder mix 3:1 (3 cement : 1 marble powder) by weight in proportion of 2:3 (2 cement marble powder mix : 3 marble chips) by volume, including cement slurry etc. complete :																					
119	Light shade pigment with white cement	sqm	343.00	343.00	174.00	860.00				-	-	-	-	-	-	-	-	-	-	-	-	-
120	Chequered precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing and cleaning etc. complete, on 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand). Light shade pigment using white cement.	sqm	1702.00	2296.00	844.50	4842.50				-	-	-	-	-	-	-	-	-	-	-	-	-
120	Light shade pigment using white cement	sqm	1702.00	2296.00	844.50	4842.50				-	-	-	-	-	-	-	-	-	-	-	-	-
121	Extra for pre finished Nosing to tread of steps of marble / granite / kota stone	Metre	1923.64	1924.44	1352.39	5200.47				-	-	-	-	-	-	-	-	-	-	-	-	-
121	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) :																					
122	25 mm thick	sqm	1067.14	59.16	59.98	1186.28				-	-	-	-	-	-	-	-	-	-	-	-	-
123	Kota stone slabs 20 mm 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	1753.77	2027.45	892.52	4673.74				-	-	-	-	-	-	-	-	-	-	-	-	-
124	Extra for pre finished nosing in treads of steps of Kota stone/ sand stone slab	metre	1668.00	1206.00	216.00	3090.00				-	-	-	-	-	-	-	-	-	-	-	-	-
125	Extra for Kota stone/ sand stone in treads of steps and risers using single length .	sqm	1727.45	2027.45	892.52	4647.42				-	-	-	-	-	-	-	-	-	-	-	-	-
126	WOODEN PLANK FLOORING-38 mm thick wood block flooring of first class teak wood laid over 25mm thick leveling layer of cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 10 mm nominal size) to be paid separately, coated with a thin layer of hot bitumen penetration 80/25 (blown type) @ 2.45 kg per sqm, including fixing blocks in position after dipping in hot bitumen (blown type) up to half depth, planed, levelled smooth and finished complete	sqm	40.00	58.00	51.00	149.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Vitrified Tiles</b>																					
	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.																					
127	Double charge vitrified tile polished finish of size Size of Tile 600 x 600 mm	sqm	14219.11	14388.00	5961.42	34568.53				-	-	-	-	-	-	-	-	-	-	-	-	-

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Providing and laying Ceramic glazed/Antiskid floor tiles of size 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey,Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), Jointing with grey cement slurry @ 3.3 kg/sqm including pointing the joints with white cement and matching pigment,epoxy touch ups etc.,complete																					
128	Size of Tile 300 x 300 mm	sqm	1317.00	1843.00	557.00	3717.00				-	-	-	-	-	-	-	-	-	-	-	-	-
129	Crazy ceramic tile flooring, with under layer 12 mm thick cement mortar 1:4 (1 cement: 4 coarse sand), with joints not exceeding 5 mm, including filling the gaps with ordinary cement mixture & mixing with synthetic polyester fibre, triangular in shape having specific gravity of 1.34 to 1.40, cross section size ranging from 10 to 40 micron & length upto 6 mm , mixing fibre @ 125 grams per 50 kg of cement in cement mortar, including providing and mixing water proofing material in mortar @ 1 kg per 50 kg of cement, all complete as per direction of Engineer-in-charge.	sqm	60.78	226.60	28.60	315.98				-	-	-	-	-	-	-	-	-	-	-	-	-
	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.																					
130	Polished Granite stone slab colour of Black, Cherry/Ruby Red or equivalent	sqm	1138.00	949.00	1029.00	3116.00				-	-	-	-	-	-	-	-	-	-	-	-	-
131	Static-conductive Flexible Vinyl floor (non-directional homogeneous)covering shall be having thickness of 2 mm (minimum) as per EN 428, Weight s 3100 gms/sqm as per EN 430, electrical resistance of 104 ≤Rt ≤106 Fire rating class Bfl-s1 as per EN 13 501-1, Static electrical propensity < 2 kV as per EN 1815 , Slip resistance wet : ramp test with oil (1) of class R10 as per DIN 51 130, Wear resistance of ≤2.0 as per EN 660.2, wear group 'P' as per NF189, binder content of type -1 as per ISO 10582, dimensional stability of ≤0.4 as per EN 434, Indentation ~0.03 (< 0.10) mm as per standard ISO 24343 - 1, thermal conductivity of 0.251 W/m.K as per EN 12524, color fastness rating of ≥6 degree as per EN 20105-802, Product should confirm to Floor Score* Indoor Air Quality Certified (≤10 µg / m3 as per ISO 16000-6), performance (ok) in castor chair test (type W) as per ISO 4918 (EN 425), anti-bacterial activity (> 99 % inhibits growth as per ISO 22196). The product shall be classified as class 34-43 as per EN 685. Installation- It is important to ensure the subfloor on which the sheet is being laid is smooth, flat, hard and free from moisture, grease etc. In case of uneven subfloor the same should be levelled using self-levelling compound. IPS Vitrified/ceramic/ mosaic tiles do not provide zero levelled sub floor.	sqm	125.00	202.00	138.00	465.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	The moisture present in the subfloor should be less than 8% before installation of the floor. The vinyl flooring sheet should be installed with coving profile & adhesive recommended by Vinyl Flooring manufacturer. The floor finish should terminate at the room perimeter passing over a concealed coving profile and continuing up to the wall for 100mm and connected to copper strip for grounding; copper grounding strips (0.05mm thick, 50 mm width) should be laid on floor underneath conductive vinyl flooring roll. The joints in the flooring should be I sealed by using a PVC welding rod of matching colour to be supplied by the manufacturer, using a hot air gun for fusion of welding rod with flooring for seamless installation.																					

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
132	Vinyl flooring shall be having thickness of 2mm (minimum) as per EN 428, weight less than 2900 gms/sqm as per EN 430, Fire rating class Bfl-s1 as per EN 13 501-1, Static electrical propensity < 2 kV as per EN 1815, Slip resistance wet : ramp test with oil (1) of class R10 as per DIN 51 130, Wear resistance of ≤2.0 as per EN 660.2, wear group 'T' as per NF189, binder content of type -1 as per ISO 10582, dimensional stability of ≤0.4 as per EN 434, Indentation ~0.03 (< 0.10) mm as per Standard ISO 24343-1, impact sound insulation of 8 dB as per EN ISO 712-2, thermal conductivity of 0.25 W/m.K as per EN 12524, color fastness rating of ≥6 degree as per EN 20105-B02, product should confirm to Floor Score* indoor Air Quality Certified (≤ 10µ/m3 as per ISO 16000-6) performance (ok) in castor chair test (type W) as per ISO 4918 (EN 425), anti-bacterial activity (>99% inhibits growth as per ISO 22196). The thickness of wear layer would be 2mm. The product should be homogeneous and single layered. The product shall be classified as class 34-42 as per EN 685. Installation- It is important to ensure the subfloor on which the sheet is being laid is smooth, flat, hard and free from moisture, grease etc. In case of uneven subfloor the same should be levelled using self-levelling compound. IPS Vitrified/ceramic/ mosaic tiles do not provide zero levelled sub floor.	sqm	2030.00	914.00	1014.00	3958.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	The moisture present in the subfloor should be less than 8% before installation of the floor. The vinyl flooring sheet should be installed with coving profile & adhesive recommended by Vinyl Flooring I manufacturer. The floor finish should terminate at the room perimeter passing over a concealed coving profile and continuing up to the wall for 100mm and connected to copper strip for grounding; copper grounding strips (0.05mm thick, 50 mm width) should be laid on floor underneath conductive vinyl flooring roll. The joints in the flooring should be sealed by using a PVC welding rod of matching colour to be supplied by the manufacturer, using a hot air gun for fusion of welding rod with flooring for seamless installation.																					
133	100mm High Vinyl coving with supporting of aluminium section, between wall and floor corners Rate shall include all material and labour complete. Homogeneous vinyl wall covering shall be in 1 mm thickness (minimum), weight less than 2000 gms/sqm as per EN 430, Fire rating class Bs2-d0 as per EN 13 501-1 , binder content of type -I as per ISO 10582, dimensional stability of ≤0.4 as per EN 434, color fastness rating of ≥6 degree as per EN 20105-802, Product should confirm to Floor Score® Indoor Air Quality Certified (≤ 10 µg / m3 as per ISO 16000-6), anti-bacterial activity (> 99 % inhibits growth as per ISO 22196). The product should be homogeneous and single layered. The product shall have excellent chemical resistance as per EN 423. Installation - Installation of Vinyl Wall Covering 1.00mm thick over smooth wall surface including fixing with adhesive complete as per drawing & as directed by Engineer-in-charge. It is important to ensure the Wall on which the sheet is being pasted is smooth, flat, hard and free from moisture, grease etc	Rm	977.16	621.56	69.38	1668.10				-	-	-	-	-	-	-	-	-	-	-	-	-
134	Providing and laying brick aggregate cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 brick aggregate ) with 40mm brick aggregate to a required depth and filling layers of 150mm each in toilets (sunken floor) at all levels with contractor's material, labour, tools and plants including lead and lifts etc as per the directions of the Engineer-in-charge.	cum	592.61	426.30	250.52	1269.43				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 9 : Roofing Work</b>																					
	<b>Gypsum Plain Board</b>																					

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19		
	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 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50mm long with 6mm 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 spacing 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 of 10.5 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 20 mm 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 size 3.5 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 on both sides of joint and two coats of primer suitable for board, all as per manufacturer'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 and direction of the Engineer in Charge but excluding the cost of painting with :																						
135	12.5 mm thick tapered edge gypsum plain board conforming to IS: 2095- (Part I) :2011 (Board with BIS certification marks)	sqm	8200.33	6836.00	4144.93	19181.26				-	-	-	-	-	-	-	-	-	-	-	-	-	-
136	12.5 mm thick tapered edge gypsum moisture resistant board	sqm	50.00	50.00	50.00	150.00				-	-	-	-	-	-	-	-	-	-	-	-	-	-
137	Providing and fixing pre-coated galvanised iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-charge) 0.50 mm (+ 0.05 %) total coated thickness with zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12 metre or as desired by Engineer-in-charge. The sheet shall be fixed using self drilling /self tapping screws of size (5.5x 55 mm) with EPDM seal, complete upto any pitch in horizontal/ vertical or curved surfaces, excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.	sqm	313.35	206.00	83.39	602.74				-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing pre-coated galvanised steel sheet roofing accessories 0.50 mm (+0.05 %) total coated thickness, Zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns using self drilling/ self tapping screws complete :																						
138	Ridges plain (500 - 600mm)	metre	30.93	16.73	11.03	58.69				-	-	-	-	-	-	-	-	-	-	-	-	-	-
139	Flashings/ Aprons.( Upto 600 mm)	metre	33.56	26.00	7.56	67.12				-	-	-	-	-	-	-	-	-	-	-	-	-	-
140	Gutter (600 mm over all girth)	metre	45.13	16.73	22.06	83.92				-	-	-	-	-	-	-	-	-	-	-	-	-	-



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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
	Providing and fixing tiled false ceiling of specified materials of size 595x595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanized steel sections ( galvanized @ 120 grams/sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38 mm made from 0.30 mm thick (minimum) sheet, spaced at 1200 mm center to center and cross "T" of size 24x25 mm made of 0.30 mm thick (minimum) sheet, 1200 mm long spaced between main "T" at 600 mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 24x25 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 24x24x0.3 mm and laying false ceiling tiles of approved texture in the grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm GI adjustable rods with galvanised butterfly level clips of size 85 x 30 x 0.8 mm spaced at 1200 mm center to center along main T, bottom exposed width of 24 mm of all T-sections shall be pre-painted with polyester paint, all complete for all heights as per specifications, drawings and as directed by Engineer-in-charge.																				
141	12.5 mm thick fully Perforated Gypsum Board tile made from plasterboard having glass fibre conforming to IS: 2095 part I, of size 595x595 mm, having perforation of 9.7x9.7 mm at 19.4 mm c/c with center borders of 48 mm and the side borders of 30 mm, backed with non woven tissue on the back side, having an NRC (Noise Reduction Coefficient) of 0.79, with 50 mm resin bonded glass wool backing.	sqm	699.00	0.00	707.10	1406.10				-	-	-	-	-	-	-	-	-	-	-	-
	<b>Metal Ceiling</b>																				
	Providing and fixing GI Clip in Metal Ceiling System of 600x600 mm module which includes providing and fixing 'C' wall angle of size 20x30x20 mm made of 0.5 mm thick pre painted steel along the perimeter of the room with help of nylon sleeves and wooden screws at 300 mm center to centre, suspending the main C carrier of size 10x38x10 mm made of G.I steel 0.7 mm thick from the soffit with help of soffit cleat 37x27x25x1.6 mm, rawl plugs of size 38x12 mm and C carrier suspension clip and main carrier bracket at 1000 mm c/c. Inverted triangle shaped Spring Tee having height of 24 mm and width of 34 mm made of GI steel 0.45 mm thick is then fixed to the main C carrier and in direction perpendicular to it at 600 mm centers with help of suspension brackets. Wherever the main C carrier and spring T have to join, C carrier and spring T connectors have to be used. All sections to be galvanized @ 120 gms/sqm (both side inclusive), fixing with clip in tiles into spring T with :																				
142	GI Metal Ceiling Clip in plain Beveled edge global white color tiles of size 600x600 and 0.5 mm thick with 25 mm height, made of G I sheet having galvanizing of 100 gms/ sqm (both sides inclusive) and 20% perforation area with 1.8 mm dia holes and having NRC of 0.5, electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending and perforation.	sqm	3386.08	2849.00	1559.10	7794.18				-	-	-	-	-	-	-	-	-	-	-	-
143	Providing and fixing Heat Resistant Terrace Tiles (300 mm x 300 mm x 20 mm) with SRI (solar refractive index) > 78, solar reflection > 0.70 and initial emittance > 0.75 on waterproof and sloped surface of terrace, laid on 20 mm thick cement sand mortar in the ratio of 1:4 (1 cement : 4 coarse sand) and grouting the joints with mix of white cement & marble powder in ratio of 1:1, including rubbing and polishing of the surface upto 3 cuts complete, including providing skirting upto 150 mm height along the parapet walls in the same manner.	sqm	3969.60	8280.00	2897.00	15146.60				-	-	-	-	-	-	-	-	-	-	-	-
	<b>Calcium Silicate Board</b>																				

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Providing and fixing tiled false ceiling of specified materials of size 595x595 mm in true horizontal level, suspended on interlocking metal grid of hot dipped galvanized steel sections (galvanized @ 120 grams/sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38 mm made from 0.30 mm thick (minimum) sheet, spaced at 1200 mm center to center and cross "T" of size 24x25 mm made of 0.30 mm thick (minimum) sheet, 1200 mm long spaced between main "T" at 600 mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 24x25 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 24x24x0.3 mm and laying false ceiling tiles of approved texture in the grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x 1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm GI adjustable rods with galvanized butterfly level clips of size 85 x 30 x 0.8 mm spaced at 1200 mm center to center along main T, bottom exposed width of 24 mm of all T-sections shall be pre-painted with polyester paint, all complete for all heights as per specifications, drawings and as directed by Engineer-in-charge.																					
144	8 mm thick fully perforated calcium silicate board made with Calcareous & Siliceous materials reinforced with cellulose fiber manufactured through autoclaving process to give stable crystalline structure with minimum compressive strength 225 kg/ sq. cm, bending strength 100 kg/sq. cm, of size 595x595 mm, having perforation of dia. 10 mm with minimum perforated area 18 % with non woven tissue on the back side, having an NRC ( Noise Reduction Coefficient) of 0.85, with 50 mm thick rockwool of 48 kg /cum backing.	sqm	10.00	0.00	10.00	20.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Mineral Fiber Tile False Ceiling</b>																					
	Providing and fixing mineral fibre false ceiling tiles at all heights of size 595X595mm 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-in-charge.																					
145	With 20 mm thick beveled tegular mineral fibre false ceiling tile (NRC 0.7)	sqm	3564.00	3017.00	1356.00	7937.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
146	Providing, Supplying & Installation of Microcell Polycarbonate 20mm thick (minimum.) UV protected panel system which shall be uniform in color with an integral Microcell core. They should be manufactured with Vertical Standing Seam with standing seam height of 10-20mm at both sides of the panel. Panels shall be fixed on MS /Trusses.purlins with continuous Structural Aluminum double wall I-profile Spacer together with snap-on connector. These connectors to interlock the panels shall have a 2-4 tooth grip-lock locking mechanism to ensure maximum uplift capability and shall pass a pullout load of min. 4000 N (4kN) when tested as per ISO 6892:1998 and IS 1608:2005. Panel shall be with additional End-cap/Aluminum U-Profile (mill finish) for ends.including glass wool 100 mm Above Panel System shall be fixed over structural steel trusses / MS purlin with 2 coats of Enamel paint etc. conforming to the detail technical specifications as per approved Architectural Drawings submitted by Vendor Items includes cost of 20mm thick Polycarbonate sheet roofing with all its elements(Louvers), accessories , fittings and fixtures, scaffolding, labour , all required machineries for fixing and all valid taxes i.e. sales tax, excise duty, custom duty etc. complete. The above work is to be carried out by a Specialized Agency, as approved by the Engineer-in-Charge.	sqm	489.97	289.00	163.00	941.97				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and laying of roofing shingle including preparation of surface as required for treatment of roofing shingles, underlaying membrane & nails consisting of following operations systems with nailing method:																					
147	Applying a BITUMEN PRIME COATING is intended for preparation of the surface before installation of self-adhesive sealant tape waterproofing material width 5cm. The primer presents a mix of high-quality bitumen and specially selected organic solvents. It has an enhanced covering mass fraction of non-volatile substances 45-55% , relative viscosity 15-40s, consumption 0.25-0.35Lit per sqm bucket volume 3,10,30 and bitumen primer should be allowed to dry for a minimum of 6 to 8 hours to ensure proper adhesion of subsequent layers including cleaning the surface before treatment.	sqm	606.56	1657.83	757.83	3022.22				-	-	-	-	-	-	-	-	-	-	-	-	-
148	Laying of HIP and Ridge/Starter SBS modified, high-end, factory-made ridge called HIP and Ridge/Starter of TECHNINICOL Brand with the help of the nailing method and ensure the standard area assumption base layer fiberclass 110, SBS bitumen type, Flow resistance at elevated temperature 100°C, 3.4±0.2 mm Thickness per layer, 5.5 kg per sqm weight, Installation method a/c and as directed and specified by the Engineer-in-Charge :	metre	427.05	932.18	507.34	1866.57				-	-	-	-	-	-	-	-	-	-	-	-	-
149	Applying High Definition, Laminated Asphalt-based roofing shingles called "Country Series of Shinglas Brand" (having 50 years warranty and weight of 12 kg per sqm) with the help of the nailing method. Shinglas Brand's "Country Series" roofing shingles offer long durability with a significant weight. The shingles should be securely nailed to the surface for proper fixation. Roofing shingles by TECHNINICOL fully comply with EN 544 – European standard for bitumen shingles known for its strict requirements for the minimum mass of bitumen in products 1300 g/m² for laying roofing shingles and as directed and specified by the Engineer-in-Charge :	sqm	606.56	1657.83	757.83	3022.22				-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Sub Head 10 : Finishing Works</b>																						
<b>Internal Finishes</b>																						
	12mm cement plaster of mix in addition cement compound fibre has to be added in cement plaster																					
150	1:4 ( 1 cement : 4 fine sand)	sqm	43316.00	23558.20	22620.91	89495.11				-	-	-	-	-	-	-	-	-	-	-	-	
	15mm cement plaster on the rough side of single or half brick wall of mix																					
151	1:6 ( 1 cement : 6 fine sand)	sqm	50.00	10558.00	50.00	10658.00				-	-	-	-	-	-	-	-	-	-	-	-	
	20 mm cement plaster of mix ;																					
152	1:6(1 cement: 6 Fine sand)	sqm	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	
	6 mm cement plaster of mix :																					
153	1:3 (1 cement : 3 fine sand)	sqm	19533.88	44917.56	8301.00	72752.44				-	-	-	-	-	-	-	-	-	-	-	-	

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154	Extra for providing and mixing water proofing material in cement per bag of plaster work in proportion recommended by the manufacturers.	per bag of 50kg cement used in the mix			9.00	9.00					-	-	-	-	-	-	-	-	-	-	-	-
155	White washing with lime to give an even shade : New work (three or more coats)	sqm	18426.72	26205.00	7761.00	52392.72					-	-	-	-	-	-	-	-	-	-	-	
156	Colour washing such as green, blue or buff to give an even shade. New work (two or more coats) with a base coat of white washing with lime	Sqm	2213.00	135.00	250.00	2598.00					-	-	-	-	-	-	-	-	-	-	-	
157	Distemping with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer	sqm	3239.00	2860.00	2325.00	8424.00					-	-	-	-	-	-	-	-	-	-	-	
158	Finishing walls with water proofing cement paint of required shade : New work (Two or more coats applied @ 3.84 kg/10 sqm)	sqm	13861.24	7399.20	4664.68	25925.12					-	-	-	-	-	-	-	-	-	-	-	
159	Applying priming coat With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	sqm	69.00	0.00	45.00	114.00					-	-	-	-	-	-	-	-	-	-	-	
160	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/steel works	sqm	183.00	232.00	91.00	506.00					-	-	-	-	-	-	-	-	-	-	-	
161	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel work (second coat)	sqm	137.98	39.00	75.00	251.98					-	-	-	-	-	-	-	-	-	-	-	
162	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade : Two or more coats on new work	sqm	2283.03	889.00	1206.00	4378.03					-	-	-	-	-	-	-	-	-	-	-	
163	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade : Two or more coats on new work	sqm	2036.81	3893.81	1672.81	7603.43					-	-	-	-	-	-	-	-	-	-	-	
164	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	sqm	34702.03	28106.00	15091.00	77899.03					-	-	-	-	-	-	-	-	-	-	-	
165	Distemping with 1st quality acrylic distemper, 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. Two Coat	sqm	73.74	73.74	61.87	209.35					-	-	-	-	-	-	-	-	-	-	-	
166	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) Two coats	sqm	29035.00	25472.00	13560.00	68067.00					-	-	-	-	-	-	-	-	-	-	-	
167	Polyurethane Paint	sqm	2147.00	1062.00	2357.00	5566.00					-	-	-	-	-	-	-	-	-	-	-	
168	ANTIBACTERIAL ACRYLIC EMULSION PAINT	sqm	3816.00	2000.00	745.00	6561.00					-	-	-	-	-	-	-	-	-	-	-	
169	<b>External Finishes</b> 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) in addition cement compound fibre has to be added in cement plaster finished rough with sponge	sqm	18864.71	12793.74	11198.55	42857.00					-	-	-	-	-	-	-	-	-	-	-	
170	Extra for plastering exterior walls of height more than 10 m from ground level for every additional height of 3 m or part thereof.	sqm	43908.00	34683.00	7416.00	86007.00					-	-	-	-	-	-	-	-	-	-	-	
171	18 mm thick plain cement mortar band in cement mortar 1:4 (1 cement : 4 fine sand): Moulded Band	cm/metre	3693.01	2463.94	3693.01	9849.96					-	-	-	-	-	-	-	-	-	-	-	

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	Finishing walls with textured exterior paint of required shade :																					
172	New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	sqm	9170.30	6446.16	5488.79	21105.25				-	-	-	-	-	-	-	-	-	-	-	-	-
	Finishing walls with 100% Premium acrylic emulsion paint having VOC less than 50 gm/litre and UV resistance as per IS 15489:2004, Alkali & fungal resistance, dirt resistance exterior paint of required shade (Company Depot Tinted) with silicon additives.																					
173	New work (Two or more coats applied @ 1.43 litre/ 10 sqm. Over and including priming coat of exterior primer applied @ 0.90 litre/10 sqm.	sqm	18573.90	12632.20	10783.99	41990.09				-	-	-	-	-	-	-	-	-	-	-	-	-
174	Add for plaster drip course/ groove in plastered surface or moulding to R.C.C. projections.	RM	2640.04	2250.00	1316.23	6206.27				-	-	-	-	-	-	-	-	-	-	-	-	-
175	Providing and finishing 24 gauge 19 mm size galvanised chicken wire mesh of approved make and design at junctions of RCC and brick work and other locations including necessary clips and "U" nails rawl plugs,screws etc. complete for all height as per specifications & direction of the Engineer-In-Charge	sqm	4698.32	1433.80	2157.80	8289.92				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 11 : Road Work</b>																					
176	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earthwith lead upto 50 metres.	sqm	7550.00	4312.00	4799.00	16661.00				-	-	-	-	-	-	-	-	-	-	-	-	-
177	Extra for compaction of earth work in embankment under optimum moisture conditions to give at least 95% of the maximum dry density (proctor density).	cum	3775.00	2156.00	2400.00	8331.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and stacking at site.																					
178	Good earth	cum	3775.00	2156.00	0.00	5931.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying, stacking and Spreading 6 mm thick red bajri, watering and rolling complete including preparation of the surface and rolling.									-	-	-	-	-	-	-	-	-	-	-	-	-
179	With road roller/ hand roller	sqm	0.00	0.00	0.00																	
180	Supplying at site Angle iron post & strut of required size including bottom to be split and bent at right angle in opposite direction for 10 cm length and drilling holes upto 10 mm dia. etc. complete.	kg	1844.00	2765.00	864.00	5473.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	75 mm thick back filling for pitching including supplying of required materials and consolidation etc. complete with :																					
181	Stone aggregate 40 mm nominal size	sqm	0.00	0.00	510.00	510.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing,laying and fixing RCC pipe NP2 class (light duty) in ground complete with RCC collars, jointing with cement mortar 1:2 (1 cement: 2 fine sand) including trenching and refilling etc as required .									-	-	-	-	-	-	-	-	-	-	-	-	-
182	150mm Dia	Rm	10.00	245.00	644.84	899.84				-	-	-	-	-	-	-	-	-	-	-	-	-
183	300mm Dia	Rm	140.00	25.00	112.00	277.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Painting runway/taxi track/apron marking with adequate Nos of coats to give uniform finish with road marking paint of superior make as approved by the Engineer-in-charge, i/c cleaning the surface of all dirt, scales, oil, grease and other foreign material etc. and lining out complete.																					
184	New work (Two or more coats)	sqm	132.00	45.00	318.00	495.00				-	-	-	-	-	-	-	-	-	-	-	-	-
185	Providing and applying 2.5 mm thick road marking strips (retro reflective) of specified shade/ colour using hot thermoplastic material by fully/ semi automatic thermoplastic paint applicator machine fitted with profile shoe, glass beads dispenser, propane tank heater and profile shoe heater, driven by experienced operator on road surface including cost of material, labour, T&P, cleaning the road surface of all dirt, seals, oil, grease and foreign material etc. complete as per direction of Engineer-in-charge and accordance with applicable specifications.	sqm	10.00	0.00	10.00	20.00				-	-	-	-	-	-	-	-	-	-	-	-	-



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186	Providing and laying at or near ground level factory made kerb stone of M-25 grade cement in position to the required line, level and curvature jointed with cement mortar 1:3 ( 1cement : 3 coarse sand ) including making joints with or without grooves (thickness of joints except at sharve curve shall not to more than 5mm) including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge.( length of finished kerb edging shall be measured for payment ). ( Precast C.C. kerb stone shall be approved by Engineer-in-charge).	cum	54.00	84.00	40.00	178.00				-	-	-	-	-	-	-	-	-	-	-	-	-
187	Providing and fixing G.I. chain link fabric fencing of required width in mesh size 50x50 mm including strengthening with 2 mm dia wire or nuts, bolts and washers as required complete as per the direction of Engineer-in-charge. Made of G.I. wire of dia. 4 mm, PVC coated to achieve outer dia not less than 5 mm in required colour and shade	sqm	548.64	548.64	634.77	1732.05				-	-	-	-	-	-	-	-	-	-	-	-	-
188	Providing and laying C.C. pavement of mix M-25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator , vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer-incharge. (The panel shuttering work shall be paid for separately). (Note:- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/ recoverable separately).	cum	409.00	24.00	480.00	913.00				-	-	-	-	-	-	-	-	-	-	-	-	-
189	Construction of granular sub-base by providing close graded Material conforming to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge. With material conforming to Grade-1 (size range 75 mm to 0.075 mm) having CBR Value-30.	cum	1888.00	1078.00	1855.00	4821.00				-	-	-	-	-	-	-	-	-	-	-	-	-
190	Providing, laying, spreading and compacting graded stone aggregate (size range 53 mm to 0.075 mm ) to wet mix macadam (WMM) specification including premixing the material with water at OMC in mechanical mix plant, carriage of mixed material by tipper to site, for all leads & lifts, laying in uniform layers with mechanical paver finisher in sub- base / base course on well prepared surface and compacting with vibratory roller of 8 to 10 tonne capacity to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.	cum	1742.50	909.10	835.75	3487.35				-	-	-	-	-	-	-	-	-	-	-	-	-
191	Supplying and stacking of hard stone (for stone pitching) 22.5 cm thick at site.	cum	0.00	0.00	850.59	850.59				-	-	-	-	-	-	-	-	-	-	-	-	-
192	Dry stone pitching 22.5 cm thick laid in courses and required profile with hammer dressed stones having no side less than 15 cm, with minimum depth of 20 cm including preparing the bedding surface etc. all complete. (Payment for Stone to be made separately).	sqm	0.00	0.00	1260.41	1260.41				-	-	-	-	-	-	-	-	-	-	-	-	-
193	Construction of dry lean cement concrete sub base over a prepared sub-grade with coarse and fine aggregate conforming to IS:383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per specifications, cement content not to be less than 150 kg/cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, for all leads & lifts, laid with a mechanical paver, compacting with 8-10 tonne vibratory roller, finishing and curing etc. complete as per direction of Engineerin-charge.	cum	12.00	12.00	9.00	33.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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194	Providing and erecting 2.00 metre high temporary barricading at site; each panel of size 2.50 m x 2.00 m made of 40x40x6 mm angle iron or 50x50x3 mm hollow MS tube posts/horizontal members/bracings covered with 1.63 mm thick MS sheet. The sheet shall be fixed with 30x5 mm MS flt by suitable welding/riveting. The panels shall be made so that gap of 50cm above the ground is available making overall height as 2.5 m. MS channel ISLC 75 @ 5.70 kg/m, 50 cm long shall be provided at the bottom having oval shaped holes of size 50x25 mm at both ends with 50 cm long MS angle 40x40x6 mm bracing. Suitable arrangement shall be made to fix the barricading to avoid from overturning by providing 250 mm long expansion fasteners at both ends. The work shall be executed as per drawing/direction of Engineer-in-Charge which includes writing and painting, arrangement for traffic diversion such as traffic signals during construction at site for day and night, glow lamps, reflective signs, marking, flags, caution tape as directed by the Engineer-in-Charge. The barricading provided shall be retained in position at site continuously including shifting of barricading from one location to another location as many times as required during the execution of the entire work till its completion. Rate include its maintenance for damages, painting, all incidentals, labour materials, equipments and works required to execute the job. The barricading shall not be removed without prior approval of Engineer-in-Charge.	metre	3625.00	3975.00	1250.00	8850.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Chequered precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing and cleaning etc. complete, on 20mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand).									-	-	-	-	-	-	-	-	-	-	-	-	-
195	Dark shade pigment using ordinary cement	sqm	500.00	673.00	1450.00	2623.00				-	-	-	-	-	-	-	-	-	-	-	-	-
196	Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.				810.00	810.00				-	-	-	-	-	-	-	-	-	-	-	-	-
197	Laying old cement concrete interlocking paver blocks of any design/ shape laid in required line, level, curvature, colour and pattern over and including 50 mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge. (Old CC paver blocks shall be supplied by the department free of cost).				486.00	486.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and laying factory made chamfered edge Cement Concrete paver blocks in footpath, parks, lawns, drive ways or light traffic parking etc, of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand. complete all as per direction of Engineer-in-Charge.																					
198	60mm thick cement concrete paver block of M-35 grade with approved colour, design & pattern.	sqm	580.00	675.00	1456.00	2711.00				-	-	-	-	-	-	-	-	-	-	-	-	-
199	80 mm thick C.C. paver block of M-30 grade with approved color design and pattern.	sqm	6970.00	3636.40	5503.00	16109.40				-	-	-	-	-	-	-	-	-	-	-	-	-
	Rectangular type with openable circular lid									-	-	-	-	-	-	-	-	-	-	-	-	-
200	150 mm nominal size square 100 mm diameter of the inner hinged round grating	each	25.00	278.00	185.00	488.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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201	Providing and placing in position 100 mm thick factory made machine batched & machine mixed Precast RCC Rectangular Covers on drains of footpath of various sizes, of M-25 grade cement concrete for RCC work, including cost of centering, shuttering, reinforcement of 8 mm dia TMT bars of Fe 500 grade @ maximum 100mm c/c on both ways, neat cement punning on finished surface, properly encased on all edges with 1.6 mm thick, 100 mm wide MS sheet duly painted over priming coat, reinforcement to be welded at edges with MS sheet and providing 2 Nos. 12 mm dia bar for hooks etc i/c cost of cartage, all leads & lift, handling at site etc. all complete as per direction of Engineer-in-Charge.	sqm	45.00	108.00	103.00	256.00				-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Sub Head 12 : Pile Work</b>																						
202	750mm dia. piles,	metre	8684.00	16836.00	0.00	25520.00				-	-	-	-	-	-	-	-	-	-	-	-	
202A	600mm dia piles	metre	0.00	0.00	9834.00	9834.00				-	-	-	-	-	-	-	-	-	-	-	-	
203	Steel Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.									-	-	-	-	-	-	-	-	-	-	-	-	
203	Thermo-Mechanically Treated bars of grade Fe-500D or more.	kg	306762.30	570942.43	222327.07	1100031.80				-	-	-	-	-	-	-	-	-	-	-	-	
204	Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge/Anchor piles method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in-charge.									-	-	-	-	-	-	-	-	-	-	-	-	
204A	Note: 1. Initial and Routine Load Test shall not be carried out by Dynamic method of testing. Note: 2. Testing agency shall submit the design of loading platform for the approval of Engineer-in-charge.									-	-	-	-	-	-	-	-	-	-	-	-	
205	Single pile above 50 tonne and upto 100 tonne Safe capacity																					
205A	Initial test (Test Load 2.5 times the Safe capacity)	Per Test	0.00	15.00	0.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	
206	Single pile above 100 tonne Safe capacity, Initial test (Test Load 2.5 times the Safe capacity)	Per Test	9.00	0.00	14.00	23.00				-	-	-	-	-	-	-	-	-	-	-	-	
206A	Routine test (Test Load 1.5 times the Safe capacity)	Per Test	0.00	15.00	0.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	
207	Single pile above 100 tonne Safe capacity Routine test (Test Load 1.5 times the Safe capacity)	Per Test	9.00	0.00	14.00	23.00				-	-	-	-	-	-	-	-	-	-	-	-	
208	Integrity testing of Pile using Low Strain/ Sonic Integrity Test/ Sonic Echo Test method in accordance with IS 14893 including surface preparation of pile top by removing soil, mud, dust & chipping lean concrete lumps etc. and use of computerised equipment and high skill trained personal for conducting the test & submission of results, all complete as per direction of Engineer-in-charge	Per Test	9.00	15.00	14.00	38.00				-	-	-	-	-	-	-	-	-	-	-	-	
209	Note :- The inclusion of the above item in the schedule of work shall be judiciously decided by the technical sanctioning authority, keeping in view the quality control, type of soil strata & importance of the project.																					
<b>Sub Head 13 : Aluminium &amp; Glass Works</b>																						



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	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :									-	-	-	-	-	-	-	-	-	-	-	-	-
207	For fixed portion Powder coated aluminium (minimum thickness of powder coating 50 micron)	kg	8878.00	5347.00	2326.00	16551.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)									-	-	-	-	-	-	-	-	-	-	-	-	-
208	Powder coated aluminium (minimum thickness of powder coating 50 micron)	kg	3480.00	3146.00	1510.00	8136.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing 12 mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS:12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineerin-charge.																					
209	Pre-laminated particle board with decorative lamination on both sides	sqm	565.00	1200.00	79.00	1844.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing 6mm thick toughened glass in door/ window frame or shutter frame with necessary fixing accessories etc to complete. Rate shall include all material , labour, transport, taxes, all lead, lift etc to complete the work. (The door and window frame / shutter frame, beading are to be paid seperately)																					
210	With toughned glass panes of 6 mm thickness (weight not less than 12.50 kg/sqm)	sqm	3801.20	5952.73	1421.02	11174.95				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logo embossed on the body plate with double spring mechanism and door weight upto 125 kg., for doors, including cost of cutting floors , embedding in floors as required and making good the same matching to the existing floor :finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge :																					
211	With stainless steel cover plate - minimum 1.25 mm thickness	each	108.00	112.00	46.00	266.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Filling the gap in between aluminium frame & adjacent RCC/ Brick/ Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete.									-	-	-	-	-	-	-	-	-	-	-	-	-
212	Upto 5mm depth and 5 mm width Providing and fixing aluminium tubular handle bar 32 mm outer dia, 3.0 mm thick & 2100 mm long with SS screws etc .complete as per direction of Engineer-in-Charge.	metre	9012.60	6969.20	4597.00	20578.80				-	-	-	-	-	-	-	-	-	-	-	-	-
213	Polyester powder coated minimum thickness 50 micron aluminium tubular handle bar	each	2.00	2.00	2.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
214	Providing and fixing 12 mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & botom pivot & double acting hydraulic floor spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-in-charge	sqm	11.00	26.00	11.00	48.00				-	-	-	-	-	-	-	-	-	-	-	-	-
215	Aluminium Aldrop 250mm Long 1No	each	301.00	247.00	128.00	676.00				-	-	-	-	-	-	-	-	-	-	-	-	-
216	Exhaust fan (250mm dia)	Nos	5.00	6.00	27.00	38.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 14 : Waterproofing Works</b>									-	-	-	-	-	-	-	-	-	-	-	-	-

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217	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 engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.	sqm	3108.10	3958.00	1499.10	8565.20				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations:																					
	(a) Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment. (b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand ) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs. (c) After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge.									-	-	-	-	-	-	-	-	-	-	-	-	-
	(d) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep. (e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test."All above operations to be done in order and as directed and specified by the Engineer-in-Charge :																					
218	With average thickness of 120 mm and minimum thickness at khurra as 65 mm.	sqm	5386.45	5896.85	1816.63	13099.93				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and Placing in position suitable PVC water stops conforming to IS:12200 for construction/ expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete :									-	-	-	-	-	-	-	-	-	-	-	-	-
219	Dumb bell with central bulb (180 mm wide, 8 mm thick)	metre	1729.62	876.00	260.00	2865.62				-	-	-	-	-	-	-	-	-	-	-	-	-

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	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 engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.																					
220	For vertical surface two coats @ 0.70 kg per sqm	sqm	2020.25	55.51	581.53	2657.29				-	-	-	-	-	-	-	-	-	-	-	-	-
221	For horizontal surface one coat @1.10 kg per sqm.	sqm	819.78	685.78	246.18	1751.74				-	-	-	-	-	-	-	-	-	-	-	-	-
222	Providing and fixing factory made precast RCC perforated drain covers, having concrete of strength not less than M-25, of size 1000 x 450x50 mm, reinforced with 8 mm dia four nos longitudinal & 9 nos cross sectional T.M.T. hoop bars, including providing 50 mm dia perforations @ 100 to 125 mm c/c, including providing edge binding with M.S. flats of size 50 mm x 1.6 mm complete, all as per direction of Engineerin-charge.	each	60.00	0.00	413.75	473.75				-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Sub Head 15 : Structural Glazing And Aluminium Composite Panel</b>																						
223	Providing and supplying aluminium extruded tubular and other aluminium sections as per the architectural drawings and approved shop drawings , the aluminium quality as per grade 6063 T5 or T6 as per BS 1474,including super durable powder coating of 60-80 microns conforming toAAMA 2604 of required colour and shade as approved by the Engineer-in-Charge. ( The item includes cost of material such as cleats, sleeves, screws etc. necessary for fabrication of extruded aluminium frame work. Nothing extra shall be paid on this account). The weight of aluminium extruded section shall be taken for purpose of payment.	kg	4001.81	3533.69	3878.19	11413.69				-	-	-	-	-	-	-	-	-	-	-	-	-
	Designing, fabricating, testing, protection, installing and fixing in position semi (grid) unitized system of structural glazing (with open joints) for linear as well as curvilinear portions of the building for all heights and all levels, including:																					
	Providing and supplying Spandrel Glass Panels comprising of 6 mm thick heat strengthened monolithic float glass of approved colour and shade with reflective soft coating on surface # 2 of approved colour and shade so as to match the colour and shade of the IGUs in the vision panels etc. .all complete for the required performances as specified, as per the Architectural drawings, as per the approved shop drawings, as specified, and as directed by the Engineer- in Charge. (i) Coloured tinted float glass 6mm thick substrate with reflective soft coating on face # 2, having properties as visible Light transmittance (VLT) of 25 to 35 %, Light reflection internal 10 to 15%, light reflection external 10 to 20 %, shading coefficient (0.25- 0.28) and U value of 3.0 to 3.3 W/m2 K etc.The properties of performance glass shall be decided by technical sanctioning authority as per the site requirement																					
	a) Structural analysis & design and preparation of shop drawings for the specified design loads conforming to IS 875 part III (the system must passed the proof test at 1.5 times design wind pressure without any failure), including functional design of the aluminum sections for fixing glazing panels of various thicknesses, aluminium cleats, sleeves and splice plates etc. gaskets, screws, toggles, nuts, bolts, clamps etc., structural and weather silicone sealants, flashings, fire stop (barrier)-cum-smoke seals, microwave cured EPDM gaskets for water tightness, pressure equalisation & drainage and protection against fire hazard including:									-	-	-	-	-	-	-	-	-	-	-	-	-

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	b) Fabricating and supplying serrated M.S. hot dip galvanised / Aluminium alloy of 6005 T5 brackets of required sizes, sections and profiles etc. to accommodate 3 Dimensional movement for achieving perfect verticality and fixing structural glazing system rigidly to the RCC/ masonry/structural steel framework of building structure using stainless steel anchor fasteners/ bolts, nylon seperator to prevent bimetallic contacts with nuts and washers etc. of stainless steel grade 316, of the required capacity and in required numbers.																					
	c) Providing and filling, two part pump filled, structural silicone sealant and one part weather silicone sealant compatible with the structural silicone sealant of required bite size in a clean and controlled factory / work shop environment , including double sided spacer tape, setting blocks and backer rod, all of approved grade, brand and manufacture, as per the approved sealant design, within and all around the perimeter for holding glass.									-	-	-	-	-	-	-	-	-	-	-	-	-
	d) Providing and fixing in position flashings of solid aluminium sheet 1 mm thick and of sizes, shapes and profiles, as required as per the site conditions, to seal the gap between the building structure and all its interfaces with curtain glazing to make it watertight.																					
	e) Making provision for drainage of moisture/ water that enters the curtain glazing system to make it watertight, by incorporating principles of pressure equalization, providing suitable gutter profiles at bottom (if required), making necessary holes of required sizes and of required numbers etc. complete. This item includes cost of all inputs of designing, labour for fabricating and installation of aluminium grid, installation of glazed units, T&P, scaffolding and other incidental charges including wastages etc., enabling temporary structures and services, cranes or cradles etc. as described above and as specified. The item includes the cost of getting all the structural and functional design including shop drawings checked by a structural designer, duly approved by Engineer-in-charge. The item also includes the cost of all mock ups at site, cost of all samples of the individual components for testing in an approved laboratory, field tests on the assembled working structural glazing as specified, cleaning and protection till the handing over of the building for occupation. In the end, the Contractor shall provide a water tight structural glazing having all the performance characteristics etc. all complete as required, as per the Architectural drawings, as per item description, as specified, as per the approved shop drawings and as directed by the Engineer- in-Charge.																					
	Note:- 1. The cost of providing extruded aluminium frames, shadow boxes, extruded aluminium section capping for fixing in the grooves of the curtain glazing and vermin proof stainless steel wire mesh shall be paid for separately under relevant items under this sub- head. However, for the purpose of payment, only the actual area of structural glazing (including width of grooves ) on the external face shall be measured in sqm. up to two decimal places.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Note:-2. The following performance test are to be conducted on structural glazing system if area of structural glazing exceeds 2500sqm from the certified laboratories accredited by NABL(National Accreditation Board for Testing and Calibration Laboratories), Department of Science & Technologies, India. Cost of testing is payable separately. The NIT approving authority will decide the necessity of testing on the basis of cost of the work, cost of the test and importance of the work. Performance Testing of Structural glazing system Tests to be conducted in the NBL Certified laboratories																					
	1. Performance Laboratory Test for Air Leakage Test (-50pa to -300pa) & (+50pa to +3--pa) as per ASTM-E-283-04 testing method for a range of testing limit 1 to 200 mVhr"																					
	2. Static Water Penetration Test. (50pa to 1500pa) as per ASTM-E-331-09 testing method for a range up to 2000 ml."									-	-	-	-	-	-	-	-	-	-	-	-	-
	3. Dynamic Water Penetration (50pa to 1500pa) as per AAMA 501.01-05 testing method for a range upto 2000 ml"																					

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	4. Structural Performance Deflection and deformation by static air pressure test (1.5 times desing wind pressure without any failure) as per ASTM E-330-10 testing method for a range upto 50 mm”									-	-	-	-	-	-	-	-	-	-	-	-	-
	5. Seismic Movement Test (upto 30 mm) as per AAMA 501.4-09 testing method for Qualitative test” Tests to be conducted on site																					
224	6. Onsite Test for Water Leakage for a pressure range 50 kpa to 240 kpa (35psi) upto 2000ml”	sqm	801.00	707.00	771.00	2279.00				-	-	-	-	-	-	-	-	-	-	-	-	
	<b>Sub Head 16 : Rebaring</b>																					
	Drilling suitable holes in reinforced or plain cement concrete with power driven drill machine to a minimum depth of 100mm upto 200mm in RCC beams, lintels, columns and slabs to introduce steel bars for sunshades/balconies including fixing the steel bars in position using epoxy resin anchor grout of approved make but excluding the cost of reinforcement, all complete as per direction of Engineer-In-Charge.									-	-	-	-	-	-	-	-	-	-	-	-	
225	Upto and including 12mm dia.	each	100.00	100.00	100.00	300.00				-	-	-	-	-	-	-	-	-	-	-	-	
	Providing, mixing and applying bonding coat of approved adhesive on chipped portion of RCC as per specifications and direction of Engineer-In-charge complete in all respect.																					
226	Epoxy bonding adhesive having coverage 2.20 sqm/kg of approved make	sqm	100.00	100.00	100.00	300.00				-	-	-	-	-	-	-	-	-	-	-	-	
227	Providing and fixing of pressure relief valve by using U-PVC pipes 10mm diameter pipe at RCC base raft slab to a spacing of 4m c/c and rigidly fixed with raft reinforcement. the cost including Filter media 40 mm size aggregate below the pressure relief U-PVC pipe, the pipe hole shall be sealed / grouted with high strength micro silica concrete, and Labour charge etc., complete and as per technical specification, drawing and engineer's direction.	Nos	250.00	250.00	250.00	750.00				-	-	-	-	-	-	-	-	-	-	-	-	
	<b>Sub Head 18 : Special Elevation Gamusa pattern work</b>																					
228	FR GRADE - FRP PANEL - Providing and Fixing of PRE PIGMENTED TO DESIRED CoLOUR - FRP (Fibre Reinforced polyester resin plastic composite) Panels in 5 mm thick finished, weight 8.5 Sqm, fire rating Class B as per ASTM E 84, size, pattern, design, and colour of approved make to be fixed on BRICK / RCC / Block work Column or structural steel work with Dry Fixing method with all appropriate, fasteners for fixing, and necessary hardware on Façade. The panel shall be made from materials UV Resistant, abrasion resistance. The panel shall be securely fixed to the available surface of required size at specified locations. This includes the cost of screen, anchor fasteners, labour charges for fixing, for all heights in the elevation. - AS PER LAYER BY LAYER TECHNIQUE USED BY GFRC FACADES - PANEL	sqm	275.00	350.00	219.00	844.00				-	-	-	-	-	-	-	-	-	-	-	-	
	<b>Sub Head 17 : Stone Column</b>																					
229	<b>STONE COLUMNS\ GROUND IMPROVEMENT</b> Providing all material, tools, tackles and constructing stone columns as per specification. Mobilisation of adequate number of rigs, tools, tackles, plant, equipment etc. and all accessories required for the construction of the stone columns/ ground improvement as per specifications and demobilising the same after the works are complete.	LS	1.00	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	
	<b>Ground Improvement Works using Vibro Stone Columns:</b>																					
230	900mm diameter Stone Columns installed by Wet Vibro top Feed displacement method	nos.	1697.00	0.00	0.00	1697.00				-	-	-	-	-	-	-	-	-	-	-	-	
	Conducting accurate survey to locate all the stone columns in correct location and setting up of stone column rigs with all accessories & tools at each stone column location based on the sequence approved by the Engineer-in charge. Includes preparation of positions of stone column rig and includes approach.																					
	<b>Stone Columns below Raft Foundation for enhancement of NET SBC &amp; Liquefaction Mitigation:</b>																					



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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
231	Supply & Installation of Ground Improvement works using 900mm dia. stone columns using vibrofloat technique and up to required depth as per GFC Drawings measured from top of cut-off level of stone columns to termination depth of the stone column. This rate includes setting up of columns, installation of columns, real time monitoring of depth and compaction effort for every column, preparation of records, etc., as per design requirements and it also includes initial set-up with establishment. <b>This rate is inclusive of supply of stone aggregates (75mm downsize) required for stone column works.</b> Also provide stone columns layout between and around concrete piles for approval before start of execution. The soil improvement should achieve a) Allowable Bearing Pressure = 8.5 T/ m2 corresponding allowable settlement of 75mm (to be proven by initial and routine load tests specified in technical specification) with liquefaction mitigation b) Liquefaction FOS >=1 which needs to be confirmed by carrying out ECPT Test.	metre	25455.00	0.00	0.00	25455.00				-	-	-	-	-	-	-	-	-	-	-	-	-
232	<b>Stone Sand Blanket</b> The stone sand blanket shall be laid over the top of the stone columns or below the Raft for minimum 500mm thickness or as per the governing design criteria and will be compacted to a relative dry density of 85 percent Compaction ( to be confirmed by field compaction test) shall be carried out with rollers with 10-12 MT capacity vibro roller. Stone / Sand shall be laid in layers of 150mm and compacted to achieve desired compaction. The Stone Sand Blanket shall be constructed with mixture of 75 mm and down stone aggregates and well graded medium to coarse sand of Fineness Modulus not less than 2.2. The proportions for mix ratio of 2:1 (2 Stone Aggregates: 1 sand).	cum	3838.00	11102.30	0.00	14940.30				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Initial Load Test (Single and Group Column Test)</b>																					
233	Single Column Plate Load Test ( to be carried out outside the raft foot print area)	nos.	1.00		0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Carrying out specified no of initial plate load tests on single columns ( totalling to 9 no's ) ( as per clause 3.5 of IS 15284 part 1 and clause 7.4 of IS 15284 part 1 ) at specified locations as given by the Engineer in charge/client with necessary kentledge etc. complete in all respects and making a report thereof to confirm achievement of net SBC of 8.5 T/m2. The test should be carried out through a reputed agency (with prior approval of Engineer in charge ) which needs to be approved by IIT/NIT, including the testing procedure and the test results. The test needs to be witnessed along with the representative of PMC, the Engineer in charge, the testing agency (contractor), and an authorized representative of IIT/NIT.																					
234	Group Column Plate Load Test ( to be carried out outside the raft foot print area)	nos.	1.00		0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Carrying out specified no of initial plate load tests on a group of stone columns ( totalling to 16 no's ) ( as per clause 3.5 of IS 15284 part 1 and clause 7.4 of IS 15284 part 1 ) at specified locations as given by the Engineer in charge/client with necessary kentledge etc. complete in all respects and making a report thereof to confirm achievement of net SBC of 8.5 T/m2. The test should be carried out through a reputed agency (with prior approval of Engineer in charge ) which needs to be approved by IIT/NIT, including the testing procedure and the test results. The test needs to be witnessed along with the representative of PMC, the Engineer in charge, the testing agency (contractor), and an authorized representative of IIT.																					
	<b>Routine Load Test (Single and Group Column Test)</b>																					
235	Single Column Plate Load Test	nos.	5.00		0.00	5.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Carrying out specified no of routine plate load tests on single columns (for every 625 m2 consideration) (as per clause 3.5 of IS 15284 part 1 and clause 7.4 of IS 15284 part 1) at specified locations as given by the Engineer in charge/client with necessary kentledge etc. complete in all respects and making a report thereof to confirm achievement of net SBC of 8.5 T/m2. The test should be carried out through a reputed agency (with prior approval of Engineer in charge) which needs to be approved by IIT/NIT, including the testing procedure and the test results. The test needs to be witnessed along with the representative of PMC, the Engineer in charge, the testing agency (contractor), and an authorized representative of IIT.																					
236	Group Column Plate Load Test	nos.	3.00		0.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Carrying out specified no of routine plate load tests on group of stone columns (for every 625 m2 consideration) (as per clause 3.5 of IS 15284 part 1 and clause 7.4 of IS 15284 part 1) at specified locations as given by the Engineer in charge/client with necessary kentledge etc. complete in all respects and making a report thereof to confirm achievement of net SBC of 8.5 T/m2. The test should be carried out through a reputed agency (with prior approval of Engineer in charge) which needs to be approved by IIT/NIT, including the testing procedure and the test results. The test needs to be witnessed along with the representative of PMC, the Engineer in charge, the testing agency (contractor), and an authorized representative of IIT.																					
	<b>Confirmation of Liquefaction mitigation by field test</b>																					
237	Conducting Electric Static cone penetration test (ECPT) conforming to IS 4968 to specify N-Value at specified depths to confirm improvement in N-value to nullify liquefaction potential. The test should be carried out through a reputed agency (with prior approval of Engineer in charge) which needs to be approved by IIT/NIT, including the testing procedure and the test results. The test needs to be witnessed along with the representative of PMC, the Engineer in charge, the testing agency (contractor), and an authorized representative of IIT.	nos.	6.00		0.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 19 : Signages</b>																					
	<b>INTERIOR</b>																					
	Providing and fixing of signages, modular curved frame technology, of various widths and lengths, to form suggested usages, made of aluminium extruded sections, duly anodised, all signages shall be provided with 0.6-0.8mm polycarbonate protecting film over the prints, of appropriate size. Model : Illusion by SIGNSUTRA or Equivalent.																					
238	ILLUSION C-80, ROOM NUMBER 80X120	each	785	611.00	355.00	1751.00				-	-	-	-	-	-	-	-	-	-	-	-	-
239	ILLUSION C-80, NAME PLATE 80X300	each	231	197.00	123.00	551.00				-	-	-	-	-	-	-	-	-	-	-	-	-
240	DEPARTMENT NAME PLATE 120X600	each	453	414.00	318.00	1185.00				-	-	-	-	-	-	-	-	-	-	-	-	-
241	ILLUSION C-80, DESIGNATION PLATE 80X300	each	83	62.00	23.00	168.00				-	-	-	-	-	-	-	-	-	-	-	-	-
242	ILLUSION C-120, DOOR PLATE TOILET 120X150	each	92	67.00	37.00	196.00				-	-	-	-	-	-	-	-	-	-	-	-	-
243	ILLUSION C-120, DOOR PLATE LADIES TOILET 120X150	each	22	14.00	12.00	48.00				-	-	-	-	-	-	-	-	-	-	-	-	-
244	ILLUSION C-120, DOOR PLATE GENTS TOILET 120X150	each	22	15.00	12.00	49.00				-	-	-	-	-	-	-	-	-	-	-	-	-
245	ILLUSION C-120, DOOR PLATE HANDICAP TOILET 120X150	each	10	6.00	5.00	21.00				-	-	-	-	-	-	-	-	-	-	-	-	-
246	ILLUSION C-80, ELECTRICAL PANEL 80X400	each	7	11.00	6.00	24.00				-	-	-	-	-	-	-	-	-	-	-	-	-
247	ILLUSION C-40, WORK STATION NAME PLATES 40X250	each	34	42.00	25.00	101.00				-	-	-	-	-	-	-	-	-	-	-	-	-
248	DRINKING WATER 210X300	each	27	19.00	16.00	62.00				-	-	-	-	-	-	-	-	-	-	-	-	-
249	AUTHORISED PERSONAL ONLY 120X120	each	64	58.00	50.00	172.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing of signages, customised to the architect's design, the signage to be made of 10 mm casted clear acrylic sheet duly cut by laser, all text to be of 2 mm thick acrylic duly laser cut, partially housed and pasted on to engraved surface of the text in the clear acrylic base, the 10mm acrylic sheet to be fixed on 25x25mm section of teak wood with help of crafted SS pins, and further fixed to the prescribed location with the help of wooden dowels, and required adhesive, as per drawing.																					
250	MAIN DIRECTORY 1200X600	each	37.00	30.00	20.00	87.00				-	-	-	-	-	-	-	-	-	-	-	-	-
251	FLOOR DIRECTORY 550X300	each	39.00	30.00	22.00	91.00				-	-	-	-	-	-	-	-	-	-	-	-	-
251	FLOOR LEVEL 550X300	each	84.00	74.00	60.00	218.00				-	-	-	-	-	-	-	-	-	-	-	-	-
252	CANTEEN 375X300	each	0.00	1.00	1.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Providing and fixing of Photoluminescent, 1mm rigid pvc based sheet containing luminescent 3, as base chemical, with high intensity luminous glow capacity.																					
253	PHOTOLUMINESCENT SIGN, FIRE HOSE 250X200	each	30.00	40.00	20.00	90.00				-	-	-	-	-	-	-	-	-	-	-	-	-
254	PHOTOLUMINESCENT SIGN, EXIT SIGN D-10 100X300	each	15.00	11.00	11.00	37.00				-	-	-	-	-	-	-	-	-	-	-	-	-
255	PHOTOLUMINESCENT SIGN, FIRE ALARM CALL POINT 150X200	each	35.00	34.00	20.00	89.00				-	-	-	-	-	-	-	-	-	-	-	-	-
256	PHOTOLUMINESCENT SIGN, EVACUATION PLAN 200X300	each	28.00	27.00	19.00	74.00				-	-	-	-	-	-	-	-	-	-	-	-	-
257	PHOTOLUMINESCENT SIGN, PULL AND PUSH 90MM DIA	each	150.00	123.00	81.00	354.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing of 1.5mm, polished, 304 grade, stainless steel plate, duly etched and filled with prescribed enamel colors to form an elevator disclaimer, of size 250x250mm																					
258	ELEVATOR DISCLAIMER PLATE 250X250	each	52.00	39.00	16.00	107.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing prohibition signage, made of aluminium composite panel, and all text and pictograms as screen printed and malamine coated, all fixtures in 304 grade SS, all design as per architects approval.																					
259	NO SMOKING 200X200	each	58.00	176.00	41.00	275.00				-	-	-	-	-	-	-	-	-	-	-	-	-
260	NO SPITTING 200X200	each	57.00	57.00	46.00	160.00				-	-	-	-	-	-	-	-	-	-	-	-	-
261	KEEP SILENCE/PL SWITCH OFF MOBILE 200X200	each	19.00	22.00	22.00	63.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing prohibition signage, made of casted acrylic, duly laser cut and all text and pictograms as 3M vinyl electrocut, all fixing arrangements in 304 grade stainless steel, as per design.																					
262	CEILING DIRECTION SIGN BOARD 300x1200	each	61.00	60.00	53.00	174.00				-	-	-	-	-	-	-	-	-	-	-	-	-
263	DIRECTION ARROWS 300x400	each	97.00	62.00	0.00	159.00				-	-	-	-	-	-	-	-	-	-	-	-	-
264	Traffic Safety and Parking Solutions																					
265	Chevron Marking wall - in 107.15RM * 1.2m Height	Sqm	128.58	0.00	0.00	128.58				-	-	-	-	-	-	-	-	-	-	-	-	-
266	Reflector Road Stud	each	56.00	43.00	0.00	99.00				-	-	-	-	-	-	-	-	-	-	-	-	-
267	Speed Breaker	metre	47.68	7.00	0.00	54.68				-	-	-	-	-	-	-	-	-	-	-	-	-
268	Traffic Cone	each	15.00	22.00	0.00	37.00				-	-	-	-	-	-	-	-	-	-	-	-	-
269	Column Corner Guard	each	250.00	172.00	0.00	422.00				-	-	-	-	-	-	-	-	-	-	-	-	-
270	Informative Sign Board	each	4.00	5.00	0.00	9.00				-	-	-	-	-	-	-	-	-	-	-	-	-
271	Go Slow Signage - Circular	each	11.00	23.00	0.00	34.00				-	-	-	-	-	-	-	-	-	-	-	-	-
272	Car Parking Bay - 400m x 0.1m	Sqm	40.00	91.00	0.00	131.00				-	-	-	-	-	-	-	-	-	-	-	-	-
273	Two Wheeler Parking Bay - 285m x 0.1m	Sqm	29.00	152.00	0.00	181.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>EXTERIOR</b>																					
	Providing and fixing of main entrance sign, made of laser cut 2mm, 304 grade brush stainless steel, and letters to be laser cut in black acrylic partially inserted in SS cut outs, the plate to be fixed on existing wall with the help of SS studs																					
274	1200X2400	each	3.00	2.00	3.00	8.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing of exterior signage, to be fixed on the wall mount with the help of MS framework, signage to be made of MS pipe frame work, clad with 3mm Aluminium composite panel, duly cut by CNC router, and the letters to be laser cut, 10mm casted clear acrylic, inserted in a cut out fitted on 4mm 040 casted acrylic, the letters front to be 3M day and night electrocut vinyl, the signage shall be illuminated with back lit LED, of PHILLIPS/GE make of at least 5Yrs guarantee, (certificate to be provided, by the makers of LED), complete in all respects																					
275	organisation name in english 14000X560	each	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
276	organisation name in Local Language 14000X560	each	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
277	organisation name in english & Local Language in Main Entrance 14000X1200	each	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
278	Emergency Name Board in Main Entrance 9400 X 1200	each	0.00	2.00	4.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
279	Emergency Name Board in Building 13000X460	each	4.00	1.00	0.00	5.00				-	-	-	-	-	-	-	-	-	-	-	-	-
280	LOGO 2000 Dia	each	2.00	1.00	2.00	5.00				-	-	-	-	-	-	-	-	-	-	-	-	-
281	LOGO in Main Building 560 Dia	each	1.00	5.00	1.00	7.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	ENTRY / EXIT (4000 X 560)	each	0.00	0.00	5.00	5.00																
	Providing and fixing prohibition signage, made of aluminium composite panel, and all text and pictograms as screen printed and malamine coated, all fixtures in 304 grade SS, all design as per architects approval.																					
282	DEPARTMENT NAME PLATE 250X1000	each	1.00	3.00	10.00	14.00				-	-	-	-	-	-	-	-	-	-	-	-	-
283	MAIN DIRECTORY EXTERIOR with frame and 2 supporting posts 1200X2400	each	2.00	3.00	2.00	7.00				-	-	-	-	-	-	-	-	-	-	-	-	-



SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
284	PARKING with frame and post 600x600	each	6.00	4.00	6.00	16.00				-	-	-	-	-	-	-	-	-	-	-	-	-
285	NO PARKING with frame and post 600x500	each	6.00	10.00	6.00	22.00				-	-	-	-	-	-	-	-	-	-	-	-	-
286	DIRECTION ARROWS EXTERIOR with frame and post 300x400	each	8.00	9.00	8.00	25.00				-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Sub Head 20 : Horticulture</b>																						
<b>Grass Areas</b>																						
287	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge	cum	1390.80	2085.00	304.80	3780.60				-	-	-	-	-	-	-	-	-	-	-	-	-
288	Flooding the ground with water including making kiaries and dismantling the same.	sqm	3477.00	5214.00	762.00	9453.00				-	-	-	-	-	-	-	-	-	-	-	-	-
289	Fine dressing the ground	sqm	3477.00	5214.00	762.00	9453.00				-	-	-	-	-	-	-	-	-	-	-	-	-
290	Grassing with 'Selection no I' grass including watering and maintenance of the lawn till the grass forms a thick lawn free from weeds and fit for mowing, including supplying good earth if needed. - In rows 5 cm apart in both directions	sqm	3477.00	5214.00	762.00	9453.00				-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TREES</b>																						
<b>Pit Preparation</b>																						
	Digging holes in ordinary soil and refilling the same with the excavated earth mixed with manure or sludge in the ratio of 2:1 by volume (2 parts of stacked volume of earth after reduction by 20% : 1 part of stacked volume of manure after reduction by 8%) flooding with water, dressing including removal of rubbish and surplus earth, if any, with all leads and lifts (cost of manure, sludge or extra good earth if needed to be paid for separately).																					
291	Holes 1.2 m dia and 1.2 m deep	each	39.00	5.00	7.00	51.00				-	-	-	-	-	-	-	-	-	-	-	-	-
292	Holes 90 cm dia, and 90 cm deep	each	1588.00	13.00	0.00	1601.00				-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Providing and stacking</b>																						
	Planting best quality container/bag- grown healthy trees of species and height as specified. All trees to be approved before planting. Inclusive of Maintenance for one year after planting.																					
<b>Botanical name/ Common name</b>																						
<b>TREES</b>																						
293	Mesua ferrea	nos	0.00	11.00	0.00	11.00				-	-	-	-	-	-	-	-	-	-	-	-	-
294	Royal palm	nos	33.00	3.00	0.00	36.00				-	-	-	-	-	-	-	-	-	-	-	-	-
295	Plumeria alba	nos	4.00	0.00	0.00	4.00				-	-	-	-	-	-	-	-	-	-	-	-	-
296	Spathodea campanulata	nos	0.00	2.00	7.00	9.00				-	-	-	-	-	-	-	-	-	-	-	-	-
297	Heterophragma adenophyllum	nos	2.00	2.00	0.00	4.00				-	-	-	-	-	-	-	-	-	-	-	-	-
298	Plumeria alba	nos	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
299	Heterophragma adenophyllum	nos	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
300	Clerodendrum inerme	nos	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
<b>SHRUBS</b>																						
<b>Pit Preparation</b>																						
	Preparing planting beds for shrub planting by excavating and refilling the same with sweet earth mixed with manure 2 : 1 by volume (2 parts of stacked volume of earth after reduction by 20% : 1 part of stacked volume of manure after reduction by 8%), flooding with water, dressing including removal of rubbish and surplus earth if any with all leads and lifts; excluding cost of earth and manure.																					
301	i 0.6m x 0.6m Ø	nos.	579.00	579.00	85.00	1243.00				-	-	-	-	-	-	-	-	-	-	-	-	-
302	ii 0.45m x 0.45m Ø	nos.	1009.00	1009.00	151.00	2169.00				-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Supply and plantation</b>																						
	Planting best quality bushy shrubs with healthy root ball, of species and height as specified. All shrubs to Planting best quality pot-grown healthy shrubs of species and height as specified, inclusive of preparation and cultivation of shrub beds as specified in section I. All plants to be approved before planting. Inclusive of maintenance for one year after planting.																					
<b>Botanical name/ Common name</b>																						
<b>SHRUBS</b>																						
303	Agloanema plants - Green	nos.	166.00	270.00	166.00	602.00				-	-	-	-	-	-	-	-	-	-	-	-	-
304	Acalypha plants - red	nos.	66.00	270.00	66.00	402.00				-	-	-	-	-	-	-	-	-	-	-	-	-
305	Arica Plam	nos.	30.00	643.00	30.00	703.00				-	-	-	-	-	-	-	-	-	-	-	-	-
306	Ixora Dwarf	nos.	233.00	178.00	233.00	644.00				-	-	-	-	-	-	-	-	-	-	-	-	-
307	Ficus Black	nos.	777.00	1680.00	777.00	3234.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
308	Hibiscus rosa sinensis (hybrid)	nos.	62.00	88.00	62.00	212.00				-	-	-	-	-	-	-	-	-	-	-	-	-
309	Nerium oleander(pink)	nos.	254.00	114.00	254.00	622.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>CLIMBERS</b>																					
	<b>Pit Preparation</b>																					
	Preparing planting beds for climber planting by excavating and refilling the same with sweet earth mixed with manure 2 :1 by volume (2 parts of stacked volume of earth after reduction by 20% : 1 part of stacked volume of manure after reduction by 8%), flooding with water, dressing including removal of rubbish and surplus earth if any with all leads and lifts; excluding cost of earth and manure.																					
310	i 0.4m x 0.4m Ø	nos.	33.00	372.00	22.00	427.00				-	-	-	-	-	-	-	-	-	-	-	-	-
311	i 0.5m x 0.5m Ø	nos.	6.00	370.00	26.00	402.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>GROUND COVERS</b>																					
	<b>Pit Preparation</b>																					
	Preparing planting beds for ground covers planting by excavating and refilling the same with sweet earth mixed with manure 2:1 by volume (2 parts of stacked volume of earth after reduction by 20% : 1 part of stacked volume of manure after reduction by 8%), flooding with water, dressing including removal of rubbish and surplus earth if any with all leads and lifts; excluding cost of earth and manure.																					
312	i .15m x .15m x 0.3m	nos	579.00	821.00	100.00	1500.00				-	-	-	-	-	-	-	-	-	-	-	-	-
313	ii .30m x .30m x 0.3m	nos	1009.00	1680.00	90.00	2779.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Supply and plantation</b>																					
	Planting best quality ground covers of species and height as specified. All ground covers to be planted should be best quality pot-grown healthy ground covers inclusive of preparation and cultivation of ground cover beds as specified in Section I. All plants to be approved before planting. Inclusive of maintenance upto one year after planting.																					
	<b>PLANTING MEDIA MIX</b>																					
	<b>MANURE AND SWEET EARTH</b>																					
314	<b>Manure for Ground Floor Areas</b>	cum	175.00	210.00	80.00	465.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and stacking cow dung manure at site including royalty and carriage(manure measured in stacks will be reduced by 8% for payment). The project labour cost to supply & stack dump at various level of ground as per site requirement.																					
315	<b>Sweet earth for Ground Floor</b>	cum	645.00	625.00	152.00	1422.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply will be provided as/site. Only quote for shifting of sweet earth in the radius of 1Km.																					
316	<b>Vermi Compost</b>	bag (50 kg per Bag)	70.00	150.00	30.00	250.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying spreading and mixing vermetri compost manure in planting bed for healthy growth of plants .																					
317	<b>Sand</b>	cum	100.00	160.00	40.00	300.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying spreading and mixing sand for achieveing better soil texture																					
318	<b>Cocopeat</b>	cum	65.00	260.00	45.00	370.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying spreading and mixing cocopeat for better aeration and water rentention																					
319	<b>Mulching</b>	cum	55.00	155.00	60.00	270.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Mulching with cocochip																					
1	<b>Total Bill no-1 Civil works</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Bill no-2 PLUMBING WORK</b>																					
	<b>Sub Head 21 : Steel Work</b>																					
	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.																					
320	In stringers, treads, landings etc. of staircases, including use of chequered plate wherever required, all complete	Kg	150.00	180.00	100.00	430.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
321	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	Kg	50.00	120.00	25.00	195.00				-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Sub Head 22 : Roofing</b>																						
322	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	each	49.00	77.00	58.00	184.00				-	-	-	-	-	-	-	-	-	-	-	-	-
Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.																						
323	75mm Dia	metre	72.00	66.00	200.00	338.00				-	-	-	-	-	-	-	-	-	-	-	-	-
324	110 mm diameter	metre	992.00	752.00	424.00	2168.00				-	-	-	-	-	-	-	-	-	-	-	-	-
325	160mm diameter	metre	32.00	64.00	76.00	172.00				-	-	-	-	-	-	-	-	-	-	-	-	-
Providing and fixing on wall face unplasticised - PVC moulded fittings/accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.																						
Coupler																						
326	75 mm	each	72.00	88.00	112.00	272.00				-	-	-	-	-	-	-	-	-	-	-	-	-
327	110 mm	each	198.00	188.00	92.00	478.00				-	-	-	-	-	-	-	-	-	-	-	-	-
328	160mm	each	24.00	32.00	16.00	72.00				-	-	-	-	-	-	-	-	-	-	-	-	-
Single pushfit Coupler																						
329	75 mm	each	72.00	88.00	112.00	272.00				-	-	-	-	-	-	-	-	-	-	-	-	-
330	110 mm	each	198.00	188.00	92.00	478.00				-	-	-	-	-	-	-	-	-	-	-	-	-
331	160 mm	each	24.00	32.00	16.00	72.00				-	-	-	-	-	-	-	-	-	-	-	-	-
Single tee with door																						
332	75x75x75 mm	each	72.00	88.00	112.00	272.00				-	-	-	-	-	-	-	-	-	-	-	-	-
333	110x110x110 mm	each	198.00	188.00	92.00	478.00				-	-	-	-	-	-	-	-	-	-	-	-	-
334	160 x 160 x 160mm	each	24.00	32.00	16.00	72.00				-	-	-	-	-	-	-	-	-	-	-	-	-
Single tee without door																						
335	75x75x75 mm	each	72.00	88.00	112.00	272.00				-	-	-	-	-	-	-	-	-	-	-	-	-
336	110x110x110 mm	each	198.00	188.00	92.00	478.00				-	-	-	-	-	-	-	-	-	-	-	-	-
337	160 x 160 x 160mm	each	24.00	32.00	16.00	72.00				-	-	-	-	-	-	-	-	-	-	-	-	-
Bend 87.5°																						
338	75 mm bend	each	72.00	88.00	112.00	272.00				-	-	-	-	-	-	-	-	-	-	-	-	-
339	110 mm bend	each	198.00	188.00	92.00	478.00				-	-	-	-	-	-	-	-	-	-	-	-	-
340	160 mm bend	each	24.00	32.00	16.00	72.00				-	-	-	-	-	-	-	-	-	-	-	-	-
Shoe (Plain)																						
341	75 mm Shoe	each	72.00	88.00	112.00	272.00				-	-	-	-	-	-	-	-	-	-	-	-	-
342	110 mm Shoe	each	198.00	188.00	92.00	478.00				-	-	-	-	-	-	-	-	-	-	-	-	-
343	160 mm shoe	each	24.00	32.00	16.00	72.00				-	-	-	-	-	-	-	-	-	-	-	-	-
Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.																						
344	75 mm	each	144.00	176.00	224.00	544.00				-	-	-	-	-	-	-	-	-	-	-	-	-
345	110 mm	each	396.00	376.00	184.00	956.00				-	-	-	-	-	-	-	-	-	-	-	-	-
346	160 mm	each	48.00	64.00	32.00	144.00				-	-	-	-	-	-	-	-	-	-	-	-	-
347	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.	each	49.00	77.00	58.00	184.00				-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Sub Head 23 : Sanitary Installations</b>																						
Providing and fixing water closet squatting pan (Indian type W.C. pan ) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required.																						
348	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests.	each	31.00	20.00	10.00	61.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :																					
349	W.C. pan with ISI marked white solid plastic seat and lid	each	92.00	54.00	28.00	174.00				-	-	-	-	-	-	-	-	-	-	-	-	-
350	Providing and 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	51.00	56.00	17.00	124.00				-	-	-	-	-	-	-	-	-	-	-	-	-
351	Providing and fixing floor mounted, white vitreous china single piece, double traps syphonic water closet of approved brand/make, shape, size and pattern including integrated white vitreous china cistern of capacity 10 litres with dual flushing system, including all fittings and fixtures with seat cover, cistern fittings, nuts, bolts and gasket etc including making connection with the existing P/S trap, complete in all respect as per directions of Engineer-in-Charge.	each	20.00	21.00	11.00	52.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:																					
352	White Vitreous China Surgeon type wash basin of size 660x460 mm with a pair of 15 mm C.P. brass pillar taps with elbow including operated levers	each	82.00	61.00	42.00	185.00				-	-	-	-	-	-	-	-	-	-	-	-	-
353	Providing and fixing wash basin with C.I. brackets, 15 mm dia CP Brass single hole basin mixer of approved quality and make, including painting of fittings and brackets, cutting and making good the walls wherever required:- (a) White Vitreous China Wash basin size 550x400 mm with a 15 mm CP Brass single hole basin mixer	each	54.00	77.00	23.00	154.00				-	-	-	-	-	-	-	-	-	-	-	-	-
354	<b>Washbasin Ovel shape (T-2):</b> Providing and fixing white vitreous china Table top wash basin size - 610*460*140mm, installed above granite / marble counter with 15 mm C.P. brass basin pillar tap, 32mm C.P. brass waste coupling of standard pattern, including 2 nos. angle valve with riser pipes, connectors, adopters, all fittings etc. cutting and making good the walls/slabs wherever required.	each	103.00	70.00	45.00	218.00				-	-	-	-	-	-	-	-	-	-	-	-	-
353	<b>Flat back large urinals:</b> Providing and fixing starwhite vitreous China flat back large urinals size - 375x390x590mm with self closing flush valve fittings, standard size C.P. brass flush pipe, spreaders with unions and clamps (all in C.P. brass) with waste fitting as per IS : 2556, and other couplings in C.P. brass, including all necessary fittings & fixtures complete with painting and making good the walls and floors wherever required.	each	43.00	27.00	20.00	90.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing Stainless Steel A ISI 304 (18/8) <b>kitchen sink</b> 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 :																					
	Kitchen sink with drain board									-	-	-	-	-	-	-	-	-	-	-	-	-
354	510x1040 mm bowl depth 200 mm	each	11.00	15.00	3.00	29.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P. brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required :									-	-	-	-	-	-	-	-	-	-	-	-	-
355	Size 450x300x150 mm	each	38.00	19.00	18.00	75.00				-	-	-	-	-	-	-	-	-	-	-	-	-
356	Size 600x450x200 mm	each	10.00	15.00	11.00	36.00				-	-	-	-	-	-	-	-	-	-	-	-	-
357	Providing and fixing CP Brass 32mm size Bottle Trap of approved quality & make and as per the direction of Engineer-in-charge.	each	54.00	77.00	23.00	154.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing <b>P.V.C. waste pipe for sink or wash basin</b> including P.V.C. waste fittings complete.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Semi rigid pipe									-	-	-	-	-	-	-	-	-	-	-	-	-
358	40 mm dia	each	38.00	19.00	18.00	75.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Flexible Pipe																					

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
359	32 mm dia - Providing and fixing PTMT Bottle Trap for Wash basin and sink.	each	82.00	61.00	42.00	185.00				-	-	-	-	-	-	-	-	-	-	-	-
360	Bottle trap 31mm single piece moulded with height of 270 mm, effective length of tail pipe 260 mm from the centre of the waste coupling, 77 mm breadth with 25 mm minimum water seal, weighing not less than 260 gms	each	103.00	70.00	45.00	218.00				-	-	-	-	-	-	-	-	-	-	-	-
361	Bottle trap 38 mm single piece moulded with height of 270 mm, effective length of tail pipe 260 mm from the centre of the waste coupling, 77 mm breadth with 25 mm minimum water seal, weighing not less than 263 gms	each	10.00	15.00	11.00	36.00				-	-	-	-	-	-	-	-	-	-	-	-
362	<b>C.P.Brass Sink Cock:</b> Supplying, fixing testing and commissioning of C.P.Brass Sink cock With Extended Swivel Spout (Wall Mounted) type with all fittings and fixtures complete of approved quality conforming to IS standards.	each	59.00	49.00	32.00	140.00				-	-	-	-	-	-	-	-	-	-	-	-
363	<b>Two way Bib cock:</b> Supplying, fixing testing and commissioning of C.P.Brass two way bib cock with wall flange and aerator type with all fittings and fixtures complete of approved quality conforming to IS standards	each	163.00	131.00	56.00	350.00				-	-	-	-	-	-	-	-	-	-	-	-
364	<b>C.P.Brass Health faucet :</b> Supply, fixing, testing and commissioning of HAND SHOWER (Health Faucet) near EWC consisting of 1mtrs. Long C.P. flexible tube with wall hook with all fittings and fixtures complete conforming to IS standards.	each	163.00	131.00	56.00	350.00				-	-	-	-	-	-	-	-	-	-	-	-
365	<b>Wall mixer 2 in 1:</b> Supply, fixing, testing and commissioning of Wall Mixer 2 in 1 with Provision For Over Head Shower With 115mm Long Bend Pipe complete and wall flanges including bath spout, concealed body & exposed parts, connectors, adapters, fittings, fixtures, complete of approved design etc.	each	43.00	39.00	11.00	93.00				-	-	-	-	-	-	-	-	-	-	-	-
366	Providing and fixing PTMT towel ring trapezoidal shape 215 mm long, 200 mm wide with minimum distances of 37 mm from wall face with concealed fittings arrangement of approved quality and colour, weighing not less than 88 gms	each	86.00	41.00	34.00	161.00				-	-	-	-	-	-	-	-	-	-	-	-
367	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour. 600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms.	each	86.00	41.00	34.00	161.00				-	-	-	-	-	-	-	-	-	-	-	-
368	Providing and fixing of star white EWC and low level cistern of 6 litre capacity, angle valve with riser pipe with fittings and seat cover and including of wall hung compact washbasin of size 46x36cm fixed to wall with brackets, 1 nos.of angle valve with riser pipes, connectors, adapters, all fittings and one hinged rail of 76cm with one pair of mounting brackets and 5Nos grab rails of 60cm for support, faucet with spatula lever (without Bottle trap) with all fittings and fixtures complete, angle valve, riser / connector pipe, nuts, bolts, connector, adapter, check nuts etc including cutting and making good the walls and floors wherever required. <b>(FOR PHYSICALLY CHALLENGED TOILET)</b>	each	9.00	6.00	4.00	19.00				-	-	-	-	-	-	-	-	-	-	-	-
369	Providing and fixing <b>600x450 mm</b> beveled edge <b>mirror</b> of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete. Providing and fixing <b>mirror</b> of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing:	each	86.00	51.00	34.00	171.00				-	-	-	-	-	-	-	-	-	-	-	-
370	Rectangular shape 1500x450 mm Providing and fixing <b>M.S. holder-bat clamps</b> of approved design toCentrifugally cast spun iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc. :	each	48.00	32.00	18.00	98.00				-	-	-	-	-	-	-	-	-	-	-	-
371	For 100 mm dia. Pipe	each	315.00	120.00	140.00	575.00				-	-	-	-	-	-	-	-	-	-	-	-
372	For 75 mm dia. Pipe	each	385.00	180.00	180.00	745.00				-	-	-	-	-	-	-	-	-	-	-	-



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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	<b>Cutting chases in brick masonry</b> walls for following diameter sand cast iron/ centrifugally cast (spun) iron pipes and making good the same with cement concrete 1:3:6 ( 1 cement : 3 coarse sand :6 graded stone aggregate 12.5 mm nominal size), including necessary plaster and pointing in cement mortar 1:4 (1 cement : 4 coarse sand) :																					
373	100 mm dia	metre	315.00	120.00	140.00	575.00				-	-	-	-	-	-	-	-	-	-	-	-	-
374	75 mm dia	metre	385.00	180.00	180.00	745.00				-	-	-	-	-	-	-	-	-	-	-	-	-
375	<b>Level Indicator</b> : Supply and fixing in position the following Water Level Indicator with Tube connected to the tank at the side, pressure limit of 10 Kg / Cm2 and including including fittings, connectors, adopters etc. all effective proper connections.	each	12.00	10.00	4.00	26.00				-	-	-	-	-	-	-	-	-	-	-	-	-
376	<b>Floor trap Grating</b> : Supplying and fixing of Square & Round (125x125mm) aproximately Stainless Steel grating including GI hopper for connection of wash basin/ urinal with fittings, connectors & adopters.and all fittings etc., complete.	each	502.00	140.00	261.00	903.00				-	-	-	-	-	-	-	-	-	-	-	-	-
377	<b>Floor Clean out</b> : Providing and fixing of Stainless Steel floor clean out cover Square & Round (125x125mm) aproximately plug with suitable for CI pipes in Toilet areas including fittings, flanges, connector, GI coupling etc.	each	10.00	18.00	8.00	36.00				-	-	-	-	-	-	-	-	-	-	-	-	-
378	Providing,Fixing wall mounted Double Coat hook on door complete.	each	194.00	105.00	72.00	371.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 24 : Water Supply</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing <b>Chlorinated Polyvinyl Chloride (CPVC) pipes</b> , having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.																					
	<b>Internal work - Exposed on wall</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
379	15 mm nominal outer dia Pipes	metre	554.00	311.00	199.00	1064.00				-	-	-	-	-	-	-	-	-	-	-	-	-
380	20 mm nominal outer dia Pipes	metre	538.00	300.00	250.00	1088.00				-	-	-	-	-	-	-	-	-	-	-	-	-
381	25 mm nominal outer dia Pipes	metre	1985.00	1463.00	1163.00	4611.00				-	-	-	-	-	-	-	-	-	-	-	-	-
382	32 mm nominal outer dia Pipes	metre	561.00	213.00	220.00	994.00				-	-	-	-	-	-	-	-	-	-	-	-	-
383	40 mm nominal outer dia Pipes	metre	448.00	257.00	226.00	931.00				-	-	-	-	-	-	-	-	-	-	-	-	-
384	50 mm nominal outer dia Pipes	metre	261.00	138.00	191.00	590.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, pressure rating Max 6Kg/cm2 and conforming to IS 15778, including all kind of pipe supports (GI fabricated or concrete pedestal) CPVC plain & brass threaded fittings including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer-in-Charge.									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Internal work - Exposed on wall</b>		0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
385	<b>65 mm nominal outer dia Pipes</b>	metre	102.00	237.00	110.00	449.00				-	-	-	-	-	-	-	-	-	-	-	-	-
386	80 mm nominal outer dia Pipes	metre	210.00	212.00	35.00	457.00				-	-	-	-	-	-	-	-	-	-	-	-	-
387	100 mm nominal outer dia Pipes	metre	175.00	141.00	255.00	571.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing <b>Chlorinated Polyvinyl Chloride (CPVC) pipes</b> , having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Concealed work</b> , including cutting chases and making good the walls etc.																					
388	15 mm nominal outer dia Pipes	metre	554.00	328.00	199.00	1081.00				-	-	-	-	-	-	-	-	-	-	-	-	-
389	20 mm nominal outer dia Pipes	metre	1354.00	777.00	597.00	2728.00				-	-	-	-	-	-	-	-	-	-	-	-	-
390	25 mm nominal outer dia Pipes	metre	327.00	191.00	110.00	628.00				-	-	-	-	-	-	-	-	-	-	-	-	-
391	32 mm nominal outer dia Pipes	metre	378.00	282.00	188.00	848.00				-	-	-	-	-	-	-	-	-	-	-	-	-



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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Providing and fixing insulation for hot water piping with elastomeric Class - O Nitrile Rubber Tubular Insulation & the same insulation with aluminum cladding 22 gauge for hot water piping. Before applying insulation, all pipe work and fittings shall be brushed and cleaned. Dust, dirt, mortar and oil shall be removed as per direction of Engineer-in-Charge.									-	-	-	-	-	-	-	-	-	-	-	-	-
392	20 mm tube inner dia Pipes	metre	350.00	165.00	147.00	662.00				-	-	-	-	-	-	-	-	-	-	-	-	-
393	25 mm tube inner dia Pipes	metre	285.00	345.00	68.00	698.00				-	-	-	-	-	-	-	-	-	-	-	-	-
394	35 mm tube inner dia Pipes	metre	75.00	179.00	40.00	294.00				-	-	-	-	-	-	-	-	-	-	-	-	-
395	42 mm tube inner dia Pipes	metre	108.00	55.00	77.00	240.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Internal work - Exposed on wall																					
396	25 mm nominal outer dia Pipes	metre	75.00	75.00	75.00	225.00				-	-	-	-	-	-	-	-	-	-	-	-	-
397	32 mm nominal outer dia Pipes	metre	75.00	75.00	75.00	225.00				-	-	-	-	-	-	-	-	-	-	-	-	-
398	40 mm nominal outer dia Pipes	metre	55.00	55.00	55.00	165.00				-	-	-	-	-	-	-	-	-	-	-	-	-
399	50 mm nominal outer dia Pipes	metre	60.00	60.00	60.00	180.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc.									-	-	-	-	-	-	-	-	-	-	-	-	-
400	25 mm dia nominal inner dia .Pipes	metre	95.00	95.00	95.00	285.00				-	-	-	-	-	-	-	-	-	-	-	-	-
401	32 mm dia nominal inner dia .Pipes	metre	20.00	20.00	20.00	60.00				-	-	-	-	-	-	-	-	-	-	-	-	-
402	40 mm dia nominal inner dia .Pipes	metre	480.00	1100.00	820.00	2400.00				-	-	-	-	-	-	-	-	-	-	-	-	-
403	50 mm dia nominal inner dia .Pipes	metre	20.00	230.00	20.00	270.00				-	-	-	-	-	-	-	-	-	-	-	-	-
404	65 mm dia nominal inner dia .Pipes	metre	180.00	10.00	180.00	370.00				-	-	-	-	-	-	-	-	-	-	-	-	-
405	80 mm dia nominal inner dia .Pipes	metre	430.00	315.00	245.00	990.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete :									-	-	-	-	-	-	-	-	-	-	-	-	-
406	25 to 40 mm nominal bore	each	30.00	35.00	30.00	95.00				-	-	-	-	-	-	-	-	-	-	-	-	-
407	50 to 80 mm nominal bore	each	29.00	47.00	29.00	105.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :									-	-	-	-	-	-	-	-	-	-	-	-	-
408	25 mm nominal bore (PN 1.6)	each	0.00							-	-	-	-	-	-	-	-	-	-	-	-	-
409	32 mm nominal bore (PN 1.6)	each	0.00							-	-	-	-	-	-	-	-	-	-	-	-	-
410	40 mm nominal bore (PN 1.6)	each	18.00	23.00	18.00	59.00				-	-	-	-	-	-	-	-	-	-	-	-	-
411	50 mm nominal bore (PN 1.6)	each	10.00	12.00	10.00	32.00				-	-	-	-	-	-	-	-	-	-	-	-	-
412	65 mm nominal bore (PN 1.6)	each	15.00	20.00	15.00	50.00				-	-	-	-	-	-	-	-	-	-	-	-	-
413	80mm nominal bore (PN 1.6)	each	10.00	15.00	10.00	35.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing gun metal non- return valve of approved quality (screwed end) :									-	-	-	-	-	-	-	-	-	-	-	-	-
	25 mm nominal bore																					
414	Horizontal	each	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
415	Vertical	each	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	32 mm nominal bore									-	-	-	-	-	-	-	-	-	-	-	-	-
416	Horizontal	each	0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
417	Vertical	each	0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	40 mm nominal bore									-	-	-	-	-	-	-	-	-	-	-	-	-
418	Horizontal	each	0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
419	Vertical	each	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	50 mm nominal bore									-	-	-	-	-	-	-	-	-	-	-	-	-
420	Horizontal	each	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
421	Vertical	each	0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	65 mm nominal bore									-	-	-	-	-	-	-	-	-	-	-	-	-
422	Horizontal	each	0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
423	Vertical	each	0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	80 mm nominal bore									-	-	-	-	-	-	-	-	-	-	-	-	-
424	Horizontal	each	0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
425	Vertical	each	0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing uplasticised PVC connection pipe with brass unions :									-	-	-	-	-	-	-	-	-	-	-	-	-
426	30 cm length									-	-	-	-	-	-	-	-	-	-	-	-	-
427	20 mm nominal bore	each	30.00	120.00	30.00	180.00				-	-	-	-	-	-	-	-	-	-	-	-	-
428	Supplying pig lead at site of work.	quintal	23.00	23.00	23.00	69.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing C.I. sluice valves (with cap) complete with bolts, nuts, rubber insertions etc. (the tail pieces if required will be paid separately) :									-	-	-	-	-	-	-	-	-	-	-	-	-
429	100 mm diameter									-	-	-	-	-	-	-	-	-	-	-	-	-
430	Class II	each	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
431	150 mm diameter									-	-	-	-	-	-	-	-	-	-	-	-	-
432	Class II	each	4.00	4.00	4.00	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19			
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
	Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mmdeep ( inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size ) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand: 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :									-	-	-	-	-	-	-	-	-	-	-	-
433	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	each	20.00	20.00	20.00	60.00				-	-	-	-	-	-	-	-	-	-	-	-
	Constructing masonry Chamber 90x90x100 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100 mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size ) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size ) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :									-	-	-	-	-	-	-	-	-	-	-	-
434	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	each	11.00	11.00	11.00	33.00				-	-	-	-	-	-	-	-	-	-	-	-
	Painting G.I. pipes and fittings with synthetic enamel white paint with two coats over a ready mixed priming coat, both of approved quality for new work :									-	-	-	-	-	-	-	-	-	-	-	-
435	15 mm diameter pipe	metre	0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-
436	20 mm diameter pipe	metre	0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-
437	25 mm diameter pipe	metre	75.00	75.00	75.00	225.00				-	-	-	-	-	-	-	-	-	-	-	-
438	32 mm diameter pipe	metre	75.00	75.00	75.00	225.00				-	-	-	-	-	-	-	-	-	-	-	-
439	40 mm diameter pipe	metre	55.00	55.00	55.00	165.00				-	-	-	-	-	-	-	-	-	-	-	-
440	50 mm diameter pipe	metre	60.00	60.00	60.00	180.00				-	-	-	-	-	-	-	-	-	-	-	-
	Painting G.I. pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality									-	-	-	-	-	-	-	-	-	-	-	-
441	25 mm diameter pipe	metre	95.00	95.00	95.00	285.00				-	-	-	-	-	-	-	-	-	-	-	-
442	32 mm diameter pipe	metre	20.00	20.00	20.00	60.00				-	-	-	-	-	-	-	-	-	-	-	-
443	40 mm diameter pipe	metre	480.00	1100.00	820.00	2400.00				-	-	-	-	-	-	-	-	-	-	-	-
444	50 mm diameter pipe	metre	20.00	230.00	20.00	270.00				-	-	-	-	-	-	-	-	-	-	-	-
445	65 mm diameter pipe	metre	180.00	10.00	180.00	370.00				-	-	-	-	-	-	-	-	-	-	-	-
446	80 mm diameter pipe	metre	430.00	315.00	245.00	990.00				-	-	-	-	-	-	-	-	-	-	-	-
	Providing and filling sand of grading zone V or coarser grade, allround the G.I. pipes in external work :									-	-	-	-	-	-	-	-	-	-	-	-
447	25mm diameter pipe	metre	95.00	95.00	95.00	285.00				-	-	-	-	-	-	-	-	-	-	-	-
448	32mm diameter pipe	metre	20.00	20.00	20.00	60.00				-	-	-	-	-	-	-	-	-	-	-	-
449	40mm diameter pipe	metre	480.00	1100.00	820.00	2400.00				-	-	-	-	-	-	-	-	-	-	-	-
450	50 mm diameter pipe	metre	20.00	230.00	20.00	270.00				-	-	-	-	-	-	-	-	-	-	-	-
451	65 mm diameter pipe	metre	180.00	10.00	180.00	370.00				-	-	-	-	-	-	-	-	-	-	-	-
452	80 mm diameter pipe	metre	430.00	315.00	245.00	990.00				-	-	-	-	-	-	-	-	-	-	-	-
453	100 mm diameter pipe	metre	0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing G.I. Union in G.I. pipe including cutting and threading the pipe and making long screws etc. complete (New work) :									-	-	-	-	-	-	-	-	-	-	-	-
454	15 mm nominal bore	each	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-
455	20 mm nominal bore	each	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-
456	25 mm nominal bore	each	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-
457	32 mm nominal bore	each	75.00	75.00	75.00	225.00				-	-	-	-	-	-	-	-	-	-	-	-
458	40 mm nominal bore	each	23.00	6.00	23.00	52.00				-	-	-	-	-	-	-	-	-	-	-	-
459	50 mm nominal bore	each	43.00	32.00	25.00	100.00				-	-	-	-	-	-	-	-	-	-	-	-
460	65 mm nominal bore	each	20.00	20.00	20.00	60.00				-	-	-	-	-	-	-	-	-	-	-	-
461	80 mm nominal bore	each	20.00	20.00	20.00	60.00				-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing C.I. double acting air valve of approved quality with bolts, nuts, rubber insertions etc. complete (The tail pieces,tapers etc if required will be paid separately).									-	-	-	-	-	-	-	-	-	-	-	-
462	50 mm nominal bore	each	4.00	4.00	4.00	12.00				-	-	-	-	-	-	-	-	-	-	-	-
463	80 mm nominal bore	each	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19				
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Supply and fixing in position the following lever operated, full flow, quarter turn, Ball Valves of Forged Brass body and chrome plated brass ball with chrome plated steel handle with PVC sleeve and PTFE seal tested to 25 Kg / Cm2 pressure rating, conforming to BS : 5159 manufacturing standards,including fittings, connectors, adopters etc.all unions and effective proper connections.																					
464	15 mm nominal bore	each	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
465	20 mm nominal bore	each	5.00	10.00	5.00	20.00				-	-	-	-	-	-	-	-	-	-	-	-	-
466	25 mm nominal bore	each	22.00	25.00	22.00	69.00				-	-	-	-	-	-	-	-	-	-	-	-	-
467	32 mm nominal bore	each	8.00	10.00	8.00	26.00				-	-	-	-	-	-	-	-	-	-	-	-	-
468	40 mm nominal bore	each	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
469	50 mm nominal bore	each	6.00	8.00	6.00	20.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply and fixing in position the following lever operated, full flow, Butterfly Valves of Cast Iron body, Ductile Iron Disc, with Nitrile integrally moulded rubber and pressure rating of Body- 10 Kg / Cm2 , Seat - 16 Kg / Cm2 conforming to IS :13095 manufacturing standards, including fittings, G1 flanges, connectors, adopters etc. all unions and effective proper connections.																					
470	65 mm nominal bore	each	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
471	80 mm nominal bore	each	15.00	15.00	15.00	45.00				-	-	-	-	-	-	-	-	-	-	-	-	-
472	100 mm nominal bore	each	15.00	15.00	15.00	45.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply and fixing in position the following Single Acting Air Valve of large orifice type Cast iron body pressure rating of 10 Kg / Cm2 , 16 Kg / Cm2 conforming to IS 14845 : 2000 with lever operated, full flow, quarter turn,including fittings, connectors, adopters etc.Ball Valves of Forged Brass body and chrome plated brass ball with chrome plated steel handle with PVC sleeve and PTFE seal tested to 25 Kg / Cm2 pressure rating, conforming to BS : 5159 manufacturing standards, and including all unions and effective proper connections.																					
473	15 mm nominal bore	each	0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
474	20 mm nominal bore	each	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
475	25 mm nominal bore	each	15.00	15.00	15.00	45.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply and fixing in position the following Solenoid Valves with Brass body, SS-304 spring, pressure limit of 12 Kg / Cm2 and assembled with NBR seal, Include power cable, control cable, level probe/sensor/ electrode, including fittings, connectors, adopters etc. & accessories complete set																					
476	25 mm nominal bore	each	0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
477	32 mm nominal bore	each	0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
478	40 mm nominal bore	each	6.00	6.00	6.00	18.00				-	-	-	-	-	-	-	-	-	-	-	-	-
479	50 mm nominal bore	each	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply and fixing in position the following shall be operated by screwed end requiring only a quarter turn Isolation Valve 3 piece ball-type design with a bronze body and chrome plated brass ball and Seats shall be Teflon (TFE) and seals Viton for valves. A blow-out proof stem shall be used and the valve shall have a maximum pressure rating of 16 Kg / Cm2 including fittings, connectors, adopters etc. and effective proper connections.																					
480	20 mm nominal bore	each	30.00	20.00	20.00	70.00				-	-	-	-	-	-	-	-	-	-	-	-	-
481	25 mm nominal bore	each	30.00	20.00	20.00	70.00				-	-	-	-	-	-	-	-	-	-	-	-	-
482	32 mm nominal bore	each	30.00	20.00	20.00	70.00				-	-	-	-	-	-	-	-	-	-	-	-	-
483	40 mm nominal bore	each	30.00	20.00	20.00	70.00				-	-	-	-	-	-	-	-	-	-	-	-	-
484	50 mm nominal bore	each	30.00	20.00	20.00	70.00				-	-	-	-	-	-	-	-	-	-	-	-	-
485	65 mm nominal bore	each	35.00	25.00	25.00	85.00				-	-	-	-	-	-	-	-	-	-	-	-	-
486	80 mm nominal bore	each	10.00	10.00	9.00	29.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply, fixing, testing and commissioning of Multi Jet Water meter with Brass Body, Couplings, Flowrange varies from 0.12 to 15 cu.m/hr with pressure limit of 16kg/sq.cm. The output is perfect for remote monitoring of flow rate or flow totalization, and to be interface with PLC's, counters, data loggers, and SCADA systems complete including inter connection pipping, all fittings, valves, strainer, NRV, power cables, control cables, required accessories etc complete																					
487	25 mm nominal bore	each	0.00	0.00	0.00	0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
488	32 mm nominal bore	each	0.00	0.00	0.00	0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
489	40 mm nominal bore	each	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
490	50 mm nominal bore	each	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, ISI : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	per litre	10000.00	10000.00	10000.00	30000.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing C.P. brass bib cock of approved quality conforming to IS:8931 :									-	-	-	-	-	-	-	-	-	-	-	-	-
491	15 mm nominal bore	each	31.00	20.00	10.00	61.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.									-	-	-	-	-	-	-	-	-	-	-	-	-
492	15 mm nominal bore	each	11.00	15.00	3.00	29.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931 (a)									-	-	-	-	-	-	-	-	-	-	-	-	-
493	15 mm nominal bore	each	358.00	318.00	153.00	829.00				-	-	-	-	-	-	-	-	-	-	-	-	-
494	Cutting holes up to 15x15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including finishing complete so as to make it leak proof.	each	700.00	300.00	320.00	1320.00				-	-	-	-	-	-	-	-	-	-	-	-	-
495	Supplying, fixing and commissioning of approved make & suitable model for Water Dispenser with purified normal hot and cold water outlets including all fittings and accessories complete.,	each	23.00	18.00	12.00	53.00				-	-	-	-	-	-	-	-	-	-	-	-	-
496	Providing, fixing, testing and commissioning of R.O. plant 1000 ltrs. Per hour flow rate having capacity to treat the raw water having TDS 1200 ppm and not less than 40%. The treated water should have TDS less than 100 ppm and hardness less than 50 ppm. The operating voltage to 230 volt AC +/- 10% alongwith required capacity pump and solenoid valves, dry run protection of pump,automatic tank level control, inbuilt auto flush timer for periodic flushing of membranes,hydro pneumatic tank, over voltage and over current protection with switch mode power supply system complete in all respects.,	each	2.00	2.00	2.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
497	Providing & fixing hot dip galvanized proprietary factory fabricated supports including GI/SS fasteners, GI nut, bolts & washers, GI clamps, etc complete including cutting & chasing in brick / concrete wall and making same good.	Kg	325.00	175.00	325.00	825.00				-	-	-	-	-	-	-	-	-	-	-	-	-
498	Providing and laying Rubber Sheet of 6mm thick below polyethylene water storage tank	each	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
499	Providing, fixing, testing and commissioning of Booster pump Electro-coated cast iron parts, High efficient motor with Horizontal multistage centrifugal pump, power 0.9KW and flow of 2.4 cu.m/hr switch mode power supply system, including, connectors, fittings etc complete in all respects.,	each	2.00	3.00	2.00	7.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 25 : Drainage</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete:									-	-	-	-	-	-	-	-	-	-	-	-	-
500	150 mm diameter	Metre	25.00	25.00	25.00	75.00				-	-	-	-	-	-	-	-	-	-	-	-	-
501	200 mm diameter	Metre	30.00	30.00	30.00	90.00				-	-	-	-	-	-	-	-	-	-	-	-	-
502	250 mm diameter	Metre	60.00	60.00	60.00	180.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete as per standard design:									-	-	-	-	-	-	-	-	-	-	-	-	-
503	150 mm diameter S.W. pipe	cum	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
504	200 mm diameter S.W. pipe	cum	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
505	250 mm diameter S.W. pipe	cum	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) up to haunches of S.W. pipes including bed concrete as per standard design :									-	-	-	-	-	-	-	-	-	-	-	-	-
506	150 mm diameter S.W. pipe / RCC pipe	metre	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
507	200 mm diameter S.W. pipe / RCC pipe	metre	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
508	250 mm diameter S.W. pipe / RCC pipe	metre	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Supplying and fixing in position best quality uPVC soil / waste pipes of various dia IS 13592:1992 - Type-B including UPVC specials connecting to the UPVC soil stacks and providing leak proof joints using adhesives including fixing to the wall with specials, MS clamp, teak wood plugs, brass screws, etc., and making connection to all sanitary fittings, dismantling masonry / RCC works wherever found necessary and making the good dismantled portion to the original condition, including testing for any leakages, etc., complete complying with standard specifications.									-	-	-	-	-	-	-	-	-	-	-	-	-
509	40mm Dia	metre	245.00	188.00	105.00	538.00				-	-	-	-	-	-	-	-	-	-	-	-	-
510	75mm Dia	metre	971.00	2210.00	1317.00	4498.00				-	-	-	-	-	-	-	-	-	-	-	-	-
511	110mm Dia	metre	333.00	1060.00	538.00	1931.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design :									-	-	-	-	-	-	-	-	-	-	-	-	-
	180x150 mm size P type									-	-	-	-	-	-	-	-	-	-	-	-	-
512	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	101.00	101.00	91.00	293.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :									-	-	-	-	-	-	-	-	-	-	-	-	-
513	150 mm diameter RCC pipe	metre	50.00	50.00	50.00	150.00				-	-	-	-	-	-	-	-	-	-	-	-	-
514	250 mm diameter RCC pipe	metre	50.00	50.00	50.00	150.00				-	-	-	-	-	-	-	-	-	-	-	-	-
515	300 mm diameter RCC pipe	metre	60.00	60.00	60.00	180.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Constructing brick masonry manhole in cement mortar 1:4 ( 1 cement : 4 coarse sand ) with R.C.C. top slab with 1:1.5:3 mix (1 cement : 1.5 coarse sand (zone- III) : 3 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand (zone- III) : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design :									-	-	-	-	-	-	-	-	-	-	-	-	-
	Inside size 90 x 80 cm and 45 cm deep including CI cover with frame (light duty) 455 x 610mm internal dimensions total weight of cover and frame to be not less than 38 Kg. ( weight of cover 23 Kg. and weight of frame 15 Kg.), with FPS bricks with class designation 7.5									-	-	-	-	-	-	-	-	-	-	-	-	-
516	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	110.00	110.00	10.00	230.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (medium duty) 500 mm internal diameter, total weight of cover and frame to be not less than 116 kg (weight of cover 58 kg and weight of frame 58 kg) :									-	-	-	-	-	-	-	-	-	-	-	-	-
517	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	110.00	110.00	10.00	230.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Extra for depth for manholes:									-	-	-	-	-	-	-	-	-	-	-	-	-
	Size 90 x 80 cm									-	-	-	-	-	-	-	-	-	-	-	-	-
518	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Metre	10.00	10.00	5.00	25.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Size 120x90 cm									-	-	-	-	-	-	-	-	-	-	-	-	-
519	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Metre	10.00	10.00	5.00	25.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Constructing brick masonry circular type manhole 0.91 m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement :4 coarse sand), in side cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :									-	-	-	-	-	-	-	-	-	-	-	-	-



SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	0.91 m deep with S.F.R.C. cover and frame (heavy duty, HD-20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg., fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid for separately):																					
520	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	30.00	30.00	30.00	90.00				-	-	-	-	-	-	-	-	-	-	-	-	
	Extra depth for circular type manhole 0.91m internal dia (at bottom) beyond 0.91 m to 1.67 m									-	-	-	-	-	-	-	-	-	-	-	-	
521	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Metre	30.00	30.00	30.00	90.00				-	-	-	-	-	-	-	-	-	-	-	-	
	Constructing brick masonry circular manhole 1.22m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand) inside cement plaster 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :									-	-	-	-	-	-	-	-	-	-	-	-	
	1.68 m deep with SFRC Cover and frame (heavy duty HD-20 grade designation) 560mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182kg. fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12 mm thick cement plaster at the external surface shall be paid for separately) :									-	-	-	-	-	-	-	-	-	-	-	-	
522	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	
	Extra depth for circular type manhole 1.22m internal dia (at bottom) beyond 1.68 m to 2.29 m :									-	-	-	-	-	-	-	-	-	-	-	-	
523	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Metre	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	
	Constructing brick masonry circular manhole 1.52 m internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :									-	-	-	-	-	-	-	-	-	-	-	-	
	2.30 m deep with SFRC Cover and frame (heavy duty HD- 20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg. fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12 mm thick cement plaster at the external surface shall be paid for separately) :									-	-	-	-	-	-	-	-	-	-	-	-	
524	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	
	Extra depth for circular type manhole 1.22m internal dia (at bottom) beyond 1.68 m to 2.29 m :									-	-	-	-	-	-	-	-	-	-	-	-	
525	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Metre	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	



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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
526	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910 on 12mm dia steel bar conforming to IS : 1786 having minimum cross section as 23 mmx25mm and over all minimum length 263 mm and width as 165mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	Each	100.00	100.00	80.00	280.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and fixing in position pre-cast R.C.C. manhole cover and frame of required shape and approved quality									-	-	-	-	-	-	-	-	-	-	-	-	-
	HD - 20									-	-	-	-	-	-	-	-	-	-	-	-	-
527	Circular shape 560 mm internal diameter	Each	30.00	30.00	30.00	90.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Making connection of drain or sewer line with existing manhole including breaking into and making good the walls, floors with cement concrete 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) cement plastered on both sides with cement mortar 1:3 (1 cement : 3 coarse sand), finished with a floating coat of neat cement and making necessary channels for the drain etc. complete :									-	-	-	-	-	-	-	-	-	-	-	-	-
528	For pipes 100 to 250 mm diameter	Each	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Constructing brick masonry road gully chamber 50x45x60cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450mm precast RCC horizontal grating with frame complete as per standard design.									-	-	-	-	-	-	-	-	-	-	-	-	-
529	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Constructing brick masonry chamber for underground C.I. inspection chamber and bends with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg), R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand), finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete as per standard design :									-	-	-	-	-	-	-	-	-	-	-	-	-
	Inside dimensions 455x610 mm and 45 cm deep for single pipe line :									-	-	-	-	-	-	-	-	-	-	-	-	-
530	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	47.00	50.00	63.00	160.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Extra for depth beyond 45 cm of brick masonry chamber : For 455x 610 mm size									-	-	-	-	-	-	-	-	-	-	-	-	-
531	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Rm	74.00	80.00	87.00	241.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 26 : Borewell</b>																					
	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.									-	-	-	-	-	-	-	-	-	-	-	-	-
532	300 mm dia	Metre	450.00	450.00	450.00	1350.00				-	-	-	-	-	-	-	-	-	-	-	-	-
533	350 mm dia	Metre	180.00	180.00	180.00	540.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	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, beyond 90 metre & upto 150 metre depth below ground level.									-	-	-	-	-	-	-	-	-	-	-	-	-
534	300 mm dia	Metre	180.00	180.00	180.00	540.00				-	-	-	-	-	-	-	-	-	-	-	-	
535	300 mm dia	Metre	180.00	180.00	180.00	540.00				-	-	-	-	-	-	-	-	-	-	-	-	
	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.									-	-	-	-	-	-	-	-	-	-	-	-	
536	100 mm diameter pipe	Metre	450.00	450.00	450.00	1350.00				-	-	-	-	-	-	-	-	-	-	-	-	
	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 and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer -in-charge.									-	-	-	-	-	-	-	-	-	-	-	-	
537	150 mm nominal size dia	Metre	270.00	270.00	270.00	810.00				-	-	-	-	-	-	-	-	-	-	-	-	
538	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	48.00	48.00	48.00	144.00				-	-	-	-	-	-	-	-	-	-	-	-	
539	Supplying, filling, spreading & leveling gravels of size range 5 mm to 10 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	8.00	8.00	8.00	24.00				-	-	-	-	-	-	-	-	-	-	-	-	
538	Supplying, filling, spreading & leveling coarse sand of size range 1.5mm 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	8.00	8.00	8.00	24.00				-	-	-	-	-	-	-	-	-	-	-	-	
539	Gravel packing in tubewell construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required gradin & sizes as per actual requirement, all complete as per direction of Engineer-in-charge.	Cum	161.00	161.00	161.00	483.00				-	-	-	-	-	-	-	-	-	-	-	-	
540	Providing and fixing factory made precast RCC perforated drain covers, having concrete of strength not less than M-25, of size 1000 x 450x50mm, reinforced with 8 mm dia four nos longitudinal & 9 nos cross sectional T.M.T. hoop bars, including providing 50 mm dia perforations @ 100 to 125 mm c/c, including providing edge binding with M.S.flats of size 50 mm x 1.6 mm complete, all as per direction of Engineerin-charge.	each	48.00	48.00	48.00	144.00				-	-	-	-	-	-	-	-	-	-	-	-	
541	Development of tube well in accordance with IS : 2800 (part I) and IS:11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by "V" notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water samples & getting tested in approved laboratory, i/c disinfection of tubewell, all complete, including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	hour	8.00	8.00	8.00	24.00				-	-	-	-	-	-	-	-	-	-	-	-	
	Providing and fixing suitable size threaded mild steel cap or spot welded plate to the top of bore well housing/ casing pipe, removable as per requirement, all complete for borewell of:									-	-	-	-	-	-	-	-	-	-	-	-	
542	200 mm dia	each	2.00	2.00	2.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	
	Providing and fixing M.S. clamp of required dia to the top of casing/ housing pipe of tubewell as per IS: 2800 (part I), including necessary bolts & nuts of required size complete.									-	-	-	-	-	-	-	-	-	-	-	-	
543	150 mm clamp	each	2.00	2.00	2.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	
	Providing and fixing bail plug / bottom plug of required dia at the bottom of the pipe assembly as per IS: 2800 (Part-1).									-	-	-	-	-	-	-	-	-	-	-	-	
544	150 mm dia	each	7.00	7.00	7.00	21.00				-	-	-	-	-	-	-	-	-	-	-	-	

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
545	Supply, installation testing & commissioning of submersible pumping set suitable to operate on 410 volts 3 phase 50 HZ A.C. power supply including water proof joint free cable, motor control panel, 50 mm dia. G.I. pipe (medium class) column with fittings, clamps etc. complete in all respect as per details given below : (For Borewell)	each	2.00	2.00	2.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Discharge 300 LPM.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Head 50 m									-	-	-	-	-	-	-	-	-	-	-	-	-
	HP/Load 6.0 (Approx)									-	-	-	-	-	-	-	-	-	-	-	-	-
546	Supplying and fixing Single headed external yard hydrant valve with 1 No. 63 mm dia instantaneous FM Gunmetal/Stainless Steel coupling and cast iron wheel, ISI marked, conforming to IS 5290 (type A) with blank Gunmetal/Stainless Steel cap and chain as required :	each	30.00	30.00	25.00	85.00				-	-	-	-	-	-	-	-	-	-	-	-	-
547	Providing and fixing C.I. scour valves (with cap) complete with including all kind of fittings/flanges and GI nut/bolts/washers etc, accessories, GI concrete supports for complete installation upto the satisfaction of engineer incharge.	Each	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
548	Providing, laying and joining in position HDPE pipes with slipon flange, High density Poly Ethylene pipe and conforming to I.S. 4984-1995 of required grade / class, 10kg/sq.cm pressure and suitable for the respective working pressures with all fittings and specials, e.g. couplings, tees, bends, reducers, screwed adapters, flanged tail pieces, etc., jointing as per manufacturers recommendations, all complete including trenching, backfilling & pressure testing etc. (For Sewer & ETP line).	Metre	0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
549	25 mm dia. (OD) (10.0 kgf/sq cm.)	Metre	0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
550	32 mm dia. (OD) (10.0 kgf/sq cm.)	Metre	0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
551	40 mm dia. (OD) (10.0 kgf/sq cm.)	Metre	0.00			0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
552	50 mm dia. (OD) (10.0 kgf/sq cm.)	Metre	10.00	10.00		20.00				-	-	-	-	-	-	-	-	-	-	-	-	-
553	63 mm dia. (OD) (10.0 kgf/sq cm.)	Metre	120.00	142.00		262.00				-	-	-	-	-	-	-	-	-	-	-	-	-
554	90 mm dia. (OD) (10.0 kgf/sq cm.)	Metre	820.00	700.00	566.00	2086.00				-	-	-	-	-	-	-	-	-	-	-	-	-
555	110 mm dia. (OD) (10.0 kgf/sq cm.)	Metre	650.00	400.00	455.00	1505.00				-	-	-	-	-	-	-	-	-	-	-	-	-
556	160 mm dia. (OD) (10.0 kgf/sq cm.)	Metre	100.00	263.00	20.00	383.00				-	-	-	-	-	-	-	-	-	-	-	-	-
557	Providing and fixing on wall face unplasticised - PVC moulded fittings/accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, and providing leak proof joints using adhesives including fixing to the wall with specials, fittings MS clamp, teak wood plugs, brass screws, etc., and making connection to all fittings, dismantling masonry / RCC works wherever found necessary and making the good dismantled portion to the original condition, including testing for any leakages, etc., complete complying with standard specifications.	Metre	460.00	460.00	450.00	1370.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 27 : Rain Water Harvesting Pit</b>																					
558	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed.	Cum	339.12	339.12	231.12	909.36				-	-	-	-	-	-	-	-	-	-	-	-	-
559	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	169.56	170.00	115.56	455.12				-	-	-	-	-	-	-	-	-	-	-	-	-
	Extra for every additional lift of 1.5 m or part thereof in.																					
560	All kinds of soil.	Cum	101.74	102.00	69.34	273.07				-	-	-	-	-	-	-	-	-	-	-	-	-
561	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.	Cum	25.43	25.00	25.43	75.87				-	-	-	-	-	-	-	-	-	-	-	-	-
562	1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size).	Cum	25.43	25.00	25.43	75.87				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and stacking at site.									-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
563	53 mm to 22.4 mm size stone aggregate	Cum	25.43	25.00	25.43	75.87				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Total Bill no-2 Plumbing works</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Bill no-3 FIRE FIGHTING WORKS</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 28 : Pumps</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	1.NOC from fire authority shall be in the scope of Contractor . Only fee paid to the fire authority shall be reimbursed against the submission of the receipt and nothing shall be paid extra.									-	-	-	-	-	-	-	-	-	-	-	-	-
	2. All the Fire Fighting works shall be done in compliance of Fire Fighting authority requirement.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Pump shall be capable of furnishing not less than 150% of rated capacity at a head not less than 65 % of rated head. The shut off head shall not exceed 120% of rated head.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying, installation, testing and commissioning of Electric driven Main Fire Pump suitable for automatic operation and consisting of following, complete in all respects, as required :									-	-	-	-	-	-	-	-	-	-	-	-	-
	Horizontal type, multistage, centrifugal, split casing pump of cast iron body & bronze impeller with stainless steel shaft, mechanical seal conforming to IS 1520.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Suitable HP Squirrel cage induction motor, TEFC, synchronous speed 1500 RPM, suitable for operation on 415 volts, 3 phase 50 Hz, AC supply with IP 55 protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS-325.									-	-	-	-	-	-	-	-	-	-	-	-	-
	M.S. fabricated Common base plate, coupling, coupling guard, foundation bolts etc. as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Suitable cement concrete foundation duly plastered with anti vibration pads.									-	-	-	-	-	-	-	-	-	-	-	-	-
564	2280 lpm at 88 m Head	Set	2.00			2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
565	2280 lpm at 70 m Head	Set		2.00	2.00	4.00				-	-	-	-	-	-	-	-	-	-	-	-	-
566	1620LPM at 56m Head	Set		1.00		1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Note: *The head of the pump is selected in a manner so as to give a minimum 3.5kgf/cm2 pressure at the highest/farthest point.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying, installation, testing and commissioning of diesel engine driven main fire pump suitable for automatic operation and consisting of following, complete in all respects, as required : (Diesel Driven Pump)									-	-	-	-	-	-	-	-	-	-	-	-	-
	Horizontal type, multistage, centrifugal pump of cast of iron body and bronze impeller with stainless steel shaft, mechanical seal conforming to IS 1520.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Suitable HP, 1500 RPM water cooled with radiator, diesel engine conforming to relevant IS standard complete with auto starting mechanism, 12 /24 volts electric starting equipment, diesel tank, exhaust pipe extended upto 10 m outside pump house duly insulated with 50 mm thick glass wool with 1.0 mm thick aluminium sheet cladding, residential silencer, instruments and protection as per standard specification, stop solenoid for auto stop in the event of fault with audio indications, painted with post office red colour etc. as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
	M.S fabricated, common base plate, coupling, coupling guard, foundation bolts etc. as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Suitable cement concrete foundation duly plastered with anti vibration pads.									-	-	-	-	-	-	-	-	-	-	-	-	-
567	2280 lpm at 88m Head	Set	1.00			1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
568	2280 lpm at 70m Head	Set		1.00	1.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Note: *The head of the pump is selected in a manner so as to give a minimum 3.5kgf/cm2 pressure at the highest/farthest point.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying, installation, testing and commissioning of electric driven pressurisation pump suitable for automatic operation and consisting of following, complete in all respects, as required : (Jockey Pump).									-	-	-	-	-	-	-	-	-	-	-	-	-
	Horizontal type, multistage, centrifugal pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal conforming to IS : 1520.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Suitable HP squirrel cage induction motor TEFC type suitable for operation on 415 volts, 3 phase 50 Hz AC supply with IP 55 class of protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS : 325.									-	-	-	-	-	-	-	-	-	-	-	-	-

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	M.S.fabricated Common base plate, coupling, coupling guard, foundation bolts etc. as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Suitable cement concrete foundation duly plastered and with anti vibration pads.									-	-	-	-	-	-	-	-	-	-	-	-	-
569	180 lpm at 70m Head	Set		2.00	2.00	4.00				-	-	-	-	-	-	-	-	-	-	-	-	-
570	180 lpm at 88m Head	Set	2.00			2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 29 : Control Panels</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	Fabrication, supply, Insallation testing & commissioning of Electrical control panel of cubical construction, floor mounted type, fabricated out of 2mm thick CRCA sheet, compartmentalised with hinged lockable doors, dust and vermin proof, powder coated of approved shade after 7 tank treatment process, cable alley, interconnection with suitable size copper conductor cable/solid copper strip, having switchgears and accessories, mountings and internal wiring, earth terminals, numbering etc. complete in all respect, suitable for main fire pump, pressurisation pump & diesel pump set complete as per CPWD specification with following in coming and Outgoings, suitable for operation on 415V, 3 phase, 50Hz Ac Supply with enclosure protection class IP 42 as required :									-	-	-	-	-	-	-	-	-	-	-	-	-
	INCOMING									-	-	-	-	-	-	-	-	-	-	-	-	-
	250A, 50kA 4 Pole MCCB, Ics=100% Icu rating									-	-	-	-	-	-	-	-	-	-	-	-	-
	Digital Ammeter (0-250 A) with selector swtich & CTs etc.									-	-	-	-	-	-	-	-	-	-	-	-	-
	400A, 50kA 4 Pole MCCB, Ics=100% Icu rating									-	-	-	-	-	-	-	-	-	-	-	-	-
	Digital Voltmeter 0-500V with selector switch									-	-	-	-	-	-	-	-	-	-	-	-	-
	Ammeter (0-400 A) with selector swtich & CTs etc.									-	-	-	-	-	-	-	-	-	-	-	-	-
	LED type RYB phase indicating lamps, ON, OFF, trip indicating lamps									-	-	-	-	-	-	-	-	-	-	-	-	-
	Set of Copper Bus Bar 500A									-	-	-	-	-	-	-	-	-	-	-	-	-
	OUTGOING									-	-	-	-	-	-	-	-	-	-	-	-	-
	( Note : All outgoing feeders for pumps should have digital Ammeter with selector switches, and LED type ON, OFF, trip indicating lamps)									-	-	-	-	-	-	-	-	-	-	-	-	-
	MAIN FIRE PUMP									-	-	-	-	-	-	-	-	-	-	-	-	-
	125 A, 50kA TPN MCCB, Ics=100% Icu, with fully automatic Star/Delta starter suitable for 60 HP pump with overload protection, current sensing type single phase preventor complete with all accessories and internal wiring required for automatic operation, selector switch for local/remote, auto/manual/OFF operation.									-	-	-	-	-	-	-	-	-	-	-	-	-
	200 A, 50kA TPN MCCB, Ics=100% Icu, with fully automatic Star/Delta starter suitable for 75 hp pump with overload protection, current sensing type single phase preventor complete with all accessories and internal wiring required for automatic operation, selector switch for local/remote, auto/manual/OFF operation.									-	-	-	-	-	-	-	-	-	-	-	-	-
	JOCKEY PUMP									-	-	-	-	-	-	-	-	-	-	-	-	-
	63 A, 50kA TPN MCCB, Ics=100% Icu, with suitable HP fully automatic Star/Delta starter with overload protection, current sensing type single phase preventor complete with all accessories and internal wiring required for automatic operation, selector switch for local/remote, auto/manual/OFF operation.									-	-	-	-	-	-	-	-	-	-	-	-	-
	100 A, 50kA TPN MCCB, Ics=100% Icu, with suitable HP fully automatic Star/Delta starter with overload protection, current sensing type single phase preventor complete with all accessories and internal wiring required for automatic operation, selector switch for local/remote, auto/manual/OFF operation.									-	-	-	-	-	-	-	-	-	-	-	-	-
	DIESEL ENGINE CONTROL									-	-	-	-	-	-	-	-	-	-	-	-	-
	Control for diesel engine comprising -									-	-	-	-	-	-	-	-	-	-	-	-	-
	Automatic/Manual selctor switch & 3 attempt starting device, timers and relays as required, push buttons, start/stop in manual mode									-	-	-	-	-	-	-	-	-	-	-	-	-
	Indicating lamp for high/ Low Lub. Oil pressure, High Water Temp and Engine on indication									-	-	-	-	-	-	-	-	-	-	-	-	-
	Battery charger suitbale for 12V/24 V DC with boost and trickle selector switch, 0-30 V DC volt meter, and 0-20 A DC Ammeter									-	-	-	-	-	-	-	-	-	-	-	-	-
	All standard relays and accessories for automatic operation of diesel engine									-	-	-	-	-	-	-	-	-	-	-	-	-
	SYSTEM CONTROLLER									-	-	-	-	-	-	-	-	-	-	-	-	-



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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
571	Designing, Supply, Installation, Testing and commissioning of system controller to control operation of main electric fire pump, diesel pump, Pressurization pump, Terrace pump in sequence as per specification consisting of relays, timers. Sensors, annunciation window for fault indication, complete as per specifications.	Set	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed/XLPE aluminium conductor cable of 1.1 kV grade as required. It should be complete as per specifications & directions of Engineer-in-charge.									-	-	-	-	-	-	-	-	-	-	-	-	-
572	4 x 25 sq.mm(28 mm)	Each	15.00	20.00	15.00	50.00				-	-	-	-	-	-	-	-	-	-	-	-	-
573	3.5 x 50 sq.mm(35 mm)	Each	15.00	20.00	15.00	50.00				-	-	-	-	-	-	-	-	-	-	-	-	-
574	3 x 10 sq.mm(22 mm)	Each	15.00	20.00	15.00	50.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and installing following size of perforated painted with powder coating M.S cable trays with perforation not more than 17.5% in convenient sections, joined with connectors, suspended from the ceiling with M.S suspendors including bolts & nuts, painting suspenders etc. as required									-	-	-	-	-	-	-	-	-	-	-	-	-
575	150 mm width x 50 mm depth x 1.6mm thickness.	Metre	90.00	105.00	60.00	255.00				-	-	-	-	-	-	-	-	-	-	-	-	-
576	Earthing with G.I. earth plate 600mm x 600mm x 6mm thick including accessories, and proving masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	Set	6.00	7.00	6.00	19.00				-	-	-	-	-	-	-	-	-	-	-	-	-
577	Providing and fixing 25mm x 5mm G.I. Strip in 40mm dia G.I pipe from earth electrode including connection with G.I. nut, bolt, spring, washer excavation and refilling etc. as required.	Metre	90.00	105.00	60.00	255.00				-	-	-	-	-	-	-	-	-	-	-	-	-
576	Providing and fixing 25mm x 5mm G.I. strip on surface or in recess for connections etc. as required.	Metre	90.00	105.00	60.00	255.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and laying on one number XLPE insulated PVC sheathed Aluminium conductor armoured UG cable of 1.1 KV grade conforming to IS 7098/1988 with upto date ammendment of following size in the existing RCC/ HUME/ METAL/ GI/ CI/ Stoneware/ DWC pipe/ masonry open duct/ cable tray/ open in air etc. as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
577	4 core, 25 sq.mm. Aluminium armoured	Metre	75.00	80.00	40.00	195.00				-	-	-	-	-	-	-	-	-	-	-	-	-
578	3.5 core, 50 sq.mm. Aluminium armoured	Metre	80.00	90.00	45.00	215.00				-	-	-	-	-	-	-	-	-	-	-	-	-
579	3 core, 10 sq.mm. Aluminium armoured	Metre	80.00	90.00	45.00	215.00				-	-	-	-	-	-	-	-	-	-	-	-	-
580	Supply and fixing in position 1m wide insulation mat made of elastomeric polymers material (Class - A) of 415V grade as per IS 15642-2006. Thickness of insulation mat shall be not less than 2mm to withstand 1.1 KV dielectric strength as per IS 15652:2006. It should be complete as per specifications and directions of Engineer-in-charge.	Metre	20.00	20.00	8.00	48.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 30 : Pipes &amp; Accessories</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing laying, testing & commissioning of 'C' class heavy duty MS Pipe conforming to IS 1239/3589 i/c fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. in ground including welding, excavation & providing cement concrete blocks as supports, anticorrosive treatment with coaltar/asphalt tape as per IS 10221, refilling the trench etc. of following sizes complete as required.(For Underground)									-	-	-	-	-	-	-	-	-	-	-	-	-
581	200 mm. dia (wall thickness = 6.3 mm)	Metre	50.00	50.00	50.00	150.00				-	-	-	-	-	-	-	-	-	-	-	-	-
582	150 mm. Dia	Metre	1380.00	1145.00	695.00	3220.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing, laying, testing & commissioning of 'C' class heavy duty MS pipe conforming to IS 3589/IS 1239 including Welding, fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. and fixing the pipe on the wall/ceiling with suitable clamp/support frame and painting with two or more coats of synthetic enamel paint of required shade complete as required. (Plant Room piping/Vertical Riser/Downcomer/Floor)									-	-	-	-	-	-	-	-	-	-	-	-	-
583	25 mm dia	Metre	2035.00	2174.00	699.00	4908.00				-	-	-	-	-	-	-	-	-	-	-	-	-
584	32 mm dia	Metre	75.00	80.00	50.00	205.00				-	-	-	-	-	-	-	-	-	-	-	-	-
585	40 mm dia	Metre	1200.00	1145.00	569.00	2914.00				-	-	-	-	-	-	-	-	-	-	-	-	-
586	50 mm dia	Metre	915.00	986.00	367.00	2268.00				-	-	-	-	-	-	-	-	-	-	-	-	-
587	65 mm dia	Metre	915.00	1043.00	310.00	2268.00				-	-	-	-	-	-	-	-	-	-	-	-	-
588	80 mm dia	Metre	560.00	646.00	222.00	1428.00				-	-	-	-	-	-	-	-	-	-	-	-	-
589	100 mm dia	Metre	550.00	368.00	229.00	1147.00				-	-	-	-	-	-	-	-	-	-	-	-	-
590	150 mm dia	Metre	180.00	1192.00	472.00	1844.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Supplying and fixing single headed internal hydrant valve with instantaneous Gunmetal/Stainless Steel coupling of 63 mm dia with cast iron wheel ISI marked conforming to IS 5290 (Type -A) with blank Gunmetal/Stainless Steel cap and chain as required :																					
591	Single headed Gunmetal	Set	0.00	0.00	0.00	0.00																
592	Single headed Stainless Steel	Set	48.00	35.00	23.00	106.00																
	Supplying and fixing Single headed external yard hydrant valve with 1 No. 63 mm dia instantaneous FM Gunmetal/Stainless Steel coupling and cast iron wheel, ISI marked, conforming to IS 5290 (type A) with blank Gunmetal/Stainless Steel cap and chain as required :																					
593	Single headed Gunmetal	Set	8.00	15.00	11.00	34.00																
	Single headed Stainless Steel	Set	0.00	0.00	0.00	0.00																
	Supplying, fixing, testing and commissioning of butterfly valve of PN 1.6 rating with bronze/gunmetal seat duly ISI marked complete with nuts, bolts, washers, gaskets conforming to IS 13095 of following sizes as required :																					
594	50mm dia	Set	20.00	20.00	15.00	55.00																
595	80mm dia	Set	35.00	35.00	25.00	95.00																
596	100mm dia	Set	35.00	35.00	25.00	95.00																
597	150mm dia	Set	45.00	60.00	20.00	125.00																
598	200mm dia	Set	10.00	10.00	5.00	25.00																
599	250mm dia	Set	5.00			5.00																
600	Supplying and fixing orifice plate made out of 6 mm thick stainless steel (Grade 304) with orifice of required size to be fitted between flange & landing valve of external and internal hydrants to reduce pressure at the outlet to the level of 3.5 kg/cm2 complete as required.	Each	48.00	50.00	34.00	132.00																
	Providing, installation, testing and commissioning of non-return valve of following sizes confirming to IS: 5312 complete with rubber gasket, GI bolts, nuts, washers etc.as required :	Set																				
601	80mm dia	Set	5.00	5.00	5.00	15.00																
602	100mm dia	Set	5.00	5.00	5.00	15.00																
603	150mm dia	Set	5.00	5.00	10.00	20.00																
604	200mm dia	Set	10.00	10.00	5.00	25.00																
	Providing, installation, testing and commissioning of stainless steel Y-strainer fabricated out of 1.6 mm thick stainless steel, Grade 304, sheet with 3 mm dia holes with stainless steel flange.	Each	10.00	12.00	12.00	34.00																
605	200 mm dia																					
	Supplying and fixing 63 mm dia, 15 m long RRL hose pipe with 63 mm dia male and female couplings duly bound with GI wire, rivets etc. conforming to IS 636 (type-A) as required :																					
	Gun Metal	Set	0.00	0.00	0.00	0.00																
606	Stainless steel	Set	48.00	50.00	34.00	132.00																
	Supplying and fixing first-aid Hose Reel with MS construction spray painted in post office red, conforming to IS 884 complete with the following as required.																					
	20 mm nominal internal dia water hose thermoplastic (Textile reinforced) type -2 as per IS: 12585																					
	20 mm nominal internal dia gun metal globe valve & nozzle.																					
	Drum and brackets for fixing the equipments on wall. Connections from riser with 25 mm dia stop gun metal valve & M.S. Pipe and socket.																					
607	40 m	Set	48.00	50.00	34.00	132.00																
	Supplying & fixing 63 mm dia gun metal short branch pipe with 20 mm nominal internal diameter size nozzle conforming to IS 903 suitable for instantaneous connection to interconnect hose pipe coupling as required :																					
	Gun metal	Set	0.00	0.00	0.00	0.00																
608	Stainless steel	Set	48.00	50.00	34.00	132.00																
	Supplying and fixing of fire brigade connection of cast iron body with gun metal male instantaneous inlet couplings complete with cap and chain as reqd. for suitable dia MS pipe connection conforming to IS 904 as required :																					
609	2 way-100 mm dia M.S. Pipe. (FOR UG TANK)	Set	2.00	2.00	2.00	6.00																
610	4 way - 150 mm dia M.S. Pipe. (FOR UG TANK & EXTERNAL RING MAIN)	Set	2.00	2.00	2.00	6.00																

SL. no	Description of Item	Unit	Quantity				Rate			Amount											
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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
	Supplying and fixing air vessel made of 250 mm dia, 8 mm thick MS sheet, 1200 mm in height with air release valve on top and flanged connection to riser, drain arrangement with 25 mm dia gun metal wheel valve with required accessories, pressure gauge and painting with synthetic enamel paint of approved shade as required.	Set	2.00	2.00	2.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-
	Providing, fixing, testing & commissioning of 15mm dia quartzoid bulb type sprinklers of rating 68 degree centigrade with required accessories ;									-	-	-	-	-	-	-	-	-	-	-	-
611	Pendent Sprinkler	Each	1332.00	1541.00	718.00	3591.00				-	-	-	-	-	-	-	-	-	-	-	-
612	Upright Sprinkler	Each	1580.00	2014.00	718.00	4312.00				-	-	-	-	-	-	-	-	-	-	-	-
613	Horizontal side wall sprinkler	Each	14.00	34.00	0.00	48.00				-	-	-	-	-	-	-	-	-	-	-	-
614	Providing & fixing of pressure switch in M.S. pipe line including connection etc. as required.	Each	21.00	70.00	30.00	121.00				-	-	-	-	-	-	-	-	-	-	-	-
	Providing & fixing flow switch in following sizes M.S. pipe including connection etc as required.									-	-	-	-	-	-	-	-	-	-	-	-
615	100mm dia	Each	21.00	20.00	10.00	51.00				-	-	-	-	-	-	-	-	-	-	-	-
616	150mm dia	Each	30.00	70.00	20.00	120.00				-	-	-	-	-	-	-	-	-	-	-	-
	Providing, fixing, testing & commissioning of installation control valve of cast iron body, brass/bronze working parts comprising of water motor alarm, bronze seat clapper, clapper arm and hydraulically driven mechanical gong bell to sound continuous alarm when the wet riser/sprinkler system activates, pressure gauges, emergency releases, strainer, pressure switch, cock valve complete with drain valve and bypass, test control box, ball valves, MS pipe of required size, flanges, orifice plate, gasket etc of following sizes as required :									-	-	-	-	-	-	-	-	-	-	-	-
617	80mm dia	Set	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-
618	100mm dia	Set	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-
	150mm dia	Set	4.00	4.00	2.00	10.00				-	-	-	-	-	-	-	-	-	-	-	-
	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.									-	-	-	-	-	-	-	-	-	-	-	-
619	700 mm	Set	450.00	750.00	510.00	1710.00				-	-	-	-	-	-	-	-	-	-	-	-
620	1000 mm	Set	380.00	200.00	80.00	660.00				-	-	-	-	-	-	-	-	-	-	-	-
621	1200 mm	Set	250.00	160.00	60.00	470.00				-	-	-	-	-	-	-	-	-	-	-	-
622	1500 mm	Set	250.00	125.00	50.00	425.00				-	-	-	-	-	-	-	-	-	-	-	-
623	Providing, installation, testing & commissioning of adjustable rosette plate for 15mm dia in white finish UL Listed or FM approved complete as required.	Each	1330.00	1235.00	700.00	3265.00				-	-	-	-	-	-	-	-	-	-	-	-
624	Providing and fixing in position the industrial type pressure gauges with gun metal / brass valves complete as required	Each	60.00	60.00	30.00	150.00				-	-	-	-	-	-	-	-	-	-	-	-
	Supplying, installation, testing & commissioning of deluge valve (to be used for water curtains) UL listed with wet pilot basic trim assembly for DVA with test and alarm, drip and drain valve with water motor gong complete as required.									-	-	-	-	-	-	-	-	-	-	-	-
625	150 mm dia	Each		2.00		2.00				-	-	-	-	-	-	-	-	-	-	-	-
626	Providing, installation, testing & commissioning of water curtain nozzle 15mm dia nickel chrome plated brass, BSPT, K-factor as per design consideration complete as required.	Each		55.00		55.00				-	-	-	-	-	-	-	-	-	-	-	-
627	Providing, installation, testing & commissioning of electric release trim assembly for deluge wall with two way solenoid valve, weather proof operation on 24 volts DC supply complete as required.	Each		4.00		4.00				-	-	-	-	-	-	-	-	-	-	-	-
628	Providing and fixing standard fireman's axe with heavy insulated rubber handle conforming to IS: 926 complete.	Each	40.00	30.00	20.00	90.00				-	-	-	-	-	-	-	-	-	-	-	-
629	Providing and fixing SHAFT DOOR of size 900mmx2100mm made of 16 gauge thick MS sheet with 4 mm thick frant glass doors in front painted "FIRE" in red paint i/c necessary locking /Key arrangement shall be painted with one coat of primer & two coat of finished stove enameled post office red colour paint .	Each	40.00	30.00	23.00	93.00				-	-	-	-	-	-	-	-	-	-	-	-

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
630	Providing and fixing hose cabinet of size 750mmX600X250mm made of 16 gauge thick MS sheet with 4 mm thick float glass doors in front painted "FIRE" in red paint i/c necessary locking arrangement suitable to accommodate external hydrant with butterfly valve 2 nos. 15 mtr. long hose pipe. 1 no. brach pipe mounted on wall or raised brick platform & duly painted with post office red externally and white internally with synthetic enamel paint complete in all respects for external hydrant.	Each	48.00	50.00	34.00	132.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing, Fixing, testing and commissioning of resilient rubber lined single arch vibration eliminators suitable for raw water up to 45 deg. C temperature, working pressure 8 Kg/cm2 and test pressure 16 Kg/cm2 to provide relief from stresses at pipe flanges.									-	-	-	-	-	-	-	-	-	-	-	-	-
631	200 mm dia	Nos.	10.00	10.00	5.00	25.00				-	-	-	-	-	-	-	-	-	-	-	-	-
632	150 mm dia	Nos.	10.00	10.00	10.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
633	80 mm dia	Nos.	5.00	5.00	2.00	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
634	100 mm dia	Nos.	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply, fixing, testing and commissioning of screwed type brass/bronze lever operated ball valve of full flow with stainless steel ball (AISI 304 & spindle AISI 410) with setting & gland of superior quality having minimum working pressure of 16 kg/sqcm.									-	-	-	-	-	-	-	-	-	-	-	-	-
635	25 mm Dia	Nos.	40.00	50.00	34.00	124.00				-	-	-	-	-	-	-	-	-	-	-	-	-
636	Providing and fixing 25 mm dia inspection & testing assembly with gun metal ball valve, gun metal sight glass ,Reducer ,union, G.I PIPE. connection to drain pipe/riser.	Set	20.00	50.00	34.00	104.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing, fixing water flow meter on test line complete with all accessories for flow indication , monitoring & testing of fire pumps with bypass arrangment including piping & bypass valves.									-	-	-	-	-	-	-	-	-	-	-	-	-
637	150 mm dia	Each	5.00	10.00	10.00	25.00				-	-	-	-	-	-	-	-	-	-	-	-	-
638	Supply and fixing of 4 Nos G.I round bottom FIRE BUCKET of 9 LTR. Capacity field with sand including proper supporting /mounting arrangement MS Angle Iron Frame painted by fire red colour over 2 coats of red oxide paint and written with white paint FIRE complete in all respects as per direction of Engineer Incharge .	Each	5.00	5.00	2.00	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 31 : Fire Extinguisher</b>																					
	Providing, storing, handling, shifting, installation, testing and commissioning of halon free portable fire Extinguishers as described below:									-	-	-	-	-	-	-	-	-	-	-	-	-
	Concealed work, including cutting chases and making good the walls etc.																					
639	Providing and fixing of 4.5 Kg. carbon-di-oxide type fire extinguishers consisting of welded M.S. cylindrical body, squeeze lever discharge valve fitted with pressure indicating guase ingernal discharge tube 30 cms long high pressure discharge hose, discharge nozzle, suspension bracket conforming ro IS:15683 finished externally with re enamel paint and fixed to wall with brackets complete with internal charge.	Nos.	10.00	20.00	20.00	50.00				-	-	-	-	-	-	-	-	-	-	-	-	-
640	Providing and fixing 6.0 Kg. ABC Powder type fire extinguishers consisting of welded M.S. cylindrical body, squeeze lever discharge valve fitted with pressure indicating guase internal discharge tube 30 cms long high pressure discharge hose, discharge nozzle, suspension bracket conforming to IS:15683 finished externally with re enamel paint and fixed to wall with brackets complete with inernal charge.	Nos.	60.00	85.00	35.00	180.00				-	-	-	-	-	-	-	-	-	-	-	-	-
641	Water CO2 type of 9 lit.Fire Extinguisher with Gun metal cap and nozzlecomplete in all respects including wall suspension bracket and conforming to IS: 15683.	Nos.	5.00	5.00	9.00	19.00				-	-	-	-	-	-	-	-	-	-	-	-	-
642	Providing, fixing, testing and commissioning of 50 Litres (trolley mounted) Mechanical Foam type Fire Extinguisher. In HP Mild Steel Cylinders ISI marked TAC approved fitted with pressure indicating gauge, internal tube, squeeze lever type valve fully charged complete in all respects including wall suspension bracket / trolley mounted and conforming to IS:910 .	Nos.	2.00	2.00	2.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
643	Providing, fixing, testing and commissioning of CO2 type Fire Extinguisher of capacity 22.5 kg filled with Co2 Gas as per IS 15222 with controll discharge mechanism fitted with Hose, Horn & TROLLEY confirms to IS 2878 bearing ISI mark. Co2 Cylinder as per IS 7285.	Nos.	2.00	2.00	2.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-



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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
644	Providing and fixing 2 kg capacity clean agent-HFC 236FA Stored Pressure type fire extinguisher ISI marked under IS:15683 complete with imported manufactured by 3M, with Zero Ozone Depletion Potential and Very Low Global Warming Potential of 1 with 20 Years Blue Sky Warantee against any regulatory Bans and Restrictions.	Nos.	15.00	8.00	10.00	33.00				-	-	-	-	-	-	-	-	-	-	-	-	-
645	Providing and fixing Fire related signages printed on photoluminescent U1000 aluminium sheet of 1.0 mm (+-10%) containing Lumigen II as base chemical, covered under UV stabilized coating and of appropriate size including fixing on wall, door, ceiling etc. with proper clamps, hangers, cleats, anchor fasteners etc.	Square Inch	39600.00	39600.00	10800.00	90000.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 32 : Lt &amp; Ht Panel, Electrical Room &amp; Server Room Gas Flooding System</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	GAS FLOODING UPS ROOM									-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply Installation testing and commissioning of FK-5-1-12 based fire suppression system. The fire suppression system shall include and not be limited to gas release control panel, CCOE approved seamless cylinders, discharge valve (with solenoid or pneumatic actuator) as the case may be, discharge pipe, non-return valve and all other accessories required to provide a complete operation system meeting applicable requirements of NFPA 2001 or ISO standards and installed in compliance with all applicable requirements of the local codes and standards. The system shall be VdS or FM/UL listed. The system shall be designed with minimum design concentration of 4.2 % as applicable to Class-A & C fire. The cylinders shall be super-pressurized with dry Nitrogen to 25 bar / 34.5 bar / 42 Bar.. The FK-5-1-12 gas shall be comply with the following. UL listed.																					
646	120 ltrs. Seamless Cylinder CCOE Approved, complete with a safety burst disc & Safety cap	No.	7.00	6.00	4.00	17.00				-	-	-	-	-	-	-	-	-	-	-	-	-
647	EXTINGUISHING Gas agent to be filled in above Gas cylinders,	Kgs	600.00	600.00	400.00	1600.00				-	-	-	-	-	-	-	-	-	-	-	-	-
648	Electrical CUM Manual Actuator	No.	7.00	6.00	4.00	17.00				-	-	-	-	-	-	-	-	-	-	-	-	-
649	Local manual actuator	No.	7.00	6.00	4.00	17.00				-	-	-	-	-	-	-	-	-	-	-	-	-
650	2" Flexible discharge hose	No.	7.00	6.00	4.00	17.00				-	-	-	-	-	-	-	-	-	-	-	-	-
651	Discharge pressure switch, WP(2-3/4" outlet), Lat.	No.	7.00	6.00	4.00	17.00				-	-	-	-	-	-	-	-	-	-	-	-	-
652	Brass nozzle degree NPT - India	No.	42.00	24.00	16.00	82.00				-	-	-	-	-	-	-	-	-	-	-	-	-
653	Cylinder bracket assembly for each cylinder as per above capacity.	No.	7.00	6.00	4.00	17.00				-	-	-	-	-	-	-	-	-	-	-	-	-
654	Supply installation, testing and commissioning of C.S seamless piping and Fittings All piping shall be Schedule 40 seamless pipes complying with grade B and all fitting shall be of ASTM A-105	LOT	7.00	6.00	4.00	17.00				-	-	-	-	-	-	-	-	-	-	-	-	-
655	Supply installation, testing and commissioning of 2 Zone CONVENTIONAL Gas release panel with batteries to connect Manual abort/Release switches, multisensor detector, Hooter cum strobe.	No.	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
656	Supply installation, testing and commissioning of 2C x 1.5 sq.mm PVC sheather armored FRLS cable with suitable clamps	Mtrs	70.00	40.00	40.00	150.00				-	-	-	-	-	-	-	-	-	-	-	-	-
657	Supply installation, testing and commissioning of Manual release switch	No.	7.00	6.00	4.00	17.00				-	-	-	-	-	-	-	-	-	-	-	-	-
658	Supply installation, testing and commissioning of Manual abort switch	No.	7.00	6.00	4.00	17.00				-	-	-	-	-	-	-	-	-	-	-	-	-
659	Modules for integrating with Fire Detection system	No.	42.00	24.00	16.00	82.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Electrical Panel Gas Flooding System									-	-	-	-	-	-	-	-	-	-	-	-	-
660	Supply, installation of Cylinder Valve Assembly (2.5 lb / 1 Kg - capacity), Cylinder with Single Outlet Valve, F -K-5-1-12 Fire Suppression Fluid (2.5 lbs) 1 Kg, Cylinder bracket (1), Rubber Grommets - 6mm, Plastic Loop Clamps with accessories, EOL Adapter wih Pressure Guage with Accessories etc.,	No.	6.00	5.00	5.00	16.00				-	-	-	-	-	-	-	-	-	-	-	-	-
661	Supply, installation of Cylinder Valve Assembly (5 lb capacity/ 2 kgs Capacity ), Cylinder with Single Outlet Valve, F-K-5-1-12, Fire Suppression Fluid (2.5 lbs) / 2 kgs Cylinder bracket (1), Rubber Grommets - 6mm, Plastic Loop Clamps with accessories, EOL Adapter wih Pressure Guage with Accessories, etc.,	No.	6.00	5.00	5.00	16.00				-	-	-	-	-	-	-	-	-	-	-	-	-



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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
662	Supply, installation of Cylinder Valve Assembly (10 lb capacity/ 4 kgs Capacity ), Cylinder with Single Outlet Valve, F-K-5-1-12, Fire Suppression Fluid (10 lbs) / 4 kgs Cylinder bracket (1), Rubber Grommets - 6mm, Plastic Loop Clamps with accessories, EOL Adapter wih Pressure Guage with Accessories. etc.,	No.	4.00	2.00	6.00	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
663	Supplying, installation, testing & commissioning of Heat detection tube (UL approved)	Meter	80.00	40.00	40.00	160.00				-	-	-	-	-	-	-	-	-	-	-	-	-
664	Providing & fixing of pressure switch in M.S. pipe line including connection etc. as required.	No.	12.00	6.00	6.00	24.00				-	-	-	-	-	-	-	-	-	-	-	-	-
665	Supply, installation of Audio Visual Alarm	No.	8.00	4.00	4.00	16.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 33 : Passive Fire Stopper</b>					0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	PASSIVE FIRE SYSTEM - FLOOR OPENING																					
666	Providing Fire stop mortar system CP 636 , with minimum 2 hours fire rating when tested in accordance with UL 1479/ASTM-E 814 standards, for horizontal openings in floors or slabs after passing service lines like cables/cable bundles, cable trays etc. The mortar shall be a light weight cementitious product and shall carry test certificate in accordance with IEC 60068-2-57:1999-11 (Environmental Testing) as per Part 2-57: Test for Vibration-Time-history method and VERTEQII for seismic zone 4. The product shall be age tested as per Dafstb and DIBT standards. The product shall carry test certificate for mold resistance rating of 0 as determined by ASTM G21-96. The product shall be age tested as per Dafstb and DIBT standards. The system shall be UL listed & classified and product shall bear the UL and FM approval logo on the packing. If none of UL test certificate comply with actual application, an EJ document prepared by a qualified personnel and based on nearest third party tested & approved systems like UL test certificates & in accordance with IFC guidelines shall be produced by manufacturer. A firestop submittal shall be produced by manufacturer , in accordance with approved passive fire protection method statement, for technical approval. Firestop installation shall be done by Hilti Accredited Firestop Speciality Contractor (HAFSC) and in accordance with Hilti guidelines and UL system test certificates or approved EJ document.	Sq.m	15.00	26.00	13.53	54.52				-	-	-	-	-	-	-	-	-	-	-	-	-
	Firestop Speciality Contractor needs to submit work completion certificate along with installation report through Hilti documentation Software CFS DM for periodic inspection & maintenance purpose. The gaps around inaccessible or complicated openings shall be sealed with expanding firestop foam Hilti CP 620 and shall be paid under separate heads and as mentioned below. Any report submittal with Installation pictures should be done using CFS-DM Software, which shall be charged extra.																					
667	Provide rodent and termite proof Fire Barriers Hilti CFS COS ( Composite Sheet) system for 2 hours fire rating when tested in accordance with ASTM E 814/UL 1479 standards. The Composite Sheet 3.81 mm thick, bonded with organic/inorganic fire-resistive elastomeric #SS 304 (Stainless steel) sheet. One side it should be bonded with 26 gauge #SS 304 (Stainless steel) sheet and the other side it should be reinforced with hexagonal shaped #SS 304 (Stainless steel) wire mesh and covered with aluminum foil for the penetrants and the big opening. The small gaps left around the penetrants should be closed with Intumescent sealant FS One max of Hilti make, or with Fire rated Moldable Putty CP 619T of Hilti make, which should be soft & moldable to any shape, to give complete L Rating. This system is to seal all fire rated horizontal in Floor made of concrete, masonry, metal, gypsum partition, after passing service lines like cables/cable bundles, cable trays etc. The system shall be UL listed & classified and product shall bear the UL & FM approval logo on the packing. If none of UL test certificate comply with actual application, an EJ document prepared by a qualified personnel and based on nearest third party tested & approved systems like UL test certificates & in accordance with IFC guidelines shall be produced by manufacturer.	Sq.m	10.00	7.50	4.00	21.50				-	-	-	-	-	-	-	-	-	-	-	-	-

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	A firestop submittal shall be produced by manufacturer , in accordance with approved passive fire protection method statement, for technical approval. Firestop installation shall be done by Hilti Accredited Firestop Speciality Contractor (HAFSC) and in accordance with Hilti guidelines and UL system test certificates or approved EJ document. Firestop Speciality Contractor needs to submit work completion certificate along with installation report through Hilti documentation Software CFS DM for periodic inspection & maintenance purpose. The gaps along/around cables penetrants shall be sealed with intumescent sealnt Hilti FS One Max. In case of repenetration requirement, Hilti intumescent based speed sleeve CP 653BA of appropriate size shall be used and shall be paid under separate heads and as mentioned below. Any report submittal with Installation pictures should be done using CFS-DM Software, which shall be charged extra.																					
668	Providing Pre-formed block CFS BL made from intumescent polyurethane material for temporary or permanent firestop sealing around cables, cable bundles and conduits. Surface burning characteristics according UL 723 (ASTM E84-01): Flame spread index 10 and smoke development index 15. The sound transmission classification for this product according ASTM E 90 is 52 (STC Rating). The density is 0.27 g/cm³ and the expansion temperature (intumescent activation) is around 392, °F (200°C). Seismic tested on mechanical performance, smoke and fire-ratings. Product should also be tested in accordance to ASTM E 3037. The system shall be UL listed & classified and product shall bear the UL & FM approval logo on the packing. If none of UL test certificate comply with actual application, an EJ document prepared by a qualified personnel and based on nearest third party tested & approved systems like UL test certificates & in accordance with IFC guidelines shall be produced by manufacturer. A firestop submittal shall be produced by manufacturer , in accordance with approved passive fire protection method statement, for technical approval. Firestop installation shall be done by Hilti Accredited Firestop Speciality Contractor (HAFSC) and in accordance with Hilti guidelines and UL system test certificates or approved EJ document. Firestop Speciality Contractor needs to submit work completion certificate along with installation report through Hilti documentation Software CFS DM for periodic inspection & maintenance purpose.	Sq.m	26.00	22.00	8.41	56.41				-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Sub Head 34 : Fire Alarm</b>																						
	Supplying, installation, testing and commissioning of micro processor based intelligent addressable main fire alarm panel, central processing unit with the following loop modules and capable of supporting not less than 240 devices (including detectors) and minimum 120 detectors per loop and loop length up to 2 km, network communication card, minimum 320 character graphics/ LCD display with touch screen or other keypad and minimum 4000 events history log in the non volatile memory (EPROM), power supply unit (230 ± 5% V, 50 Hz), 48 hrs back-up with 24 volt sealed maintenance free batteries with automatic charger. The panel shall have facility to connect printer to printout log and facility to have seamless integration with analog/digital voice evacuation system (which is part of the schedule of work under SH: PA System) and shall be complete with all accessories . The panel shall be compatible for IBMS system with open protocol BACnet/ Modbus over IP complete as per specifications.					0.00				-	-	-	-	-	-	-	-	-	-	-	-	
669	Ten Loop Panel.	Set	2.00	1.00	1.00	4.00				-	-	-	-	-	-	-	-	-	-	-	-	
670	Two Loop Panel.	Set		3.00	0.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	
671	Supplying, installation, testing & commissioning of central graphical fire alarm management system to centrally monitor and operate the fire alarm system complete as required.	No	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	
672	Supplying, installation, testing & commissioning of repeater panel with 320 character/ Touch screen LCD display with inbuilt reset, acknowledge and silence switches complete as required.	No	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	
673	Supplying, installation, testing & commissioning of intelligent analog addressable photothermal detector complete with mounting base complete as required.	No	1564.00	1552.00	740.00	3856.00				-	-	-	-	-	-	-	-	-	-	-	-	

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
674	Supplying, installation, testing & commissioning of response indicator on surface/recessed MS Box having two LED, metallic cover complete with all connections etc as required.	Each	836.00	776.00	357.00	1969.00				-	-	-	-	-	-	-	-	-	-	-	-	-
675	Supplying, installation, testing & commissioning of fault isolator complete with base as required.	No	80.00	80.00	37.00	197.00				-	-	-	-	-	-	-	-	-	-	-	-	-
676	Supplying, installation, testing & commissioning of intelligent aspiration detector for area coverage of minimum 5000 sq.ft. complete as required.	Each	8.00			8.00				-	-	-	-	-	-	-	-	-	-	-	-	-
677	Supplying, installation, testing & commissioning of intelligent addressable thermal detector with rate of rise cum fixed temperature thermistor complete with base as required.	Each	36.00	42.00	20.00	98.00				-	-	-	-	-	-	-	-	-	-	-	-	-
678	Supplying, installation, testing & commissioning of addressable fire control module complete as required.	Each	3.00	5.00	5.00	13.00				-	-	-	-	-	-	-	-	-	-	-	-	-
679	Supplying, installation, testing & commissioning of addressable phone control module complete as required.	Each	2.00	5.00	5.00	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
680	Supplying, installation, testing & commissioning of addressable beam detector with short circuit isolator (inbuilt or separate) complete with emitter and receiver including connections with remote test features etc complete as required.	Each	8.00	12.00	0.00	20.00				-	-	-	-	-	-	-	-	-	-	-	-	-
681	Supplying, installation, testing & commissioning of intelligent addressable duct detector including suitable Photo detector complete with base as required.	Each	40.00	40.00	10.00	90.00				-	-	-	-	-	-	-	-	-	-	-	-	-
682	Supplying, installation, testing & commissioning of addressable manual call point complete as required.	Each	40.00	28.00	19.00	87.00				-	-	-	-	-	-	-	-	-	-	-	-	-
683	Supplying, installation, testing & commissioning of addressable horn cum strobe complete as required.	Each	40.00	28.00	49.00	117.00				-	-	-	-	-	-	-	-	-	-	-	-	-
684	Supplying, installation, testing & commissioning of fire fighter telephone handset complete as required.	Each	5.00	5.00	2.00	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
685	Supplying, installation, testing & commissioning of fire fighter phone jack complete as required.	Each	40.00	40.00	23.00	103.00				-	-	-	-	-	-	-	-	-	-	-	-	-
686	Supplying & laying of 2x1.5 sqmm fire alarm armoured cable, 600/1000V rated with annealed copper conductor having XLPE insulation, steel wire armouring & FRLS outer sheath complete as required.	Meter	11500.00	10510.00	4394.00	26404.00				-	-	-	-	-	-	-	-	-	-	-	-	-
687	Supplying and fixing of following sizes of STEEL conduit along with the 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.					0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
688	20mm dia	Meter	0.00	0.00		0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
689	25mm dia	Meter	650.00	650.00	650.00	1950.00				-	-	-	-	-	-	-	-	-	-	-	-	-
690	Supply, Installation, Testing and Commissioning of UL/Vds/LPCB/EN approved Addressable Monitor Module with IP66 casing containing input/output for third party integration including potential free contacts with inbuilt isolators. Shall be UL / EN54 certified.	Nos	25.00	16.00	5.00	46.00				-	-	-	-	-	-	-	-	-	-	-	-	-
691	Supplying, installing, testing and commissioning approved make Addressable Relay Module for AHU, Access Control, Lifts, Staircase Pressurization, Fire Suppression & other Third Party Outputs for CAUSE AND EFFECT MATRIX For effective Smoke management . The relay module shall provide contact rated at 24v DC, 2A. The device shall have an LED which shall blink in normal state & get steady on activation to monitor the health status of the device. Addressing shall be with user friendly rotary decimal switches. Module shall be supplied with mounting plate from OEM for ease of installation & maintenance. The device shall comply UL approval & FM APPROVED	Nos	10.00	10.00	5.00	25.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Total Bill no-3 Fire fighting works</b>									-	-	-	-	-	-	-	-	-	-	-	-	-

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			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
4	<b>Bill no-4 STP, ETP &amp; PUMPS</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 35 : Sewage Treatment Plant 150 KLD</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
692	1. Designing, Fabricating, Supplying, Installation & Commissioning 150 KLD STP: Fabrication and Supply of mechanical, electrical and instrumentation including Fine Screen Chamber SS304, 5mmx5mm, Tube Settler, Equalization Tank, Collection Tank 1, Collection Tank 2 Bio Mound 1 & Bio Mound 2 Treated Water Tank Submersible Sewage pump to transfer fluid between EQT-BM1Submerssble Slurry Pump to transfer slurry between TS-VCB Submerssble sewage Pump to transfer fluid between CT1-BM2 Submersible clear water pump to transfer fluid between CT2-TWT Bio Mound Media 212 Cum (lateratite/Basaltic/red clay origin media with technology provider specified agregate sizing), Jute 250gsm @every 0.5m inside BM media, Plantation/Saplings @2sqm each. 48 Nos.etc.,	each	1.00	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Slurry Pump TS-VCB; Submersible Slurry Pump; (1W) with Piping , NRVs, Cabling & Other Instrumentation as Applicable Sewage Pump EQT-BM1; Submersible Sewage Pump; 6 cum/hr @ 8-10 m head; (1W+1S) with Piping , NRVs, Cabling & Other Instrumentation as Applicable Sewage Pump CT1-BM2; Submersible Sewage Pump; 6 cum/hr @ 8-10 m head; (1W+1S); with Piping , NRVs, Cabling & Other Instrumentation as Applicable Clear Pump CT2-TWT; Submersible Clear Water Pump; 6 cum/hr @ 8-10 m head; (1W+1S); with Piping , NRVs, Cabling & Other Instrumentation as Applicable Distributor System in UPVC inclusive fittings; MOC:- UPVC; 62Squm Tube Settler Packing; MOC:- PVC; 3Cum Fine Screen; MOC:- SS 304; Slot Size:- 5 mm 1 lot Mechanical Flow Meter; Line Size :-2 inch; 1 Nos Control Panel: MCC Type with Semi Auto Features: Auto Features : Dry Run Protection: Timer BAsed Switching, Level Based Pumping(Civil construction works will be paid under relevant civil items seperately).																					
693	Designing, Fabricating, Supplying, Installation & Commissioning 50 KLD STP: Fabrication and Supply of mechanical, electrical and instrumentation including Fine Screen Chamber SS304, 5mmx5mm, Tube Settler, Equalization Tank, Collection Tank 1, Collection Tank 2 Bio Mound 1 & Bio Mound 2 Treated Water Tank Submersible Sewage pump to transfer fluid between EQT-BM1Submerssble Slurry Pump to transfer slurry between TS-VCB Submerssble sewage Pump to transfer fluid between CT1-BM2 Submersible clear water pump to transfer fluid between CT2-TWT Bio Mound Media 125 Cum (lateratite/Basaltic/red clay origin media with technology provider specified agregate sizing), Jute 250gsm @every 0.5m inside BM media, Plantation/Saplings @2sqm each. 22 Nos.etc.,	each	0.00	0.00	1.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Slurry Pump TS-VCB; Submersible Slurry Pump; (1W) with Piping , NRVs, Cabling & Other Instrumentation as Applicable Sewage Pump EQT-BM1; Submersible Sewage Pump; 3.25 cum/hr @ 8-10 m head; (1W+1S) with Piping , NRVs, Cabling & Other Instrumentation as Applicable Sewage Pump CT1-BM2; Submersible Sewage Pump; 3.25 cum/hr @ 8-10 m head; (1W+1S); with Piping , NRVs, Cabling & Other Instrumentation as Applicable Clear Pump CT2-TWT; Submersible Clear Water Pump; 3.25 cum/hr @ 8-10 m head; (1W+1S); with Piping , NRVs, Cabling & Other Instrumentation as Applicable Distributor System in UPVC inclusive fittings; MOC:- UPVC; 251qm Tube Settler Packing; MOC:- PVC; 2Cum Fine Screen; MOC:- SS 304; Slot Size:- 5 mm 1 lot Mechanical Flow Meter; Line Size :-2 inch; 1 Nos Control Panel: MCC Type with Semi Auto Features: Auto Features : Dry Run Protection: Timer BAsed Switching, Level Based Pumping(Civil construction works will be paid under relevant civil items seperately).									-	-	-	-	-	-	-	-	-	-	-	-	-



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			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	2. Supplying on site fresh Garden soil (free from stones rubbish like dried grass roots, other such materials) for excavation area of depth of 30 cms.( consolidated thickness).(As per P&G DSR 2022-23 Items of garden work,Sr No.36a), Supplying on site well decomposed Farmyard Manure for excavation area of depth of 30 cms. (Consolidated thickness). (As per P&G DSR 2022-23 Items of garden work,Sr No.36b), Providing on site required variety of lawn (free from weeds /disease etc.) Cynadon/ paspalum/ selection for 1 sqm. area dibbling distance 5 cms. apart c/c. (As per P&G DSR 2022-23 Items of garden work,Sr No.46), Excavation for planting lawn/ shrub/ flower bed/ hedges/ edges/ canna bed in earth, soil of all types, soft murum, including removing the excavated material up to a distance of 50 mtrs. for a depth of 30 cms.(As per P&G DSR 2022-23 Items of garden work,Sr No.3), Filling fresh garden soil / silt & manure in excavated area of depth 30cms. (As per P&G DSR 2022-23 Items of garden work,Sr No.13), Mixing garden soil/silt & manure thoroughly well, watering previous night. Planting required plant species, lawn grass as directed etc. complete for required depth 30 cms. for planting lawn/ shrub/ flower bed/ hedges/ edges/ canna bed/ ground cover. (1/10 of semiskilled labour)(As per P&G DSR 2022- 23 Items of garden work,Sr No.23), Maintainance of Newly Developed lawn Area. For First 30 days Only (Paspallum/ selection)(As per P&G DSR 2022-23 Items of garden work,Sr No.28)																					
	3. Supply, Installation and Testing of Tube Settler Packing at PVC make etc.,																					
	4. Mechanical Flow meterand line size 50mm etc.,																					
	5. SITC of Control panel MCC type with Semi auto futures, electrical componentwith auto features and dry run protection.																					
	6. Providing supplying CAMUS Cultures and Catalyst; Patent No. 414339 (Mite Ecology for Treatment of Organic Liquids (METROL process) & On site demonstration as per the Vendors all as specified including MOU with technology expert Operation and Maintenance During DLP period( 1 year) 1. Operatores:- 2 Nos 2. Quarterly Site Visit :- 4 Nos 3. Compliance Water Test Reports (quarterly) for raw water and treated water for parameter COD, BOD,TSS, pH:- 8 Nos 4. To get the PCB approval with Pre / Post NOC																					
	<b>Sub Head D 36 : Effluent Treatment Plant</b>									-	-	-	-	-	-	-	-	-	-	-	-	
694	Designing, Fabricating, Supplying, Installation & Commissioning 25 KLD ETP: Fabrication and Supply of mechanical, electrical and instrumentation including SCREEN CHAMBER Mesh with ss 304 Grade, EQUILIZATION TANK, NEUTRALIZATION TANK WITH PH DOSING, COAGULATION TANK WITH FLOCCULANT DOSING, FLOCCULANT TANK WITH FLOCCULANT DOSING, PRIMARY TUBE SETTLER, Nothing extra will be paid in this regard. (Civil construction works will be paid under relevant civil items separately). interconnecting valves, Pressure Gauge, Air Rotameters, Level Switches etc. and electrical instruments like Motors, Distribution board, Cabling power etc., including all necessary fittings,labour etc to complete. Rate includes Mechanical, electrical & plumbing works, all Materials, necessary fittings, all labour charges, Transportaion, Taxes, Lead, Lift etc complete. Excluding civil works, Nothing extra will be paid. (Civil construction works will be paid under relevant civil items separately.)	each	1.00	1.00	0.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	



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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
695	Designing, Fabricating, Supplying, Installation & Commissioning 15 KLD ETP: Fabrication and Supply of mechanical, electrical and instrumentation including SCREEN CHAMBER Mesh with ss 304 Grade, EQUILIZATION TANK, NEUTRALIZATION TANK WITH PH DOSING, COAGULATION TANK WITH FLOCCULANT DOSING, FLOCCULANT TANK WITH FLOCCULANT DOSING, PRIMARY TUBE SETTLER, Nothing extra will be paid in this regard. (Civil construction works will be paid under relevant civil items seperately). interconnecting valves, Pressure Gauge, Air Rotameters, Level Switches etc. and electrical instruments like Motors, Distribution board, Cabling power etc., including all necessary fittings,labour etc to complete. Rate includes Mechanical, electrical & plumbing works, all Materials, necessary fittings, all labour charges, Transportaion, Taxes, Lead, Lift etc complete. Excluding civil works, Nothing extra will be paid. (Civil construction works will be paid under relevant civil items seperately).	each	0.00	0.00	1.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Sub Head 37 : Pumps (Potable, Drainage, Sewage &amp; Waste Water Treatment Plant)</b>										-	-	-	-	-	-	-	-	-	-	-	-	-
695	Hydro pneumatic System for Multiple Overhead tank filling Supply, installation & commissioning of 1 No. Skid Mounted Factory Assembled Hydropneumatic System (with three pumps) with Vertical Multi Stage Centrifugal Pump for Clear Water with 50Hz, 380-500V, 2 Pole, IP 55 Enclosure Class, Class F Insulation, IE5 efficiency class motor along with HMI 300 Screen, integrated VFD & PI controller (IP 55 Protection) with each pump and the system shall come with multi master pump.Integrated VFD with following harmonic filters should be considered Harmonics IEC/EN 61000-3-12 Up to 7.5 kW (5.5 kW low speed):Category C1 according to EN 61800-3, corresponding to CISPR 11, class B (residential area) Above 7.5 kW (5.5 kW low speed): Category C3 according to EN 61800-3, corresponding to CISPR 11, class System. Pump shall be CI with CED quoted- Head & Base, SS 316 -Shaft and all other components will be with SS 304, Mechanical Seal (Balance Cartridge SiC vs SiC face) . System should supply with isolation valves at suction & Delivery sides and NRV at the discharge (Made of Brass/SS/POM) & 2 Nos. branded pressure transmitter of adequate pressure rating (4-20mA) as per the requirement, CED coated suction & Delivery manifolds, CED Coated Base Frame along with 1 No. 100L 10 Bar Pressure Tank. The pump performance curve shall be complying with the tolerance according to ISO 9906:2012, 3B. Per Pump Flow Rate -13.5 m3/hr (2W+1S), Head-50m	set	1.00	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply, installation & commissioning of 1 No. Skid Mounted Factory Assembled (Locally Assembled Set is Not Acceptable) Hydropneumatic System with 3 Nos. Vertical Inline Multi Stage Centrifugal Pump for Clear Water with 50Hz, 415V, 2 Pole, IP 55 Enclosure Class, Class F Insulation, IE3 efficiency class motor (As per IEC standard, 2.2 KW/3 HP Per Pump) along with skid mounted control panel. Pump shall be CI with CED quoted- Head & Base, SS 316 -Shaft and all other components will be with SS 304, Mechanical Seal (Balance Cartridge SiC vs SiC face) . System should supply with isolation valves at suction & Delivery sides and NRV at the discharge (Made of Brass/SS/POM) & 1 No. branded pressure transmitter of adequater rating (4-20mA) as per the requirement, CED coated or SS 316 suction & Delivery manifolds, CED Coated Skid along with 1 No. 100L 10 Bar Low Carbon Steel Pressure Tank along with butyl rubber bladder suitable for drinking water. System shall be having cascading function.																					
	1 No. 100L 10 Bar, Low Carbon Steel Pressure Tank along with butyl rubber bladder, ball valve & connecting pipes.																					
696	Flow Rate-10m3/hr (1W+1S) Head-35m	set	0.00	1.00	1.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	
697	Supply, Installation & commissioning of reputed make electrically operated valve for OHT which will open/close based on the water level sensor.	Nos	0.00	2.00	2.00	4.00				-	-	-	-	-	-	-	-	-	-	-	-	

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
698	Supply installation & Commissioning of 100L 10Bar Pressure hydro-pneumatic tank shall be of butyl bladder diaphragm type with pre-pressurized air/nitrogen. It shall be capable of handling the designed effective system protection (ESP) Volume to protect pump and operating controls by ensuring that the actual pump operation, tank shall have a maximum operating pressure of 10 bars/16 Bar depending on the pump shutoff head and shall be able to handle a maximum liquid temperature of 90 DegC/70 DegC respectively.	Nos	1.00	0.00	0.00	1.00					-	-	-	-	-	-	-	-	-	-	-	-
	<b>Pump for OHT Filling-Flushing</b>																					
	Supply, installation & commissioning of 1 No. Skid Mounted Factory Assembled (Locally Assembled Set is Not Acceptable) Hydropneumatic System with 3 Nos. Vertical Inline Multi Stage Centrifugal Pump for Clear Water with 50Hz, 415V, 2 Pole, IP 55 Enclosure Class, Class F Insulation, IE3 efficiency class motor (As per IEC standard, 2.2 KW/3 HP Per Pump) along with skid mounted control panel. Pump shall be CI with CED quoted- Head & Base, SS 316 -Shaft and all other components will be with SS 304, Mechanical Seal (Balance Cartridge SiC vs SiC face) . System should supply with isolation valves at suction & Delivery sides and NRV at the discharge (Made of Brass/SS/POM) & 1 No. branded pressure transmitter of adequate rating (4-20mA) as per the requirement, CED coated or SS 316 suction & Delivery manifolds, CED Coated Skid along with 1 No. 100L 10 Bar Low Carbon Steel Pressure Tank along with butyl rubber bladder suitable for drinking water. System shall be having cascading function.																					
	1 No. 100L 10 Bar, Low Carbon Steel Pressure Tank along with butyl rubber bladder, ball valve & connecting pipes.																					
	Flow Rate-5 m3/hr (1W+1S)																					
699	Head-35m	Set	0.00	1.00	1.00	2.00					-	-	-	-	-	-	-	-	-	-	-	
	<b>Motorised Valve</b>																					
700	Supply, Installation & commissioning of reputed make electrically operated valve for OHT which will open/close based on the water level sensor.	Nos	0.00	1.00	1.00	2.00					-	-	-	-	-	-	-	-	-	-	-	
701	Supply installation & Commissioning of 100L 10Bar Pressure hydro-pneumatic tank shall be of butyl bladder diaphragm type with pre-pressurized air/nitrogen. It shall be capable of handling the designed effective system protection (ESP) Volume to protect pump and operating controls by ensuring that the actual pump operation, tank shall have a maximum operating pressure of 10 bars/16 Bar depending on the pump shutoff head and shall be able to handle a maximum liquid temperature of 90 DegC/70 DegC respectively.	nos	1.00	0.00	0.00	1.00					-	-	-	-	-	-	-	-	-	-	-	
702	Drainage Pump Supply installation & Commissioning of submersible drainage pump (1W+1S) for each sump with 3 Ph 380-415V 2 Pole Motor with CI or SS 304-Casing, SS 304 or DI/CI -Impeller, SS 304/SS 410- Shaft, Mechanical Seal suitable for handling 10-12mm soft solid.	set	4.00	6.00	1.00	11.00					-	-	-	-	-	-	-	-	-	-	-	
703	Sewage Pump Supply installation & Commissioning of submersible drainage pump (1W+1S) for each sump with 3 Ph 380-415V 2 Pole Motor with CI -Casing, DI/CI -Impeller, SS 304/SS 410- Shaft, Mechanical Seal suitable for handling 65mm soft solid or pump shall be with grinder system as per the requirement	set	2.00	3.00	1.00	6.00					-	-	-	-	-	-	-	-	-	-	-	
	<b>WATER TREATMENT PLANTS 5000 LPH</b>										-	-	-	-	-	-	-	-	-	-	-	

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
704	Water Treatment Plant Supply, installation, testing, commissioning of water treatment plant consisting of PH CORRECTION DOSING SYSTEM FILTER FEED PUMP MULTIGRADE FILTER ACTIVATED CARBON FILTER IRON REMOVAL FILTER WATER SOFTENER NAOCL DOSING SYSTEM WATER METRE MCC PANEL WITH CABLES Complete etc.,	set	0.00	0.00	1.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>WATER TREATMENT PLANTS 12000 LPH</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
705	Water Treatment Plant Supply, installation, testing, commissioning of water treatment plant consisting of PH CORRECTION DOSING SYSTEM FILTER FEED PUMP MULTIGRADE FILTER ACTIVATED CARBON FILTER IRON REMOVAL FILTER WATER SOFTENER NAOCL DOSING SYSTEM WATER METRE MCC PANEL WITH CABLES Complete etc.,	set	1.00	1.00	0.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 38 : Solar Hot Water Systems</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
706	Supplying, installation, testing and Commissioning of 1000 Litres per day Flat Collector type Solar Water heating system alongwith hot water tank made of stainless steel and insulated with PU foam (Heat Exchanger type) including making suitable cement concrete foundation etc on top of terrace, also having 2no 2KW heating coils and insulated plumbing arrangement between solar panel to tank but excluding plumbing works to input side of panel and ouput side of hot water tank, complete as required	each	5.00	5.00	2.00	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
707	Supplying, installation, testing and Commissioning of Hot water storage cum mixing tank of following capacities made up of MS sheets, with all necessary nozzles like cold water inlet, hot water outlet, return water inlet, drain, air vent, safety valve-1no, man hole of 450 mm of 10mm thickness (for tanks above 1000lt capacity), internal epoxy painting, external coated with primer and 2 coats of enamel paint, tank insulation with rock wool insulation of 50mm thick wool, with chicken wire mesh, 24 swg aluminium cladding, base channel box type stand of 500mm height, suitable pressurized system of 5Kg/cm2(g) working pressure 1000lt capacity with 4 mm thk for shell	each	5.00	5.00	2.00	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Total Bill no-4 STP,ETP,Solar &amp; Pumps</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 39 : Air Cooled Chiller</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Aircooled Chiller:</b>									-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Supply, Installation, Testing and Commissioning (Supplying, Installation, Testing and Commissioning) of High Efficiency Air cooled screw chiller type water chilling package each, at the duty conditions of 12°C to 7°C chilled water and complete as per CPWD -2017 and ECBC - 2017 specifications; air-cooled condensers with energy efficient propeller fans, Continuous capacity control, insulated shell and tube evaporator, Thermal expansion valve, Overcurrent Relay for Compressor, Internal Thermostat for Compressor, Reverse Phase Protection Device for Compressor, Thermal Overcurrent Relay for Fan Motor, High-Pressure Switch, Low-Pressure Control, Suction Gas Temperature Control, Freeze Protection Thermistor Control, Oil Heater, Discharge Gas Thermistor, Fusible Plug, Fuse for Control Circuit and Pressure Relief Valve, electrical panel with adaptor box for cable termination, main disconnect switch, and microprocessor control panel for self-diagnostic & alarming. The Condenser Copper coil fins should be coated with Anti Corrosive Black Epoxy / gold / Blue coat, including customs and other duties at full rate; all local taxes, levies etc. that are applicable; port clearance, warehouse charges, handling, transportation to site; rigging, installation, testing, commissioning and handing over. Input power to the chiller at full load conditions shall be not less than 1.15 lkw per TR i.e. the Coefficient of Performance (COP) shall be not less than 3.05 Ambient Condition :DB temp.90 deg F and WB temp. 78 Deg F, .																					
708	Acutal Capacity : 200 TR (Each) Air Cooled Screw chillers ( 2 Nos working + 1 Stand by)	Nos	3.00	3.00	0.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Ambiant Condition :DB temp.90 deg F and WB temp. 78 Deg F, .									-	-	-	-	-	-	-	-	-	-	-	-	-
709	Acutal Capacity : 125 TR (Each) Air Cooled Screw chillers ( 2 Nos working + 1 Stand by)	Nos	0.00	0.00	3.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
710	Supply, fixing , Testing and Commissioning of suitable Anti Vibration Mounts , Water Flow Switch and Suitable Flange Connections	Lot	3.00	3.00	3.00	9.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Compressor sound Proff jocket with necessary accessories. The Sound Proff Materials shall be complied with CPWD - 2017 and ECBC - 2017 standards									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 40 : Chilled water plumbing system</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	The pumps shall be centrifugal type direct driven with a 3 phase, 415 + 10%volts, 50 Hz., A.C. motor. The motor for Chilled Water Pumps shall be suitable for as per CPWD - 2017, and ECBC - 2017 standards. The motor shall be screen protected drip proof (SPDP) fan cooled or TEFC type. The efficiency class of motors shall be IE 3 class as per IS 12615. The pumps may be either of horizontal split casing (HSC) type with operating speed not exceeding 1500 rpm, or solid casing, mono block type with operating speed not exceeding 3000 rpm as specified in the tender documents. Efficiency of the pumps at selection should be preferably 70 % or above. The pumps shall be suitable for continuous operation in the system.									-	-	-	-	-	-	-	-	-	-	-	-	-
	The head and discharge requirements shall be as specified in the tender documents. The discharge rating shall not be less than the flow rate requirement of the respective equipments through which the water is pumped. The head shall be suitable for the system and shall take into consideration the pressure drops across the various equipments and components in the water circuit as well as the frictional losses. The pumps offered shall be of high efficiency.									-	-	-	-	-	-	-	-	-	-	-	-	-
	The centrifugal pumps shall conform to IS 1620. The motor for chilled water pumps shall be suitable for use with variable frequency drive. The motor shall be screen protected drip proof (SPDP) fan cooled type. The efficiency class of motor shall be IE 3.									-	-	-	-	-	-	-	-	-	-	-	-	-
	The pump casing shall be of heavy section close grained cast iron. The casing shall be provided with air release cock, drain plug and shaft seal arrangement as well as flanges for suction and delivery pipe connections as required.									-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	The impeller shall be of bronze or gunmetal. This shall be shrouded type with machined collars. Wear rings, where fitted to the impeller, shall be of the same material as the impeller. The impeller surface shall be smooth finished for minimum frictional loss. The impeller shall be secured to the shaft by a key									-	-	-	-	-	-	-	-	-	-	-	-	-
	The shaft shall be of stainless steel and shall be accurately machined. The shaft shall be balanced to avoid vibrations at any speed within the operating range of the pump.									-	-	-	-	-	-	-	-	-	-	-	-	-
	The shaft sleeve shall be of bronze or gunmetal. This shall extend over the full length of the stuffing box or seal housing. The sleeve shall be machined all over and ground on the outside.									-	-	-	-	-	-	-	-	-	-	-	-	-
	The bearings shall be ball or roller type suitable for the duty involved. These shall be grease lubricated and shall be provided with grease nipples/cups. The bearings shall be effectively sealed against leakage of lubricant.									-	-	-	-	-	-	-	-	-	-	-	-	-
	The shaft seal shall be stuffing box type unless otherwise specified, so as to allow minimum leakage compatible with the operation of the seal. The stuffing box shall be of adequate length and shall be packed with graphite asbestos or any other suitable material for the operating temperature. A drip well shall be provided beneath the seal.									-	-	-	-	-	-	-	-	-	-	-	-	-
	In the case of HSC pumps, the same shall be directly coupled to the motor shaft through, a flexible coupling protected by a coupling guard. In case of mono block pumps with solid casing, the motor and pumps shall be on a common shaft.									-	-	-	-	-	-	-	-	-	-	-	-	-
711	Supply,Installation,Testing and Commissioning of chilled water pump (2 working +1 Standby) having a capacity of <b>706 USGPM</b> each With 35 mts. w.g. total head.	Nos	3.00	0.00	0.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
712	Supply,Installation,Testing and Commissioning of chilled water pump <b>650 USGPM</b> (2 working +1 Standby) having a capacity of USGPM each With 35 mts. w.g. total head.	Nos	0.00	3.00	0.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
713	Supply,Installation,Testing and Commissioning of chilled water pump (2 working +1 Standby) having a capacity of <b>419 USGPM</b> each With 25 mts. w.g. total head.	Nos	0.00	0.00	3.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
714	Supply, Installation, Testing and Commissioning of <b>1000 Litres Capacity PVC Tank</b> (Sintex) insulated with 50mm Thick, 24 kg/Cu.M density TF quality EPS thermocole insulation, covered with Aluminium Cladding including all accessories like Overflow, Drain valve, make-up Float valve, Air Vent arrangement etc as per specification.	Nos	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying, Installation,Testing and Commissioning of <b>Air separator</b> For Chiller pipes of MS sheet construction finished with epoxy paint and provided with automatic air vents. The capacity of the air separator must be compatible with the chilled water system capacity. Main chilled water header pipe size and Hot water header pipes are below.									-	-	-	-	-	-	-	-	-	-	-	-	-
715	i) 250 mm dia NB	Nos	1.00	1.00	0.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
716	ii) 200 mm dia NB	Nos	0.00	0.00	1.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 41 : Low side installation work</b>									-	-	-	-	-	-	-	-	-	-	-	-	-



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			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19				
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Supply, Installation, Testing and commissioning of factory built floor mounted chilled water double skin type horizontal/vertical air handling units made of 25mm thick panels consisting of pre plasticized G.I.casing of thickness 0.8mm outside layer and 0.8 mm inside layer with polyurethane foam (PUF) insulation factory injected between them by injection moulding machine, complete with blower section with blower suitable for static pressure as required, minimum 2 bend GSS/PVC eliminators,cooling coil section with aluminium finned copper tubes (tubes thickness not less than 0.5mm) cooling coil of 6 row deep, filter section with 50mm thick metal viscous/ washable synthetic type air prefilters, belt drive package with TEFC drive motor of efficiency class IE3 suitable for 415 + 10% volts, 50Hz, 3 Phase AC supply suitably designed for variable frequency drive applications, drain connections, stainless steel (18G) drain pan with PUF insulation, 150 mm dia. dial type pressure gauges (2 nos.)and industrial type thermometers (2 nos.) at the inlet and outlet of coil, auto purge valve wherever required, necessary vibration isolation arrangement etc. Complete as per specification and of following capacities.																					
717	AHU 31TR COOLING @ 12400 CFM With 50 mm of STP Including Flexible Fire Retadant Canvass Double Height area	Nos	0	1.00	-	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
718	AHU 24 TR COOLING @ 9600CFM ( 16311 CMH) With 60 mm Of STP Including Flexible Fire Retadant Canvass	Nos	1	0.00	-	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
719	AHU 18 TR COOLING @ 7200 CFM ( 12233CMH) With 60 mm Of STP Including Flexible Fire Retadant Canvass	Nos	2	0.00	-	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
720	AHU 16 TR COOLING @ 6400 CFM ( 10873 CMH) With 60 mm Of STP Including Flexible Fire Retadant Canvass	Nos	1	0.00	-	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
721	AHU 15TR COOLING @ 6000 CFM With 65 mm Of STP Including Flexible Fire Retadant Canvass MRI Room	Nos	0	2.00	-	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
722	AHU 13.0TR COOLING @ 5200 CFM ( 8834 CMH )With 50 mm Of STP Including Flexible Fire Retadant Canvass	Nos	0	0.00	1	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
723	AHU 11 TR COOLING @4400 CFM With 60 mm Of STP Including Flexible Fire Retadant Canvass CT Scan room	Nos	0	2.00	-	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
724	AHU 10 TR COOLING @ 4000 CFM ( 6800 CMH ) With 60 mm Of STP Including Flexible Fire Retadant Canvass	Nos	1	0.00	-	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
725	AHU 10TR COOLING @ 4000 CFM ( 6800 CMH )With 110 mm Of STP Including Flexible Fire Retadant Canvass	Nos	1	0.00	1	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
726	AHU 10TR COOLING @ 4000 CFM With 110 mm of STP Including Flexible Fire Retadant Canvass OT hybrid	Nos	0	2.00	-	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
727	AHU 10TR COOLING @ 4000 CFM ( 6800 CMH )With 50 mm Of STP Including Flexible Fire Retadant Canvass	Nos	0	0.00	1	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
728	AHU 9.5 TR COOLING @ 3800 CFM ( 6456 CMH) With 60 mm Of STP Including Flexible Fire Retadant Canvass	Nos	1	0.00	-	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
729	AHU 9TR COOLING @ 4000 CFM With 110 mm of STP Including Flexible Fire Retadant Canvass OTI	Nos	0	6.00	-	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
730	AHU 9.0 TR COOLING @ 3600 CFM ( 6116CMH ) With 60 mm Of STP Including Flexible Fire Retadant Canvass	Nos	1	0.00	-	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
731	AHU 9.0TR COOLING @ 3600 CFM ( 6800 CMH) With 110 mm Of STP Including Flexible Fire Retadant Canvass	Nos	3	0.00	3	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
732	AHU 8.5TR COOLING @ 3400 CFM ( 5776 CMH ) With 50 mm Of STP Including Flexible Fire Retadant Canvass	Nos	0	0.00	5	5.00				-	-	-	-	-	-	-	-	-	-	-	-	-
733	AHU 8.5TR COOLING @ 3400 CFM ( 5776 CMH ) With 110 mm Of STP Including Flexible Fire Retadant Canvass	Nos	1	0.00	-	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
734	AHU 8.0TR COOLING @ 3200 CFM ( 5436 CMH) With 60 mm of STP Including Flexible Fire Retadant Canvass	Nos	4	0.00	-	4.00				-	-	-	-	-	-	-	-	-	-	-	-	-
735	AHU 8TR COOLING @ 3200 CFM With 65 mm Of STP Including Flexible Fire Retadant Canvass Sterile Corridor	Nos	0	1.00	-	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
736	AHU 8TR COOLING @ 3200 CFM With 65 mm Of STP Including Flexible Fire Retadant Canvass 8 beded post operative	Nos	0	1.00	-	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
737	AHU 7.5TR COOLING @ 3000 CFM With 110 mm Of STP Including Flexible Fire Retadant Canvass emergency OT	Nos	0	1.00	-	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
738	AHU 7.0TR COOLING @ 3000 CFM With 110 mm of STP Including Flexible Fire Retadant Canvass Minor OT	Nos	0	1.00	-	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
739	AHU 6.0TR COOLING @ 2400 CFM ( 4078 CMH) With 50 mm of STP Including Flexible Fire Retadant Canvass	Nos	0	0.00	2	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
740	AHU 6.0TR COOLING @ 2400 CFM ( 4077 CMH) With 60 mm of STP Including Flexible Fire Retadant Canvass	Nos	3	0.00	-	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
741	AHU 5.5TR COOLING @ 2200 CFM ( 3738 CMH) With 50 mm of STP Including Flexible Fire Retadant Canvass	Nos	0	0.00	1	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
742	AHU 5TR COOLING @ 2530 CFM With 65 mm Of STP Including Flexible Fire Retadant Canvass ICCU bed	Nos	0	1.00	-	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
743	AHU 5TR COOLING @ 2530 CFM With 65 mm Of STP Including Flexible Fire Retadant Canvass pre operative ward	Nos	0	1.00	-	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
744	AHU 5TR COOLING @ 2530 CFM With 65 mm Of STP Including Flexible Fire Retadant Canvass engiography	Nos	0	1.00	-	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
745	AHU 5TR HEATING @ 2530 CFM With 65 mm Of STP Including Flexible Fire Retadant Canvass engiography	Nos	0.00	1.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
744	AHU 4.5TR COOLING @ 1800 CFM ( 3058 CMH) With 50 mm of STP Including Flexible Fire Retadant Canvass	Nos	0	0.00	1.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
745	AHU 4TR HEATING @ 2530 CFM With 65 mm Of STP Including Flexible Fire Retadant Canvass isolation ward	Nos	0	2.00	0.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
746	AHU 4TR HEATING @ 2530 CFM With 65 mm Of STP Including Flexible Fire Retadant Canvass ICU 10 Beded	Nos	0	1.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
747	AHU 4.0TR COOLING @ 1600 CFM ( 2718 CMH) With 50 mm of STP Including Flexible Fire Retadant Canvass	Nos	0	0.00	1.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply, Installation, Testing and commissioning of factory built Ceiling Suspended chilled water double skin Air handling units made of 25 mm thick panels consisting of pre plasticized G.I. casing of thickness 0.8mm outside layer and 0.8mm inside layer with polyurethane foam (PUF) insulation factory injected between them by injection moulding machine, complete with blower section with blower suitable for static pressure as required, minimum 2 bend GSS/PVC eliminators,cooling coil section with aluminium finned copper tubes (tubes thickness not less than 0.5 mm) cooling coil of 4 row Coil ,10 Micron filter section with 50 mm thick metal viscous/ washable synthetic type air prefilters, 5 Microns Fine Filters, belt drive package with TEFC drive motor of efficiency class IE3 suitable for 415 ± 10% V, 50Hz, 3 Phase AC supply suitably designed for variable frequency drive applications, drain connections, stainless steel (18G) drain pan with PUF insulation, necessary vibration isolation arrangement etc. complete as per specification and of following capacities. The Maximum face velocity across coil is 155MPM , Maximum outlet air velocity is 610 MPM . The Maximum face velocity across filters : - Ordinary filters : 155MPM / Micro-veefilters : 155MPM and the Chilled Water temperature Out Temperature is 12. Deg C , Chilled Water temperature In Temperature is : 7 Deg C .									-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
748	CSU 5.0 TR COOLING @ 2000 CFM With 50 mm STP Including Flexible Fire Retadant Canvass	Nos	4	4.00	0.00	8.00				-	-	-	-	-	-	-	-	-	-	-	-	-
749	CSU 6.0 TR COOLING @ 2400 CFM With 110 mm STP Including Flexible Fire Retadant Canvass	Nos	1	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
750	CSU 7.0 TR COOLING @ 2800 CFM With 110 mm STP Including Flexible Fire Retadant Canvass	Nos	1	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
751	CSU 8.0 TR COOLING @ 3200 CFM With 60 mm STP Including Flexible Fire Retadant Canvass	Nos	1	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
752	CSU 12.0 TR COOLING @ 4800 CFM With 60 mm STP Including Flexible Fire Retadant Canvass	Nos	1	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
753	CSU 13.5 TR COOLING @ 4800 CFM With 60 mm STP Including Flexible Fire Retadant Canvass	Nos	0	0.00	1.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply, installation, testing and commissioning of Chilled water complete with one ball valve with strainer at the inlet, one ball valve and 3-way motorised valve and balancing valve at the outlet, copper tubes and fittings, corded remote control with On/Off, thermostat and fan three speed functions, in- built condensate drain pump and mounting arrangement complete as per specifications. Capacities of the FCUs: ( Chilled Water temperature Out Temperature is 12 Deg C , Chilled Water temperature In Temperature is : 7 Deg C.									-	-	-	-	-	-	-	-	-	-	-	-	-
754	FCU 1.0TR COOLING @ 400CFM Including Flexible Fire Retadant Canvass	Nos	6	2.00	5.00	13.00				-	-	-	-	-	-	-	-	-	-	-	-	-
755	FCU 1.5TR COOLING @ 600CFM Including Flexible Fire Retadant Canvass	Nos	57	108.00	20.00	185.00				-	-	-	-	-	-	-	-	-	-	-	-	-
756	FCU 2.0TR COOLING @ 800CFM Including Flexible Fire Retadant Canvass	Nos	65.00	32.00	42.00	139.00				-	-	-	-	-	-	-	-	-	-	-	-	-
757	FCU 2.5TR COOLING @ 1000CFM Including Flexible Fire Retadant Canvass	Nos	13	0.00	8.00	21.00				-	-	-	-	-	-	-	-	-	-	-	-	-
758	FCU 3.0TR COOLING @ 1200CFM Including Flexible Fire Retadant Canvass	Nos	8	8.00	6.00	22.00				-	-	-	-	-	-	-	-	-	-	-	-	-
759	FCU 3.5TR COOLING @ 1400CFM Including Flexible Fire Retadant Canvass	Nos	4	1.00	5.00	10.00				-	-	-	-	-	-	-	-	-	-	-	-	-
760	FCU 4.0TR COOLING @ 1600CFM Including Flexible Fire Retadant Canvass	Nos	3	3.00	2.00	8.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply, installation, testing and commissioning of Dx system Hi wall Split air conditioning 3 STAR rated suitable for operation on 230V ±10% single phase 50Hz with Rotary compressor,Refrigerant capable to perform Cooling & Heating.with remote controll									-	-	-	-	-	-	-	-	-	-	-	-	-
761	Dx 1.0 TR	Nos	11	3.00	6.00	20.00				-	-	-	-	-	-	-	-	-	-	-	-	-
762	Dx 1.5 TR	Nos	22	16.00	10.00	48.00				-	-	-	-	-	-	-	-	-	-	-	-	-
763	Dx 2.0 TR	Nos	6	10.00	8.00	24.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Supply, installation, testing and commissioning of Direct drive Long Casing Tube Axial fans for Lift lobby and Lift Well fresh air pressurization complete with Pre Galvanised Steel (minimum 275 GSM Zinc coated) /MS Powder Coated Casing with spun flanges (welding of flanges is not permitted to avoid corrosion and pitting of casing), adjustable pitch die cast aluminium impeller (Hub and Aerofoil blades) and IE3,VFD Compatible motors. Casing position shall be as per the job requirement and shall be marked on the fan assembly.The complete fan assembly with its casing, impeller and motor ( not only motor or one of the item ) shall be sourced from one manufacturer.Axial fan should be licensed to bear AMCA seal for air performance and sound performance or must be demonstrated in AMCA accredited laboratory as per AMCA publication. Fire Rated Fans The complete assembly must have certificate of consistency of performance by BSI and must bear CE marking & Manufacturing Factory should be LEED certified Platinum Rated Green Building. (Note: Fan Diameter should not exceed 1250 & speed should not exceed 960 RPM ) Scope: Price include fan with IE3 motor, 1no Birdscreen, 1 nos Mounting set ,Vibrartion isolator.									-	-	-	-	-	-	-	-	-	-	-	-	-
764	Tube Axial Fan -34800 CFM @ 35 mm STP	Nos	1	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
765	Tube Axial Fan -17000 CFM @ 35 mm STP	Nos	0	0.00	1.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
766	Tube Axial Fan -13200 CFM @ 35 mm STP	Nos	0	0.00	1.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
767	Tube Axial Fan -11850 CFM @ 35 mm STP	Nos	0	0.00	1.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
768	Tube Axial Fan -10400 CFM @ 35 mm STP	Nos	2.00	8.00	0.00	10.00				-	-	-	-	-	-	-	-	-	-	-	-	-
769	Tube Axial Fan -7700 CFM @ 35 mm STP	Nos	2	0.00	0.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
770	Tube Axial Fan -7350 CFM @ 35 mm STP	Nos	1	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
771	Tube Axial Fan -7250 CFM @ 35 mm STP	Nos	1	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
772	Tube Axial Fan -6600 CFM @ 35 mm STP	Nos	3	8.00	0.00	11.00				-	-	-	-	-	-	-	-	-	-	-	-	-
773	Tube Axial Fan -5900 CFM @ 35 mm STP	Nos	0	0.00	2.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
774	Tube Axial Fan -5800 CFM @ 35 mm STP	Nos	0	0.00	1.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
775	Tube Axial Fan -5500 CFM @ 35 mm STP	Nos	0.00	0.00	1.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply , installation , testing & commissioing of Cicular / cabinet type inline Toilet Exhaust fans. Casing position shall be as per the job requirement and shall be marked on the fan assembly. The fan assembly along with motors for Isolations									-	-	-	-	-	-	-	-	-	-	-	-	-
776	Inline Exhaust Fan - 100 CFM @ 15 mm STP	Nos	1	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
777	Inline Exhaust Fan -150 CFM @ 15 mm STP	Nos	6	0.00	2.00	8.00				-	-	-	-	-	-	-	-	-	-	-	-	-
778	Inline Exhaust Fan - 200 CFM @ 15 mm STP	Nos	2	0.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
779	Inline Exhaust Fan - 250 CFM @ 20 mm STP	Nos	7	0.00	2.00	9.00				-	-	-	-	-	-	-	-	-	-	-	-	-
780	Inline Exhaust Fan - 300 CFM @ 15 mm STP	Nos	6	0.00	2.00	8.00				-	-	-	-	-	-	-	-	-	-	-	-	-
781	Inline Exhaust Fan - 400 CFM @ 15 mm STP	Nos	3	0.00	0.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
782	Inline Exhaust Fan - 450 CFM @ 15 mm STP	Nos	1	0.00	10.00	11.00				-	-	-	-	-	-	-	-	-	-	-	-	-
783	Inline Exhaust Fan - 650 CFM @ 15 mm STP	Nos	2	0.00	0.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
784	Inline Exhaust Fan - 700 CFM @ 15 mm STP	Nos	5	0.00	8.00	13.00				-	-	-	-	-	-	-	-	-	-	-	-	-
785	Inline Exhaust Fan - 750 CFM @ 15 mm STP	Nos	2	1.00	0.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
786	Inline Exhaust Fan - 1050 CFM @ 15 mm STP	Nos	0	10.00	0.00	10.00				-	-	-	-	-	-	-	-	-	-	-	-	-
787	Inline Exhaust Fan - 1200 CFM @ 15 mm STP	Nos	0	4.00	0.00	4.00				-	-	-	-	-	-	-	-	-	-	-	-	-
788	Inline Exhaust Fan - 1600 CFM @ 35 mm STP	Nos	0	5.00	0.00	5.00				-	-	-	-	-	-	-	-	-	-	-	-	-
789	Cabinet Inline Exhaust Fan - 1000 CFM @ 35 mm STP	Nos	0	0.00	2.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
790	Cabinet Inline Exhaust Fan - 1100 CFM @ 35 mm STP	Nos	4	0.00	0.00	4.00				-	-	-	-	-	-	-	-	-	-	-	-	-
791	Cabinet Inline Exhaust Fan - 1600 CFM @ 35 mm STP	Nos	1	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
792	Cabinet Inline Exhaust Fan - 4500 CFM @ 35 mm STP	Nos	1	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
793	Cabinet Inline Exhaust Fan - 7650 CFM @ 35 mm STP	Nos	1.00	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-
	Supply , installation , testing & commissioning of cabinet type inline Smoke Exhaust fans. Casing position shall be as per the job requirement and shall be marked on the fan assembly. The fan assembly along with motors for Isolations									-	-	-	-	-	-	-	-	-	-	-	-
794	Cabinet Inline Exhaust Fan - 300 CFM @ 20 mm STP	Nos	0	0.00	1.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-
795	Cabinet Inline Exhaust Fan - 450 CFM @ 20 mm STP	Nos	1	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-
796	Cabinet Inline Exhaust Fan - 600 CFM @ 20 mm STP	Nos	0	0.00	2.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-
797	Cabinet Inline Exhaust Fan - 850 CFM @ 20 mm STP	Nos	1	0.00	1.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-
798	Cabinet Inline Exhaust Fan - 1000 CFM @ 20 mm STP	Nos	0	16.00	0.00	16.00				-	-	-	-	-	-	-	-	-	-	-	-
799	Cabinet Inline Exhaust Fan - 1200 CFM @ 20 mm STP	Nos	1	0.00	1.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-
800	Cabinet Inline Exhaust Fan - 1300 CFM @ 20 mm STP	Nos	1	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-
801	Cabinet Inline Exhaust Fan - 1400 CFM @ 20 mm STP	Nos	1	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-
802	Cabinet Inline Exhaust Fan - 1500 CFM @ 20 mm STP	Nos	1	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-
803	Cabinet Inline Exhaust Fan - 1750 CFM @ 20 mm STP	Nos	0	8.00	0.00	8.00				-	-	-	-	-	-	-	-	-	-	-	-
	Supply , installation , testing & commissioning of cabinet type inline Fersh air fans. Casing position shall be as per the job requirement and shall be marked on the fan assembly. The fan assembly along with motors for Isolations									-	-	-	-	-	-	-	-	-	-	-	-
804	Cabinet Inline Exhaust Fan - 300 CFM @ 20 mm STP	Nos	0	0.00	1.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-
805	Cabinet Inline Exhaust Fan - 450 CFM @ 20 mm STP	Nos	1	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-
806	Cabinet Inline Exhaust Fan - 600 CFM @ 20 mm STP	Nos	0	0.00	2.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-
807	Cabinet Inline Exhaust Fan - 850 CFM @ 20 mm STP	Nos	1.00	0.00	1.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-
808	Cabinet Inline Exhaust Fan - 1000 CFM @ 20 mm STP	Nos	0	16.00	0.00	16.00				-	-	-	-	-	-	-	-	-	-	-	-
809	Cabinet Inline Exhaust Fan - 1200 CFM @ 20 mm STP	Nos	1	0.00	1.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-
810	Cabinet Inline Exhaust Fan - 1300 CFM @ 20 mm STP	Nos	1	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-
811	Cabinet Inline Exhaust Fan - 1400 CFM @ 20 mm STP	Nos	1	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-
812	Cabinet Inline Exhaust Fan - 1500 CFM @ 20 mm STP	Nos	1	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-
813	Cabinet Inline Exhaust Fan - 1750 CFM @ 20 mm STP	Nos	0	8.00	0.00	8.00				-	-	-	-	-	-	-	-	-	-	-	-
	S/I/T/C of CEILING MOUNTED JET VENT FAN (Centrifugal Jet Fans)									-	-	-	-	-	-	-	-	-	-	-	-
	Supply, installing, testing and commissioning of Ductless Ventilation / Centrifugal High Thrust Jet fans as per attached specifications for normal ventilation & smoke exhaust . Each fan shall be complete with dual speed motor and die cast aluminium aerofoil radial impeller. Casing shall be made of Hot dipped Galvanized steel. The Motor shall be run on the electrical power suitable for 415V/3Ph/ 50Hz.									-	-	-	-	-	-	-	-	-	-	-	-
	Supply, installing, testing and commissioning of Ductless Ventilation / Jet fans as per Specifications for Normal Ventilation and Smoke Exhaust. . The complete fan assembly with its casing, impeller and motor ( not only motor or one of the item ) shall be sourced from one manufacturer and tested as per EN12101-3:-2015 250 degree for 2 Hrs operation.Profiles of impeller blade should be of aerodynamic radial type to have maximum thrust (85N at High speed ),high efficiency and low noise levels and must be statically and dynamically balanced as per ISO 1940 grade 6.3. Manufacturing Factory should be LEED certified Platinum Rated Green Building.Each Jet Fan assembly shall connect to a composite PLC Panel controlled by CO Sensors / Fire Alarm System for Smoke Extraction.Model IV 85-4/8(B) (2.4/0.48kW),Outlet should be variable type ( integrated deflectors should be at outlet). Electrical Isolater switch to be included for safety ( contractor need to consider on the same )									-	-	-	-	-	-	-	-	-	-	-	-



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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
814	Baement floor-1	Nos	4	12.00	0.00	16.00				-	-	-	-	-	-	-	-	-	-	-	-
	S/I/T/C of TUBE AXIAL FAN WITH IE3 MOTOR(Basement Exhaust)									-	-	-	-	-	-	-	-	-	-	-	-
	Supply, installation, testing and commissioning of Direct drive Long Casing Tube Axial fans complete with Pre Galvanised(minimum 275 GSM Zinc coated)/MS Powder coated Casing with spun flanges (welding of flanges is not permitted to avoid corrosion and pitting of casing), adjustable pitch die cast aluminium impeller (Hub and Aerofoil blades) and IE3 VFD Compatible motors.Long Casing position shall be as per the job requirement and shall be marked on the fan assembly.The complete fan assembly with its casing, impeller and motor ( not only motor or one of the item ) shall be sourced from one manufacturer and certified and tested as per EN12101-3- 2015 250 degree for 2 Hrs operation.Axial fan should be licensed to bear AMCA seal for air performance and sound performance and must be demonstrated in AMCA accredited laboratory as per AMCA publication. The complete assembly must have certificate of consistency of performance by BSI and must bear CE marking & Greenpro & Manufacturing Factory should be LEED certified Platinum Rated Green Building, Note (Note: Fan Diameter should not exceed 1120 & speed should not exceed 960 RPM )									-	-	-	-	-	-	-	-	-	-	-	-
	All Exhaust axial fans should have Mounting legs, Bird screen at Inlet & BDD at outlet									-	-	-	-	-	-	-	-	-	-	-	-
815	Baement floor - (Normal Mode + Emergency Mode Exhaust )-Capacity: 36200 cfm @ 30mm Wg Static Pressure Fan should be : 1250 dia /12 Blade / 15 kw / 975 RPM	Nos	2	4.00	0.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-
816	Circular Silencer suitable for 1250 Dia Tube axial fan ( minimum 1000mm Long without POD Type)	Nos	2	4.00	0.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-
	S/I/T/C OF CO SENSORS																				
817	Supply, installation, testing and commissioning of CO Sensors with display (0 - 250 PPM detection Range with CE Marking )	Nos	4.00	12.00	0.00	16.00				-	-	-	-	-	-	-	-	-	-	-	-
	CFD Analysis																				
818	The specific aim of the CFD is to find the optimal locations, number & configuration of the Jet fans required for the ventilation of the car parking lot, for the given positions of inlets and exhaust, and given configuration of the exhaust & fresh air fans, such that it meets requirements of CO exposure limit set by health and safety regulations(FOR B1,B2 & B3) CFD to be carried out by Licensed Software ( Ansys Preferable ), CO Velocity Simulation need to be submitted with Video Report	Nos	1.00	1.00	0.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-
	CONTROL PANELS									-	-	-	-	-	-	-	-	-	-	-	-
819	Supply of Electrical cum PLC Panel for Lower Basement with MCB feeders with starters for s dual speed 3 phase Jet Fan fans of 2.4/0.48 kW each,MCCB feeders with starters for Exhaust fans single speed & Fresh Air Fan of . controlled by CO Sensors, with suitable incomer MCCB, metering panel, aluminium bus bar , PLC logic controller with necessary internal control wiring etc	Nos	1	1.00	0.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-
	BASEMENT PANELS									-	-	-	-	-	-	-	-	-	-	-	-
	Design,manufacture, supply and fixing , Testing & Commissioning of indoor type Floor mounting MCC Panel with IP 55 rating including PLC consisting of following.	Lot								-	-	-	-	-	-	-	-	-	-	-	-
820	Supply and fixing of Suitable Electrical Cable with end Termination (Main Axial 25Rmt per Fan and Jet fan 25Rmt per Fan Considered)	Lot	1	1.00	0.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-
821	Supply and Fixing of Suitable Electrical Cable Tray (200mmWx50mmH- Ladder tray without cover 75Rmt Considered)	Lot	1	1.00	0.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
822	Supply and Fixing of Suitable Erathing	Lot	1	1.00	0.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
823	MS Structural for Jetfan and Axial fan Installation	Lot	1	1.00	0.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
824	Supply and Installation of 20 G GI Ducting	Sqmnt	50	75.00	0.00	125.00				-	-	-	-	-	-	-	-	-	-	-	-	-
825	Supply, installation, testing and commissioning of Strip heater, Pan Humidifier with Siemens controller (digital) for controlling and maintaining the RH of 45% TO 50% and its include of drain tray, all necessary accessories with one number of stand by heater.																					
825A	Strip heater-3 kW	Nos	1.00	0.00	1.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
825B	Strip heater-6kW	Nos	2.00	2.00	2.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
825C	Strip heater-7 kW	Nos	0.00	1.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
825D	Strip heater-8 kW	Nos	2.00	0.00	0.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
825E	Strip heater-8.5 kW	Nos	0.00	0.00	2.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
825F	Strip heater-18.5 kW	Nos	0.00	1.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
825G	Pan Humidifier 25 LITRES	Nos	5.00	4.00	5.00	14.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>INSULATED CHILLED WATER PIPING (Nitrile rubber insulation)</b> 16.2 Supplying, laying/ fixing, testing and commissioning of following nominal sizes of chilled water piping inside the building (with necessary clamps, vibration isolators and fittings but excluding valves, strainers, gauges etc.) duly insulated with following closed cell elastometric nitrile rubber of minimum 45 Kg / cu m density, thermal conductivity 0.037 W/MK or better at 20 deg mean temperature class 'O' insulation applied by suitable adhesive complete including repairing of damage to building etc. as per specifications and as required complete in all respect. Note: The Pipes of sizes 150mm & below shall be M.S. 'C' class as per IS : 1239 and pipes size above 150mm shall be welded black steel pipe heavy class as per IS: 3589, from minimum 6.35mm thick M.S. Sheet for pipes upto 350 mm dia. and from thick MS sheet for pipes of 400 mm dia and above. minimum 7mm thick MS sheet for pipes of 400 mm dia and above.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Chilled water pipes									-	-	-	-	-	-	-	-	-	-	-	-	-
826	250mm dia.(32 mm thick insulation)	Rmt	62	19.00	0.00	81.00				-	-	-	-	-	-	-	-	-	-	-	-	-
827	200mm dia.(32 mm thick insulation)	Rmt	234	238.45	108.00	580.45				-	-	-	-	-	-	-	-	-	-	-	-	-
828	150mm dia. (32 mm thick insulation)	Rmt	146.00	88.35	41.00	275.35				-	-	-	-	-	-	-	-	-	-	-	-	-
829	125mm dia.(32 mm thick insulation)	Rmt	75	72.00	115.00	262.00				-	-	-	-	-	-	-	-	-	-	-	-	-
830	100mm dia. (32 mm thick insulation)	Rmt	365	171.00	103.00	639.00				-	-	-	-	-	-	-	-	-	-	-	-	-
831	80mm dia.(32 mm thick insulation)	Rmt	421.00	346.00	382.00	1149.00				-	-	-	-	-	-	-	-	-	-	-	-	-
832	65mm dia(32 mm thick insulation)	Rmt	518.00	445.00	302.00	1265.00				-	-	-	-	-	-	-	-	-	-	-	-	-
833	50mm dia(32 mm thick insulation)	Rmt	880.00	348.65	576.00	1804.65				-	-	-	-	-	-	-	-	-	-	-	-	-
834	40mm dia. (32 mm thick insulation)	Rmt	415	535.00	94.00	1044.00				-	-	-	-	-	-	-	-	-	-	-	-	-
835	32 mm dia(19 mm thick insulation)	Rmt	987	510.00	417.00	1914.00				-	-	-	-	-	-	-	-	-	-	-	-	-
836	25 mm dia(19 mm thick insulation)	Rmt	1450	1712.00	662.00	3824.00				-	-	-	-	-	-	-	-	-	-	-	-	-
837	20mm dia	Rmt	76	80.00	43.00	199.00				-	-	-	-	-	-	-	-	-	-	-	-	-
838	Supplying, laying/ fixing, of following nominal sizes of chilled water piping inside and Exposed of the building duly insulated with Class O Nitrile Rubber with 45 +/- 5 kg/Cu.M density insulation of Pre formed pipe section Covered with aluminium cladding for all pipes, fittings, valves, unions, etc. Insulation Thickness									-	-	-	-	-	-	-	-	-	-	-	-	-
838	20mm dia X 56 mm Thick	Rmt	76	81.00	43.00	200.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Control Valves For Chiller pipes																					

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Supplying, fixing, testing and commissioning of following valves, strainers, gauges in the chilled water plumbing duly insulated to the same specifications as the connected piping and adequately supported as per specifications.									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>3-WAY CONTROL VALVE</b> Supply, installation, testing & commissioning of 3-Way modulating type control Valve, with Brass body, Stainless Steel ball with special structure,800 kPa working pressure, 90 Deg C maximum operating temperature;Single piece;Threaded connections; Valves shall be inclusive of actuator and Room thermostat with three speed operation as per specification. The given price including of necessary pipe connections.									-	-	-	-	-	-	-	-	-	-	-	-	
839	80mm dia	Nos	1	3.00	0.00	4.00				-	-	-	-	-	-	-	-	-	-	-	-	
840	65mm dia	Nos	2	2.00	2.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	
841	50mm dia	Nos	8	12.00	11.00	31.00				-	-	-	-	-	-	-	-	-	-	-	-	
842	40mm dia	Nos	4	13.00	4.00	21.00				-	-	-	-	-	-	-	-	-	-	-	-	
843	32mm dia	Nos	0	0.00	2.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	
	<b>BUTTERFLY VALVE (MANUAL)</b> with C I body SS Disc, Nitrile Rubber Seal & O- Ring PN 16 pressure rating for chilled water/hot eater circulation as specified									-	-	-	-	-	-	-	-	-	-	-	-	
844	250mm dia	Nos	2	0.00	0.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	
845	200mm dia	Nos	4	0.00	2.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	
846	150mm dia	Nos	9	12.00	2.00	23.00				-	-	-	-	-	-	-	-	-	-	-	-	
847	125mm dia	Nos	7.00	3.00	3.00	13.00				-	-	-	-	-	-	-	-	-	-	-	-	
848	100mm dia	Nos	32	30.00	17.00	79.00				-	-	-	-	-	-	-	-	-	-	-	-	
849	80mm dia	Nos	14	30.00	7.00	51.00				-	-	-	-	-	-	-	-	-	-	-	-	
850	65mm dia	Nos	20	24.00	7.00	51.00				-	-	-	-	-	-	-	-	-	-	-	-	
851	50mm dia	Nos	57	54.00	29.00	140.00				-	-	-	-	-	-	-	-	-	-	-	-	
852	40mm dia	Nos	28	54.00	6.00	88.00				-	-	-	-	-	-	-	-	-	-	-	-	
853	32mm dia	Nos	0	0.00	4.00	4.00				-	-	-	-	-	-	-	-	-	-	-	-	
	<b>Y - STRAINER</b> of Ductile CI Body flanged ends with stainless steel strainer for chilled / hot water circulation including insulation as specified									-	-	-	-	-	-	-	-	-	-	-	-	
854	150mm dia	Nos	6	3.00	0.00	9.00				-	-	-	-	-	-	-	-	-	-	-	-	
855	125mm dia	Nos	0.00	3.00	0.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	
856	100mm dia	Nos	0	0	6.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	
857	80mm dia	Nos	1	3	0.00	4.00				-	-	-	-	-	-	-	-	-	-	-	-	
858	65mm dia	Nos	2	2	2.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	
859	50mm dia	Nos	9	12	11.00	32.00				-	-	-	-	-	-	-	-	-	-	-	-	
860	40mm dia	Nos	4	13	4.00	21.00				-	-	-	-	-	-	-	-	-	-	-	-	
861	32mm dia	Nos	0	0	2.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	
	<b>BALANCING VALVE WITH BUILT IN MEASURING FACILITY</b> with C I body flanged construction with EPDM coated disc with long pitch with protected out pipe insulation & PN 16 pressure rating for chilled / hot water circulation as specified.									-	-	-	-	-	-	-	-	-	-	-	-	
862	150mm dia	Nos	3	3	0	6.00				-	-	-	-	-	-	-	-	-	-	-	-	
863	125mm dia	Nos	1	0	1	2.00				-	-	-	-	-	-	-	-	-	-	-	-	
864	100mm dia	Nos	8.00	9.00	5.00	22.00				-	-	-	-	-	-	-	-	-	-	-	-	
865	80mm dia	Nos	3.00	7.00	2.00	12.00				-	-	-	-	-	-	-	-	-	-	-	-	
866	65mm dia	Nos	4.00	5.00	3.00	12.00				-	-	-	-	-	-	-	-	-	-	-	-	
867	50mm dia	Nos	9.00	20.00	12.00	41.00				-	-	-	-	-	-	-	-	-	-	-	-	
868	40mm dia	Nos	5.00	24.00	4.00	33.00				-	-	-	-	-	-	-	-	-	-	-	-	

SL. no	Description of Item	Unit	Quantity				Rate			Amount											
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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
869	32mm dia	Nos	0.00	0.00	3.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-
	<b>NON - RETURN VALVE</b> with dual plate of CI body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating for chilled / hot water circulation including insulation as specified.									-	-	-	-	-	-	-	-	-	-	-	-
870	i) 125mm dia	Nos	3.00	0.00	0.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-
871	ii) 100mm dia	Nos	0.00	5.00	0.00	5.00				-	-	-	-	-	-	-	-	-	-	-	-
872	iii) 80mm dia	Nos	0.00	3.00	3.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-
	Supply, Installation, Testing and commissioning of Brass <b>Ball valves</b> in the chilled water pipe lines, including necessary fittings like flanges, reducers, tees and fasteners, and insulating the valves, after pressure testing as per the CPWD specifications for the chilled water piping. The ball valve shall be of Brass or Gunmetal as specified conforming to IS 1703 (Fig. 18.1). The ball valve shall be of following two classes:— (a) High Pressure: High pressure float valves are indicated by the abbreviation 'HP' and are designed for use on mains having pressure of 0.175 MPa or above. (b) Low Pressure: Low Pressure float valves are indicated by the abbreviation 'LP' and are designed for use on mains having a pressure up to. 0.175 MPa. The ball valves shall be of following nominal sizes 15 mm, 20 mm, 25 mm, 32 mm, 40 mm and 50 mm. The nominal size shall correspond with the nominal bore of the inlet shanks. Polyethylene floats shall conform to IS 9762. Ball Cock (Fig. 18.1): A faucet opened or closed by the fall or rise of a ball floating on the surface of water. ( For Chilled Water and HOT Water )									-	-	-	-	-	-	-	-	-	-	-	-
873	i) 1/2 "	Nos	125.00	82.00	148.00	355.00				-	-	-	-	-	-	-	-	-	-	-	-
874	ii) 1 "	Nos	35.00	50.00	30.00	115.00				-	-	-	-	-	-	-	-	-	-	-	-
	Supply, Installation, Testing and commissioning of Brass <b>Auto Air Vent</b> and Drain out.A valve that releases air from a pipe line automatically without loss of water, or introduces air into a pipe line automatically if the internal pressure becomes less than that of the atmosphere. the Maximum Operating Pressure 10 Bar , and Maximum Working Temperature 120 Deg C ( For Chilled Water and HOT Water )									-	-	-	-	-	-	-	-	-	-	-	-
875	i) 25mm AAV	Nos	40.00	50.00	30.00	120.00				-	-	-	-	-	-	-	-	-	-	-	-
876	i) 25mm Drain out	Nos	25.00	32.00	25.00	82.00				-	-	-	-	-	-	-	-	-	-	-	-
877	Providing and fixing in position the industrial type <b>pressure gauges</b> with gun metal / brass valves complete as required	Nos	44	178.00	42.00	264.00				-	-	-	-	-	-	-	-	-	-	-	-
878	Providing & fixing in position the mercury in glass industrial type <b>Thermometers</b> AISI - 316.	Nos	38	178.00	40.00	256.00				-	-	-	-	-	-	-	-	-	-	-	-
879	Supply, installation Testing and Commissioning of <b>Flow Switch</b> For Chiller & Hot water pipe line as specified.	Nos	3	5.00	3.00	11.00				-	-	-	-	-	-	-	-	-	-	-	-
	Supply & installation of Flexible connections <b>Rubber Bellows</b> The Flexible connections shall be provided at the pumps, and other machine where requires as per following specifications a) The Flexible connections shall be flanged type expansion joint. Flanges shall be non-compressible and mechanically strong type and the Neoprene rubber shall be provided in between the flange ends. b) The connections shall work for a temperature range of minus 10°C to 70°C. c) The length and working pressure of bellows Should be followed as per CPWD Specification CHAPTER - 10. 4. ( For Chilled Water )									-	-	-	-	-	-	-	-	-	-	-	-
880	Ø 80mm	Nos	0	0.00	3.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-
881	Ø 100mm	Nos	0.00	3.00	3.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-
882	Ø 125mm	Nos	3.00	3.00	0.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-
883	Ø 150mm	Nos	9	6.00	0.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-
	Duct & Insulation Works									-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Supply, installation, balancing and commissioning of factory fabricated GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required.																					
884	24 Gauge Thickness 0.63 mm sheet	Sq.mtr	1940	1785.00	1,071.00	4796.00																
885	22 Gauge Thickness 0.80 mm sheet	Sq.mtr	1311	1245.00	568.00	3124.00																
886	20 Gauge Thickness 1.00 mm sheet	Sq.mtr	356.00	315.00	134.00	805.00																
887	21 Gauge Thickness 1.00 mm sheet	Sq.mtr	0	45.00	0.00	45.00																
	Supply, installation, testing & commissioning of Supply, installation, balancing and commissioning of factory fabricated IS: 737 Aluminium sheet metal rectangular ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required. Smoke test to be done to assure lock forming . Thesteel sheets shall be hot dip galvanized with MAT finish with coating of minimum 120 grams per square meter (GSM) of Aluminium , The sheets shallbe lead free, eco friendly and RoHS compliant. The thickness of sheets for fabrication of rectangular ductwork shall beas under the CPWD Specification. The thickness required corresponding to the longest side ofthe rectangular section shall be applicable for all the four sides of the duct work. The Duct supports and Joints flanges should be followed ad per CPWD Specification.																					
888	22 Gauge	Sq.mtr	415	438.00	349.00	1202.00																
889	20 Gauge	Sq.mtr	272	295.00	266.00	833.00																
890	18 Gauge	Sq.mtr	33	0.00	34.00	67.00																
891	Supply and fixing of Thermal Insulation with Class "O" With Anti Microban closed cell, elastomeric, nitrile rubber, dust free, fiber free, and CFC free insulation 19 mm Thick	Sq.mt	2780	2895.00	1830.00	7505.00																
892	Supply and instalation of Acoustic insulation With Class - " 1" of ducts with open cell with Anti Microban , elastomeric, nitrile rubber, dust free, fiber free, and CFC free insulation 15 mm thick	Sq.mt	794	830.00	334.00	1958.00																
893	Supply, installation, testing and commissioning of GI volume control duct damper complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as per specifications	Sq.mt	1.5	3.76	1.90	7.16																
894	Supply, installation, testing and commissioning of Motorized (ON-OFF Type) duct mounted GI volume control damper with enthalpy sensor and necessary control wire (minimum 1.5 sqmm) for integration within AHU room.	Sq.mt	1.7	1.03	1.10	3.83																
895	GI volume control damper Actuator	Nos	17	18.00	11.00	46.00																
896	supply and erection of UL-555 Standeds with CBRI certified Fusible link fire dampers of atleast 120 minutes fire rating. Constructed with 16G GI outercasing and multiblades type out of 16 G -GI -3v grooved blades with bras bush and spindles on both the ends of the fire dampers. FOR fusible link fire dampersUL Stamped fusible linkshall be fitted with proper spring mechanism .For motorized fire dampers actuators shall be factory fitted and shall furnish test certificates for satisfafactory operation of each dampers actuators with be spring return model along with control panels. the actuator torque shall be suitable for the fire damper size.	Sq.mt	1.6	8.50	2.20	12.30																
	Supply & Installation of Stainless steel matt SS304 grade Ceiling Suspended type Laminar Air Flow Unit with Suitable HEPA Filters(0.3 micron)																					
897	1.Size - 8'x8'	Nos	4	4.00	4.00	12.00																
898	2.Size - 8'x6'	Nos	2	2.00	1.00	5.00																
	Air Terminal :																					
899	Supplying, fixing testing commissioning of supply air diffusers of powder coated aluminium with aluminium volume control dampers with anti smudge ring & removable core.	Sq.mt	2.23	2.15	6.00	10.38																



SL. no	Description of Item	Unit	Quantity				Rate			Amount												
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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
900	Supplying, fixing testing commissioning of Return air diffusers of powder coated aluminium without volume control dampers with anti smudge ring & removable core.	Sq.mt	2.23	2.15	1.20	5.58				-	-	-	-	-	-	-	-	-	-	-	-	-
901	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers as per specifications	Sq.mt	15.70	65.00	9.50	90.20				-	-	-	-	-	-	-	-	-	-	-	-	-
902	Supplying & fixing of powder coated extruded aluminium Return Air Grills with louvers but without volume control dampers complete as required.	Sq.mt	116.00	135.50	61.00	312.50				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying & fixing of powder coated extruded aluminium <b>Fresh Air Invisible grille</b> as per specifications/ Sizes as per Tender Drawings.																					
903	i) 500mm Height	Sq.mt	0.30	0.00	0.00	0.30				-	-	-	-	-	-	-	-	-	-	-	-	-
904	ii) 450mm Height	Sq.mt	0.50	0.28	0.00	0.78				-	-	-	-	-	-	-	-	-	-	-	-	-
905	iii) 400mm Height	Sq.mt	0.00	0.28	0.50	0.78				-	-	-	-	-	-	-	-	-	-	-	-	-
906	iv) 350mm Height	Sq.mt	0.00	0.09	0.00	0.09				-	-	-	-	-	-	-	-	-	-	-	-	-
907	v) 300mm Height	Sq.mt	0.75	0.65	0.30	1.70				-	-	-	-	-	-	-	-	-	-	-	-	-
908	vi) 250mm Height	Sq.mt	1.00	0.80	0.80	2.60				-	-	-	-	-	-	-	-	-	-	-	-	-
909	vii) 200mm Height	Sq.mt	3.00	0.45	0.60	4.05				-	-	-	-	-	-	-	-	-	-	-	-	-
910	viii) 150mm Height	Sq.mt	11.00	0.12	0.00	11.12				-	-	-	-	-	-	-	-	-	-	-	-	-
911	ix) 100mm Height	Sq.mt	0.00	0.09	0.00	0.09				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying & fixing of powder coated extruded aluminium <b>Fresh Air grille with collar damper</b> as per specifications/ Sizes as per Tender Drawings.																					
912	i) 150mm Height	Sq.mt	1.5	1.85	1.00	4.35				-	-	-	-	-	-	-	-	-	-	-	-	-
913	ii) 200mm Height	Sq.mt	0	0.35	0.00	0.35				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying & fixing of powder coated extruded aluminium <b>Exhaust Air Invisible grille with collar damper</b> as per specifications/ Sizes as per Tender Drawings.																					
914	i) 100mm Height	Sq.mt	0.1	0.09	0.00	0.19				-	-	-	-	-	-	-	-	-	-	-	-	-
915	ii) 150mm Height	Sq.mt	0.3	0.25	0.10	0.65				-	-	-	-	-	-	-	-	-	-	-	-	-
916	iii) 200mm Height	Sq.mt	0.8	0.10	0.50	1.40				-	-	-	-	-	-	-	-	-	-	-	-	-
917	iv) 250mm Height	Sq.mt	1.6	1.45	1.60	4.65				-	-	-	-	-	-	-	-	-	-	-	-	-
918	v) 300mm Height	Sq.mt	0.7	0.85	0.00	1.55				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying & fixing of powder coated extruded aluminium <b>Toilet Exhaust Air Circular Grille</b> with flange type as per specifications/ Sizes as per Tender Drawings.																					
919	150mm dia	Nos	294	110.00	124.00	528.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying & fixing of powder coated extruded aluminium <b>Exhaust Air grille with collar damper</b> as per specifications/ Sizes as per Tender Drawings.																					
920	150mm height	Sq.mt	1.8	1.50	1.10	4.40				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying & fixing of powder coated extruded aluminium <b>Pressurization Air Grille</b> with flange type powder coated aluminium as per specifications/ Sizes as per Tender Drawings.																					
921	i) 600mm height	Sq.mt	0.00	0.00	2.10	2.10				-	-	-	-	-	-	-	-	-	-	-	-	-
922	ii) 500mm height	Sq.mt	6	3.00	0.00	9.00				-	-	-	-	-	-	-	-	-	-	-	-	-
923	iii) 400mm Height	Sq.mt	4	2.00	0.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
924	iv) 350mm Height	Sq.mt	0	0.00	2.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply,install,testing and commissioning of <b>soft drawn copper pipes</b> with insulation.The suction & liquid line shall be insulated with 12mm thick sleeveless nitrile rubber insulation.The rate shall be inclusive of Electrical & Control cable between IDU & ODU & MCB to ODU etc.as per specification/Tender drawings																					
925	i) 1/4"	Rmt	225	60.00	118.00	403.00				-	-	-	-	-	-	-	-	-	-	-	-	-
926	ii) 1/2"	Rmt	225	62.00	118.00	405.00				-	-	-	-	-	-	-	-	-	-	-	-	-
927	iii) 3/8"	Rmt	57.00	25.00	56.00	138.00				-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
928	iv) 5/8"	Rmt	57.00	25.00	56.00	138.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply,install,testing and commissioning of PVC Condensation pipe with U trap,elbow,bends,Tees,cleantout etc.10kg/sq.cm piping complete with fittings & supports etc.the pipe shall be insulated with 6mmm thick closed shell elastomeric nitrile rubber Class 'O' type insulation																					
929	i) 25mm dia pipe	Rmt	1336.00	547.00	677.00	2560.00				-	-	-	-	-	-	-	-	-	-	-	-	-
930	ii) 32mm dia pipe	Rmt	692.00	358.00	650.00	1700.00				-	-	-	-	-	-	-	-	-	-	-	-	-
931	Acoustic Insulation of AHU Room Supplying, fixing acoustic lining on wall and ceiling of AHU rooms with 50mm thick, density 32 kg/cu.m resin bonded glass fiber insulation friction fixed in 610mm x 610 mm frame work made of 25X50X50X50X25 mm made out of 0.6mm thick GI sheet U shaped channel and covered with reinforced fiber glass tissue and finished with 0.80 mm perforated aluminium sheet etc. complete as required and as per specifications	Sq.mt	482.00	531.00	403.00	1416.00				-	-	-	-	-	-	-	-	-	-	-	-	-
932	Supply, Installation, Testing and commissioning of Under deck roof insulation for roof exposed to sun light By using of 19 mm thick Class - O Nitrile Rubber Insulation.	Sq.mt	1105.00	415.00	853.00	2373.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Total Bill no-5 HVAC works</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
6	<b>Bill no-6 Electrical system</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>ELECTRICAL WORKS &amp; ELV WORKS</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>EXTERNAL ELECTRIFICATION</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 42 : 11 KV Substation Work</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
933	Supply, Receiving, Unloading, Storing, Shifting, Installation, Testing & Commissioning of indoor type floor mounted, dust, damp and vermin proof, cubicle HT. Metreing Panel made out of 14 gauge CRCA sheet steel complete with 5Amp electronic trivector Metre, C.T.'s of 800/5Amp, 0.5 Class, 10VA Burden, and P.T.'s of 11KV/√3, 110V/√3, 100VA conforming to relevant IS Standards and complete as required. H.T. Metreing cubicle along with C.T.'s, P.T.'s and trivector Metre shall be got tested and approved from local electricity supply authority. The GA drawing shall be got approved by ELECTRICITY SUPPLY AUTHORITY before fabrication.	Set	1	1	0	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
934	Supply, Receiving, Unloading, Storing, Shifting, Installation, Testing & Commissioning of indoor type floor mounted, dust, damp and vermin proof, cubicle HT. Metreing Panel made out of 14 gauge CRCA sheet steel complete with 5Amp electronic trivector Metre, C.T.'s of 80/5Amp, 0.5 Class, 10VA Burden, and P.T.'s of 11KV/√3, 110V/√3, 100VA conforming to relevant IS Standards and complete as required. H.T. Metreing cubicle along with C.T.'s, P.T.'s and trivector Metre shall be got tested and approved from local electricity supply authority. The GA drawing shall be got approved by ELECTRICITY SUPPLY AUTHORITY before fabrication.	Set	0	0	1	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	H.T. SINGLE PANEL BOARD									-	-	-	-	-	-	-	-	-	-	-	-	-
	11 KV HT VCB Single Breaker Panel Board (Indoor Type) (1 set Incoming / Outgoing)																					
	Supply, Receiving, Unloading, Shifting, Installation Testing & Commissioning of 11 KV Single Breaker Vacuum Circuit Breaker Panel Board as 1 Incoming/Outgoing shall be metal clad floor mounting complete as per specification and as described.									-	-	-	-	-	-	-	-	-	-	-	-	-
	800 A Vacuum circuit breaker of (350 MVA)18.3 KA RMS for 3 second rupturing capacity for at 11 KV rated, totally enclosed,air insulated metal clad housing, floor mounting, horizontal isolation, vermin proof, fully interlocked horizontal drawout type having isolation features and control devices complete with the following.									-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Manually and motor operated, spring charged (release closing mechanism) trip free type, triple pole truck mounted draw out, vacuum circuit breaker, incorporating mechanical as well as electrical ON/OFF indication. Spring charge/discharge mechanical indication "OFF" push buttons for emergency trip (shrouded) test/service position limit switches with 6 NO/6 NC breaker auxiliary contacts in service position, 24 Volts DC shunt trip coil and strip heater to prevent moisture absorption.									-	-	-	-	-	-	-	-	-	-	-	-	-
	INCOMING / OUTGOING PANEL - 1 NO.									-	-	-	-	-	-	-	-	-	-	-	-	-
	800 A Vacuum circuit breaker of (350 MVA) 18.3 KA RMS for 3 second rupturing capacity for at 11 KV rated, totally enclosed, air insulated metal clad housing, floor mounting, horizontal isolation, vermin proof, fully interlocked horizontal drawout type having isolation features and control devices complete with the following.									-	-	-	-	-	-	-	-	-	-	-	-	-
	3 No. Single Phase double core current transformer 800/5 Amp epoxy cast insulated class of insulation E.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Core 1-15VA burden class 1.0 for Metreing.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Core 2-15VA burden class 5P10 for protection.									-	-	-	-	-	-	-	-	-	-	-	-	-
	P.T's of 11KV/√3, 110V/√3, 100VA with suitable rating H.T. & L.T fuse conforming to relevant IS Standards and complete as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
	One no. numerical microprocessor based three phase over current (IDMT element) (2 O/C+1E/F) with earth fault relay with instantaneous elements.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. Anti Pumping device.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. Circuit breaker control switch for electrical (T/N/C).									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. limit switch for test & service position.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. VoltMetre (0-12KV) with selector switch. (96mm square)									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. AmMetre (0-100Amp) with selector switch. (96mm square).									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. Digital Multifunction Metre - Quasar									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. electronic type digital energy analyser having 30 days memory and parameters of KW, KWH, Power factor, frequency etc. Suitable for BMS compatible with all accessories.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 Set of following indicating lamps. Red, Yellow & Blue for phase indication.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Amber for Trip indication.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Red 'ON' Green 'OFF'									-	-	-	-	-	-	-	-	-	-	-	-	-
	Spring charge indication.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Auto trip indication.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. hooter with hooter acceptance and reset push button.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. master trip relay. ( Electromechanical Type )									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. Trip ckt supervision relay. (Electromechanical Type )									-	-	-	-	-	-	-	-	-	-	-	-	-
	800A color coded heat shrinkable sleeved TP Aluminium busbar of 350 MVA fault rating.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 Set of fuses, ferrules, wiring etc. as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 Set of Power Pack 220 Volt A.C. / 24 Volt D.C. complete as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Note: All spare contacts of breaker or any other equipment inside the breaker shall be wired upto the outgoing terminal strip with appropriate ferrules / coding. The terminal strip rating shall be suitable for connecting two wires of 2.5sqmm subjected to providing minimum size strip suitable for 4/6sqmm.									-	-	-	-	-	-	-	-	-	-	-	-	-
935	H.T. Panel describe as above	Set	1	1	0	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	H.T. SINGLE PANEL BOARD									-	-	-	-	-	-	-	-	-	-	-	-	-
	11 KV HT VCB Single Breaker Panel Board (Indoor Type) (1 set Incoming / Outgoing)									-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Supply, Receiving, Unloading, Shifting, Installation Testing & Commissioning of 11 KV Single Breaker Vacuum Circuit Breaker Panel Board as 1 Incoming/Outgoing shall be metal clad floor mounting complete as per specification and as described.									-	-	-	-	-	-	-	-	-	-	-	-	-
	630 A Vacuum circuit breaker of (350 MVA)18.3 KA RMS for 3 second rupturing capacity for at 11 KV rated, totally enclosed,air insulated metal clad housing, floor mounting, horizontal isolation, vermin proof, fully interlocked horizontal drawout type having isolation features and control devices complete with the following.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Manually and motor operated, spring charged (release closing mechanism) trip free type,triple pole truck mounted draw out, vacuum circuit breaker, incorporating mechanical as well as electrical ON/OFF indication. Spring charge/discharge mechanical indication"OFF" push buttons for emergency trip (shrouded) test/service position limit switches with 6 NO/6 NC breaker auxiliary contacts in service position, 24 Volts DC shunt trip coil and strip heater to prevent moisture absorption.									-	-	-	-	-	-	-	-	-	-	-	-	-
	INCOMING / OUTGOING PANEL - 1 NO.									-	-	-	-	-	-	-	-	-	-	-	-	-
	630 A Vacuum circuit breaker of (350 MVA) 18.3 KA RMS for 3 second rupturing capacity for at 11 KV rated, totally enclosed,air insulated metal clad housing, floor mounting, horizontal isolation, vermin proof, fully interlocked horizontal drawout type having isolation features and control devices complete with the following.									-	-	-	-	-	-	-	-	-	-	-	-	-
	3 No. Single Phase double core current transformer 630/5 Amp epoxy cast insulated class of insulation E.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Core 1-15VA burden class 1.0 for Metreing.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Core 2-15VA burden class 5P10 for protection.									-	-	-	-	-	-	-	-	-	-	-	-	-
	P.T's of 11KV/√3, 110V/√3, 100VA with suitable rating H.T. & L.T fuse conforming to relevant IS Standards and complete as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
	One no. numerical microprocessor based three phase over current (IDMT element) (2 O/C+1E/F) with earth fault relay with instantaneous elements.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. Anti Pumping device.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. Circuit breaker control switch for electrical (T/N/C).									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. limit switch for test & service position.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. VoltMetre (0-12KV) with selector switch. (96mm square)									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. AmMetre (0-100Amp) with selector switch. (96mm square).									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. Digital Multifunction Metre - Quasar									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. electronic type digital energy analyser having 30 days memory and paraMetres of KW, KWH, Power factor, frequency etc. Suitable for BMS compatible with all accessories.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 Set of following indicating lamps. Red, Yellow & Blue for phase indication.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Amber for Trip indication.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Red 'ON' Green 'OFF'									-	-	-	-	-	-	-	-	-	-	-	-	-
	Spring charge indication.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Auto trip indication.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. hooter with hooter acceptance and reset push button.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. master trip relay. ( Electromechanical Type )									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No.Trip ckt supervision relay. (Electromechanical Type )									-	-	-	-	-	-	-	-	-	-	-	-	-
	630A color coded heat shrinkable sleeved TP Aluminium busbar of 350 MVA fault rating.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 Set of fuses, ferrules, wiring etc. as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 Set of Power Pack 220 Volt A.C. / 24 Volt D.C. complete as required.									-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount											
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total		
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
	Note: All spare contacts of breaker or any other equipment inside the breaker shall be wired upto the outgoing terminal strip with appropriate ferrules / coding. The terminal strip rating shall be suitable for connecting two wires of 2.5sqmm subjected to providing minimum size strip suitable for 4/6sqmm.									-	-	-	-	-	-	-	-	-	-	-	-
936	H.T. Panel describe as above	Set	0	0	1	1.00				-	-	-	-	-	-	-	-	-	-	-	-
	11 KV HT VCB THREE BREAKER PANEL BOARD (INDOOR TYPE) (1 INCOMMING + 2 OUTGOING)									-	-	-	-	-	-	-	-	-	-	-	-
	Design, manufacturer, supply of panel board fabricated out of minimum 2 mm thick sheet steel as per specifications. The panel shall be complete with cable termination arrangement suitable for incoming(1 run x 3C x 300 Sqmm XLPE 11KV) and outgoing (1 run x 3C x 240 Sqmm XLPE 11 KV) cable and copper bus bar arrangement. The panel shall comprise of the following:																				
	Supply, Receiving, Unloading, Shifting, Installation Testing & Commissioning of 11 KV Four Breaker Vacuum Circuit Breaker Panel Board as 1 Incomming & 3 Outgoing shall be metal clad floor mounting complete as per specification and as described.																				
	800 A Vacuum circuit breaker of 18.3 KA RMS for 1 second rupturing capacity for at 11 KV rated, totally enclosed,air insulated metal clad housing, floor mounting, horizontal isolation, vermin proof, fully interlocked horizontal drawout type having isolation features and control devices complete with the following.																				
	Manually and motor operated, spring charged (release closing mechanism) trip free type, triple pole truck mounted draw out, vacuum circuit breaker, incorporating mechanical as well as electrical ON/OFF indication. Spring charge/discharge mechanical indication"OFF" push buttons for emergency trip (shrouded) test/service position limit switches with 6 NO/6 NC breaker auxiliary contacts in service position, 24 Volts DC shunt trip coil and strip heater to prevent moisture absorption.																				
	Three Panel Board ( 1 I/C + 2 O/G)																				
	Incomer:-																				
	1 No. 11kV 800 A 18.3kA drawout type VCB with motorised spring charge mechanism for 240V AC, closing & tripping coils suitable for 24V DC																				
	Each incomer comprising with following accessories.																				
	1 No. Mechanical ON/OFF Indicator																				
	1 No. Aux Switch 6NO + 6NC																				
	Panel, Busbar, CT, PT																				
	800A color coded heat shrinkable sleeved TP Copper busbar of 18.3 KA fault rating.																				
	1 No. Fully compartmentalised sheet steel enclosure floor mounting type with automatic safety shutters, independent pressure discharge flaps, PVC sleeved busbar, etc with provision for terminating PVC/PILC/XLPE Cable																				
	3 Nos. Resin Cast CTs 80/5A with Core 1 : 15VA CL 1 Core 2 : 15VA CL 5P10																				
	3 Nos. PT - 11kV/√3/110/√3V ,CL 1.0, 100VA																				
	Breaker Panel indication Lamps :																				
	6 Nos. ON/OFF/TRIP/TRIP Ckt Healthy/Spring Charged																				
	Switches and other Accessories																				
	8 nos.Fuses																				
	1 No. Heater																				



SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	1 No. Thermostat																					
	1 No. 6 Window Annunciator																					
	1 No. Plug & Socket																					
	1 No. Test Terminal Block																					
	1 No. T-N-C Switch																					
	1 No. Emergency Push Button																					
	1 No. Local/Remote Selector Switch																					
	Metres																					
	1 No. Analog Ammetre + ASS																					
	1 No. Analog Voltmetre + VSS																					
	1 No. Digital Multifunction Metre - Quasar																					
	Relays																					
	1 No. MC 61A (O/C + E/F - IDMT+Inst)																					
	1 No. AVAJH13 Master trip relay (Ashida)																					
	1 No. TCS Relay																					
	Note: All spare contacts of breaker or any other equipment inside the breaker shall be wired upto the outgoing terminal strip with appropriate ferrules / coding. The terminal strip rating shall be suitable for connecting two wires of 2.5sqmm subjected to providing minimum size strip suitable for 4/6sqmm.																					
	1 Set of Power Pack 220 Volt A.C. / 24 Volt D.C. complete as required.																					
	Outgoing:-																					
	2 No. 11kV 800A, 18.3kA drawout type VCB with motorised spring charge mechanism for 240V AC, closing & tripping coils suitable for 24V DC																					
	Each Outgoing comprising with following accessories.																					
	1 No. Mechanical ON/OFF Indicator																					
	1 No. Aux Switch 6NO + 6NC																					
	Panel, Busbar, CT, PT																					
	800A color coded heat shrinkable sleeved TP Copper busbar of 18.3 KA fault rating.																					
	1 No. Fully compartmentalised sheet steel enclosure floor mounting type with automatic safety shutters, independent pressure discharge flaps, PVC sleeved busbar, etc with provision for terminating PVC/PILC/XLPE Cable																					
	3 Nos. Resin Cast CTs 40/5A with Core 1 : 7.5VA CL 1 Core 2 : 7.5VA CL 5P10																					
	Breaker Panel indication Lamps :																					
	6 Nos. ON/OFF/TRIP/TRIP Ckt Healthy/Spring Charged Switches and other Accessories																					
	8 nos.Fuses																					
	1 No. Heater																					
	1 No. Thermostat																					
	1 No. 6 Window Annunciator																					
	1 No. Plug & Socket																					
	1 No. Test Terminal Block																					
	1 No. T-N-C Switch																					
	1 No. Emergency Push Button																					
	1 No. Local/Remote Selector Switch																					

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	Metres																					
	1 No. Analog AmMetre + ASS																					
	1 No. Digital Multifunction Metre - Quasar																					
	Relays																					
	1 No. MC 61A (O/C + E/F - IDMT+Inst)																					
	2 No. Auxiliary Relay for transformer fault																					
	1 No. AVAJH13 Master trip relay (Ashida)																					
	1 No. TCS Relay																					
	1 Set of Power Pack 220 Volt A.C. / 24 Volt D.C. complete as required.																					
	Note: All spare contacts of breaker or any other equipment inside the breaker shall be wired upto the outgoing terminal strip with appropriate ferrules / coding. The terminal strip rating shall be suitable for connecting two wires of 2.5sqmm subjected to providing minimum size strip suitable for 4/6sqmm.It shall also be with 1 No. Earthing Truck for cable & Busbar earthing.																					
	H.T. Panel described as above	Set	1	1	0	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
937	11 KV HT VCB THREE BREAKER PANEL BOARD (INDOOR TYPE) (1 INCOMMING + 2 OUTGOING)									-	-	-	-	-	-	-	-	-	-	-	-	-
	Design, manufacturer, supply of panel board fabricated out of minimum 2 mm thick sheet steel as per specifications. The panel shall be complete with cable termination arrangement suitable for incoming(1 run x 3C x 300 Sqmm XLPE 11KV) and outgoing (1 run x 3C x 240 Sqmm XLPE 11 KV) cable and copper bus bar arrangement. The panel shall comprise of the following:																					
	Supply, Receiving, Unloading, Shifting, Installation Testing & Commissioning of 11 KV Four Breaker Vacuum Circuit Breaker Panel Board as 1 Incomming & 3 Outgoing shall be metal clad floor mounting complete as per specification and as described.																					
	630 A Vacuum circuit breaker of 18.3 kA RMS for 1 second rupturing capacity for at 11 KV rated, totally enclosed,air insulated metal clad housing, floor mounting, horizontal isolation, vermin proof, fully interlocked horizontal drawout type having isolation features and control devices complete with the following.																					
	Manually and motor operated, spring charged (release closing mechanism) trip free type, triple pole truck mounted draw out, vacuum circuit breaker, incorporating mechanical as well as electrical ON/OFF indication. Spring charge/discharge mechanical indication"OFF" push buttons for emergency trip (shrouded) test/service position limit switches with 6 NO/6 NC breaker auxiliary contacts in service position, 24 Volts DC shunt trip coil and strip heater to prevent moisture absorption.																					
	Three Panel Board ( 1 I/C + 2 O/G)																					
	Incomer:-																					
	1 No. 11kV 630 A 18.3kA drawout type VCB with motorised spring charge mechanism for 240V AC, closing & tripping coils suitable for 24V DC																					
	Each incomer comprising with following accessories.																					
	1 No. Mechanical ON/OFF Indicator																					
	1 No. Aux Switch 6NO + 6NC																					
	Panel, Busbar, CT, PT																					
	630A color coded heat shrinkable sleeved TP Copper busbar of 18.3 KA fault rating.																					
	1 No. Fully compartmentalised sheet steel enclosure floor mounting type with automatic safety shutters, independent pressure discharge flaps, PVC sleeved busbar, etc with provision for terminating PVC/PILC/XLPE Cable																					

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
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	3 Nos. Resin Cast CTs 80/5A with Core 1 : 15VA CL 1 Core 2 : 15VA CL 5P10																					
	3 Nos. PT - 11kV/√3/110/√3V ,CL 1.0, 100VA																					
	Breaker Panel indication Lamps : 6 Nos. ON/OFF/TRIP/TRIP Ckt Healthy/Spring Charged																					
	Switches and other Accessories																					
	8 nos.Fuses																					
	1 No. Heater																					
	1 No. Thermostat																					
	1 No. 6 Window Annunciator																					
	1 No. Plug & Socket																					
	1 No. Test Terminal Block																					
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	1 No. Digital Multifunction Metre - Quasar																					
	Relays																					
	1 No. MC 61A (O/C + E/F - IDMT+Inst)																					
	1 No. AVAJH13 Master trip relay (Ashida)																					
	1 No. TCS Relay																					
	Note: All spare contacts of breaker or any other equipment inside the breaker shall be wired upto the outgoing terminal strip with appropriate ferrules / coding. The terminal strip rating shall be suitable for connecting two wires of 2.5sqmm subjected to providing minimum size strip suitable for 4/6sqmm.																					
	1 Set of Power Pack 220 Volt A.C. / 24 Volt D.C. complete as required.																					
	Outgoing:-																					
	2 No. 11kV 630A, 18.3kA drawout type VCB with motorised spring charge mechanism for 240V AC, closing & tripping coils suitable for 24V DC																					
	Each Outgoing comprising with following accessories.																					
	1 No. Mechanical ON/OFF Indicator																					
	1 No. Aux Switch 6NO + 6NC																					
	Panel, Busbar, CT, PT																					
	630A color coded heat shrinkable sleeved TP Copper busbar of 18.3 KA fault rating.																					
	1 No. Fully compartmentalised sheet steel enclosure floor mounting type with automatic safety shutters, independent pressure discharge flaps, PVC sleeved busbar, etc with provision for terminating PVC/PILC/XLPE Cable																					
	3 Nos. Resin Cast CTs 40/5A with Core 1 : 7.5VA CL 1 Core 2 : 7.5VA CL 5P10																					
	Breaker Panel indication Lamps : 6 Nos. ON/OFF/TRIP/TRIP Ckt Healthy/Spring Charged																					
	Switches and other Accessories																					

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			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
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	8 nos.Fuses																					
	1 No. Heater																					
	1 No. Thermostat																					
	1 No. 6 Window Annunciator																					
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	1 No. T-N-C Switch																					
	1 No. Emergency Push Button																					
	1 No. Local/Remote Selector Switch																					
	Metres																					
	1 No. Analog AmMetre + ASS																					
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	Relays																					
	1 No. MC 61A (O/C + E/F - IDMT+Inst)																					
	2 No. Auxiliary Relay for transformer fault																					
	1 No. AVAJH13 Master trip relay (Ashida)																					
	1 No. TCS Relay																					
	1 Set of Power Pack 220 Volt A.C. / 24 Volt D.C. complete as required.																					
	Note: All spare contacts of breaker or any other equipment inside the breaker shall be wired upto the outgoing terminal strip with appropriate ferrules / coding. The terminal strip rating shall be suitable for connecting two wires of 2.5sqmm subjected to providing minimum size strip suitable for 4/6sqmm.It shall also be with 1 No. Earthing Truck for cable & Busbar earthing.																					
938	H.T. Panel described as above	Set	0	0	1	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
939	1250 KVA, 11KV/433V Transformer	Set	2	2	0	4.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply, Installation, Testing & Commissioning of ISI marked copper wound Transformers 11/0.433 KV, Three Phase, 50 Hz, DYN 11, ONANtype , Standard accessories, winding temperature rise of 45°C/40°C first fill oil, having permissible total loss values not exceeding 7.5%of the maximum total loss values for 11 KV as per Energy Efficiency Level - 2 at basic Insulation level conforming to ISS 2026 (Part- I to Part - II), latest ammended and IS 1180 Part-I : 2014 described as above with Cable box on HV side and Bus duct on LV Side , ON load Tap changer(OLTC) +10% to -10%, etc., complete and as per the following continuous rating																					
940	630 KVA, 11KV/433V TRANSFORMER	Set	0	0	2	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply, Installation, Testing & Commissioning of ISI marked copper wound Transformers 11/0.433 KV, Three Phase, 50 Hz, DYN 11, ONANtype , Standard accessories, winding temperature rise of 45°C/40°C first fill oil, having permissible total loss values not exceeding 7.5%of the maximum total loss values for 11 KV as per Energy Efficiency Level - 2 at basic Insulation level conforming to ISS 2026 (Part- I to Part - II), latest ammended and IS 1180 Part-I : 2014 described as above with Cable box on HV side and Bus duct on LV Side , ON load Tap changer(OLTC) +10% to -10%, etc., complete and as per the following continuous rating									-	-	-	-	-	-	-	-	-	-	-	-	-
	DIESEL GENERATING SET:									-	-	-	-	-	-	-	-	-	-	-	-	-

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	Design, Manufacturing, Testing at works, Supply, Installation, Testing & Commissioning of Radiator cooled diesel engine of following rating on common base frame alongwith ECP & other accessories like hospital grade silencer, antivibration pad, batteries with leads, day oil fuel tank, suitable space heater for alternator, suitable arrangement of LT cable box for LT Armoured AL cable upto 4 runs 3.5C x 300 cable Termination etc. as per EPC Tender specification.									-	-	-	-	-	-	-	-	-	-	-	-	-
	The entire work shall confirm to Bureau of Indian Standards safety standards; British Standards, and CPWD specifications.																					
	DG Set shall have synchronizing facility.																					
	The D.G. Set shall be Air cooled with Radiator																					
	Working at ambient temperature between -5°C to 50°C and relative humidity upto 95%.																					
	Nominal output voltage of engine/alternator set shall be 415 volts 50 Hz AC Supply with manual adjustment at all conditions of load with coarse and fine controls with a range of ± 5%.																					
	The frequency shall be maintained at 50 Hz ± 2% for the set. The output wave-form shall be sinusoidal at all load conditions.																					
	The engine/alternator set shall be capable of taking 10% over-load for a period of one hour during any 12 hours period, while operating continuously at full rated load.																					
	The Engine shall be capable to minimum 60% bulk load of the rating during transfer of the load from NO Load position without tripping.																					
	The set may be idle for a long time except for periodical test whenever there is a electrical supply failure, the set may required to run continuously for period even exceeding 24 hours.																					
	Engine should have minimum lube oil change period 500 Hrs.																					
	The set shall have vibration limit less than 130 microns (as per BS:4999 Part – 142) & noise level shall be meet CPCB norms under all conditions of load. The efficient residential silencer shall be provided with or without catalytic converter on-line scrubber & the set shall meet EURO-II norms for D.G Sets, for the exhaust. Air inlet shall also be provided.																					
	The engine shall be stationary, compression ignition, totally enclosed, water cooled, 4 stroke direct injection, cold battery starting, turbo charged and low temperature with after cooled Radiator Cooled 1500 RPM in accordance to BS 5514 and IS: 10002 complete with all accessories. The DG engine shall be suitable for quick start & should be able to pick up 100% load within optimum time. The DG Engine & the batteries shall be designed to take up at least six starting attempts beyond which the system shall be protected by means of an over crank relay. The successful bidder will submit GFC drawings of the equipments/accessories selected for this work for the approval.																					
	The governor shall be Isochronous, electronic digital type with a steady state frequency variation of +/- .25%. The transient performance shall comply with ISO 8528-5, Class G3 requirements.																					
	The engine shall be water cooled heat exchanger type or radiator cooled depending on its capacity. DG Set shall be adequately designed for continuous operation on ambient conditions at 50 deg C.																					



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	The alternator shall be brushless synchronous and suitable for 3 phase 415 Volts, 4 wire, 50 Hz, 0.8 PF, 1500 RPM. The alternator shall be suitable for coupling directly to the diesel engine It shall be Drip proof, screen protected as per IP-23. The alternator shall be single bearing type & self ventilating. The alternators shall be continuously rated and shall have class 'H' insulation with a temperature rise restricted to that of class F designed and built to withstand tropical conditions. It shall generally conform to BS: 5000 (Part - 99) / standards listed above. The alternator shall be suitable for sustaining a 10% overload for 1 hour in any 12 hour period without injury. The terminal arrangement for alternator shall be suitable for Bus Duct connections of adequate size to deliver the full load of the alternator.																					
	The alternator shall also have a solid state type digital voltage regulator (D.V.R.) suitable for single running with control limits of 1% from no load to full load under normal load changes. It shall be of static type and complete with cross current compensation. The regulator shall be provided with voltage adjusting potentiometer, and shall be complete with all alarm contacts, internal wiring, etc.																					
	Self excited, self regulated and providing alternator output regulation at plus or minus 0.25%. The alternator shall be provided with a pilot-excited, permanent magnet-excited generator (PMG) for superior short circuit capabilities. Bidders to specify sustained short circuit current capabilities for up to 10 seconds. The alternator shall be provided with sealed Bearings to give minimum service life of 40,000 Hours. The Bidders to specify the maximum rating of the motor that can be started direct on line without any base load, with 50% base load, restricting the Voltage depth to 20%.																					
	Day service fuel tank shall be made of 3 mm thick MS sheet of 990 litres capacity including HSD fuel handling piping with M.S. heavy class ERW piping (Class-C) conforming to IS : 1239 with necessary clamps, supports, anti vibration mountings, hangers and fittings such as bends, tees, reducers etc. painted																					
	Note: a) First filling of the HSD shall be under the scope of contractor																					
	b) Ambient temperature for DG Sets operation is 40°C.																					
	c) DG Manufacturer/OEM shall coordinate with Main L.T. Panel supplier for synchronising of DG Set & auto start / auto stop functioning including testing & commissioning.																					
	d) The DG Set Manufacture/OEM to guarantee that DG Set shall generate minimum 4 units of Electric power per litre at loading ranging from 40% to 85% under site conditions.																					
	e) If Manufacturer does not have the Power command controller of Cummins PC 3.3 or equivalent then the supplier shall submit the synchronizing panel PLC based DG Sets and scope of integration of synchronization system with the proposed Main L.T. Panel.																					
	f) The liasioning for inspection & approval of the layout drawing, installation license from electricity supply authority, electrical inspector, permission for operation of DG Set, approval from Pollution Control Board etc. as required.																					
941	630 KVA DG set with suitable capacity of Day Oil Tank describe as above	Set	4	4	2	10.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	DG Synchronization cum Changeover Panel.																					

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	Supply, Erection, Testing & Commissioning of DG Control panel with D.G. Synchronizing controller & Micro PLC, this will be floor mounted, free standing, compartmentalized, indoor duty, dust proof, vermin proof, front operated, electrical panel fabricated, painted and manufactured exactly as per specifications laid in this document and will be complete with the main and auxiliary bus bars, interconnection, earth terminals, earth bus and will be powdered coated finished. All the busbar joint shall be protected by clip on type sleeve. The DG control panel shall use all draw out 3 position withdrawn type breakers suitable for 415 V AC, 3 phase, 50 Hz, 4 wire supply system and will have fault level of 50 KA or as required as per consultant approval. The panel will be made as per detailed specifications and drawings forming part of this document. (Under no case temperature of LT Panel shall be more at any point of the panel, otherwise necessary exhaust fan shall be have to provided) Bus bar calculations considering temperature derating, enclosure derating, sleeving derating must be done and submitted for checking.																					
	The DG vendor shall make complete protection curves and discrimination chart for relay settings and shall adjust all these readings at site. The bus bar size shall not be less than the ampere sizes mentions after derating. The bidder will show exact calculations & compare the figure of 0.66 and final calculations will be adopted for more stringent condition. each incommer shall have surge protection device. The PCC panel will comprise of the following :																					
	Each incoming / outgoing breaker shall have microprocessor release with adjustable over current, short circuit & earth fault protection with instantaneous as mentioned in specification. The Panel will be made as per detailed specifications & drawings forming part of this document. Fault level of panel shall be 50 KA.																					
	All the MCCB up to 250 Amp shall have thermal release with adustable overload, short circuit & earth fault protection and above shall have microprocessor release with adjustable overload, short circuit & earthfault protection. The panel shall be manufactured as per BOQ, tech specification and drawing. Fault level of panel shall be 50 KA.																					
	One set of PLC with required accessories for AMF, Load Management, Interlocking and synchronizing through synchronizing relay. PLC shall be with PC, Monitor, required software to monitoring the all paraMetres for Synchronizing Panel & Main L.T. Panel.																					
	Incomer:																					
	2 No. 1250A incomer and Each incomer breaker feeder + 1 outgoing 2500A: (For 630KVA D.G. Set)-																					
	ACB FP Electrically operated horizontal drawout type Air Circuit Breaker microprocessor based releases for O/C, S/C & earth fault protection with instantaneous including 200 Amps TP Neutral Contactor. (50 KA)																					
	One set of Generator control relay for Each D.G. Set with accessories for AMF, Synchronizing.																					
	1 No. digital AmMetre, AmMetre selector switch, digital voltMetre, VoltMetre selector switch.																					
	1 No. Load Manager EM 6400 with RS 485 port Suitable for BMS compatible																					
	1 no. REF relay																					
	Annunciation window to cover LLOP, HWT, OIL Pressure, U/V, O/V, U/F, O/F, O/C, E/F, REF relay faults shall be provided. 2 nos phase reversal relay shall be provided.																					

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Engine should trip on LLOP, HWT, oil temp, O/V, O/F and breaker should trip on other faults.																					
	Initially U/V & U/F will be bye passed till oil pressure is picked up.																					
	Indicating lights for ACB ON / OFF, ACB trip, neutral contactor ON, D.G. on mains, D.G. fails to start.																					
	Generator start /stop facility through push button from panel, necessary cranking relay shall be provided.																					
	Suitable battery charger for 24V 360 AH with d.c voltMetre & d.c amMetre. D.C voltMetre and amMetre will be analouge type.																					
	Whenever D.G. stop through PB, load shall be disconnected first.																					
	(PTTA Type panels are considered) BATTERY & BATTERY CHARGER																					
	1 No. 24V, 72AH SMF Battery with suitable battery charger.																					
942	LT cum D.G. Synchronizing Panel -2 Nos	set	2	2	0	4.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	EXHAUST PIPING																					
	Supply, Installation & Testing of following sizes MS exhaust piping conforming to IS:3589 complete with all accessories such as bends, flanges, 2 coat primer / painting etc.																					
943	300 mm dia MS pipe. (4.50 mm thick)	Metre	180	180	90	450.00				-	-	-	-	-	-	-	-	-	-	-	-	-
944	150 mm dia MS pipe. (4.50 mm thick)	Metre	24	24	12	60.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply & Fixing of Insulation of above pipe with 50 mm thick Loosely bound resin (LBR) mattress/ mineral wool/ Rockwool, density not less than 120 kg/m3 and aluminium cladding of 0.63 mm thick on exhaust pipe complete as per technical specification.																					
945	300 mm dia MS pipe.	Metre	180	180	90	450.00				-	-	-	-	-	-	-	-	-	-	-	-	-
946	150 mm dia MS pipe.	Metre	24	24	12	60.00				-	-	-	-	-	-	-	-	-	-	-	-	-
947	Exhaust Silencer ( For 630KVA D.G. Set )	Each	8	8	4	20.00				-	-	-	-	-	-	-	-	-	-	-	-	-
948	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	17100	17100	9550	43750.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Note - The item given indicative and minimum to be provided. The bidder shall workout & furnish the detail in the forms of Load (Applicable forces) calculation detail, Shop drawings of supporting arrangements in co-ordination to Site requirements, Material Take off sheet for The approval from project consultant.									-	-	-	-	-	-	-	-	-	-	-	-	-
										-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply, Installation, Testing & Commissioning of LED Twin Aviation Light with required cabling on top of exhaust pipe structure. (Wiring from substation inverter DB to Aviation Light to be considered in this item only.)																					
949	Supply, Installation, Testing & Commissioning of Lightning Arrester system with required earthing pit, earthing strip etc as per IEC/IS code as complete as required.	Set	2	2	1	5.00				-	-	-	-	-	-	-	-	-	-	-	-	-
950	Supply and fixing of 300 mm dia ss below with necessary matching flanges	Set	4	4	2	10.00				-	-	-	-	-	-	-	-	-	-	-	-	-
951	Supply and fixing of GI ducting for hotair	Sq.Metre	60	60	30	150.00				-	-	-	-	-	-	-	-	-	-	-	-	-
952	Supply and installation of 25 mm dia C class fuel pipe with flanges and bend and two coating of painting	Metre	50	50	25	125.00				-	-	-	-	-	-	-	-	-	-	-	-	-
953	supply and fixing of 25 mm ball valve	Each	4	4	2	10.00				-	-	-	-	-	-	-	-	-	-	-	-	-
954	Supply and fixing of ss float valve for fuel elevated tank	Each	2	2	1	5.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	SAFETY EQUIPMENT									-	-	-	-	-	-	-	-	-	-	-	-	-

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
955	Supply of First aid box as approved by St.John Ambulance Brigade /Indian Red Cross society conforming to IS : 2217 - 1963.	Nos.	2	2	2	6.00				-	-	-	-	-	-	-	-	-	-	-	-
						0.00				-	-	-	-	-	-	-	-	-	-	-	-
956	Supply of Shock treatment chart duly mounted on a wooden frame with glass on, as required in 2 languages (Hindi & English).	Nos.	8	8	6	22.00				-	-	-	-	-	-	-	-	-	-	-	-
957	Supply of Rubber mat 1000 mm. Wide to withstand 11 KV dielectric strength as per latest IS 15652-2006.	Metre	8	8	25	41.00				-	-	-	-	-	-	-	-	-	-	-	-
	Main LT PANEL									-	-	-	-	-	-	-	-	-	-	-	-
	Supply, Erection, Testing & Commissioning of Main LT panel. this will be floor mounted, free standing, compartmentalized, indoor duty, dust proof, vermin proof, front operated, electrical panel fabricated, painted and manufactured exactly as per specifications laid in this document and will be complete with the main and auxiliary bus bars, interconnection, earth terminals, earth bus and will be powdered coated finished. All the busbar joint shall be protected by clip on type sleeve. The DG control panel shall use all draw out 3 position withdrawn type breakers suitable for 415 V AC, 3 phase, 50 Hz, 4 wire supply system and will have fault level of 50 KA or as required as per consultant approval. The panel will be made as per detailed specifications and drawings forming part of this document. (Under no case temperature of LT Panel shall be more at any point of the panel, otherwise necessary exhaust fan shall be have to provided) Bus bar calculations considering temperature derating, enclosure derating, sleeving derating must be done and submitted for checking.									-	-	-	-	-	-	-	-	-	-	-	-
	Each incoming / outgoing breaker shall have microprocessor release with adjustable over current, short circuit & earth fault protection with instantaneous as mentioned in specification. The Panel will be made as per detailed specifications & drawings forming part of this document. Fault level of panel shall be 50 KA.																				
	All the MCCB up to 250 Amp shall have thermal release with adjustable overload, short circuit & earth fault protection and above shall have microprocessor release with adjustable overload, short circuit & earthfault protection. The panel shall be manufactured as per BOQ, tech specification and drawing. Fault level of panel shall be 50 KA.																				
	One set of PLC with required accessories for AMF, Load Management, Interlocking and synchronizing through synchronizing relay. PLC shall be with PC, Monitor, required software to monitoring the all parameters for Synchronizing Panel & Main L.T. Panel.																				
	Incomer:																				
	2 No. incomer and Each incomer breaker feeder shall have following for each breaker: (For 630 KVA D.G. Set)-																				
	2500 Amp TP Electrically operated horizontal drawout type Air Circuit Breaker microprocessor based releases for O/C, S/C & earth fault protection with instantaneous including 200 Amps TP Neutral Contactor. (50 KA)																				
	One set of Generator control relay for Each D.G. Set with accessories for AMF, Synchronizing.																				
	1 No. digital ammeter, ammeter selector switch, digital voltmeter, Voltmeter selector switch.																				
	1 No. Load Manager EM 6400 with RS 485 port Suitable for BMS compatible																				
	1 no. REF relay																				
	Annunciation window to cover LLOP, HWT, OIL Pressure, U/V, O/V, U/F, O/F, O/C, E/F, REF relay faults shall be provided. 2 nos phase reversal relay shall be provided.																				

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	Engine should trip on LLOP, HWT, oil temp, O/V, O/F and breaker should trip on other faults.																					
	Initially U/V & U/F will be bye passed till oil pressure is picked up.																					
	Indicating lights for ACB ON / OFF, ACB trip, neutral contactor ON, D.G. on mains, D.G. fails to start.																					
	Generator start /stop facility through push button from panel, necessary cranking relay shall be provided.																					
	Suitable battery charger for 24V 360 AH with d.c voltmeter & d.c ammeter. D.C voltmeter and ammeter will be analouge type.																					
	Whenever D.G. stop through PB, load shall be disconnected first.																					
	2 No. incomer and Each incomer breaker feeder shall have following: (For 1250 KVA Transformer)-																					
	2500 Amp FP Electrically operated horizontal drawout type Air Circuit Breaker microprocessor based releases for O/C, S/C & earth fault protection with instantaneous. (50 KA)																					
	3 No. Indicating lamps to show the incoming power along with 2A SP MCB.																					
	1 No. digital ammeter, ammeter selector switch, digital voltmeter, Voltmeter selector switch.																					
	1 No. Maximum Demand Controller with RS 485 port																					
	INSTRUMENTS																					
	4 Nos. Digital Multifunction Meter with inbuilt Selector Switch & Protective SP MCB (96mm square) (one for each Incoming Breaker) Suitable for BMS compatible.																					
	4 Sets of phase indicating lights (RYB) with 2A MCB (one set for each incoming breaker).																					
	4 Sets breaker 'ON' & 'OFF' indicating lamp (one set for each incoming breaker).																					
	4 Sets trip circuit healthy indicating lamp (one set for each incoming breaker).																					
	4 Sets auto trip indicating lamp (one set for each incoming breaker).																					
	2 Set of CT's one of 2500/ 5Amp ratio for APFC relay.																					
	4 Nos. over & under frequency relay																					
	4 Nos of Undervoltage & Overvoltage Protection.																					
	4 Nos Reverse power relay.																					
	4 Nos 6 window annunciator with complete accessories.																					
	4 Nos TVSS (Type I + II) with required earthing.																					
	4 Nos's.phase sequence relay																					
	4 Nos's,Maximum demand controller																					
	2 set of 2Amps MCB																					
	BUSCOUPLER																					
	1 No. 2500Amp FP Electrically operated horizontal drawout type Air Circuit Breaker as buscoupler with interlocking arrangement with incomers. (50 KA)																					
	1 Sets of indicating lamps for ON & OFF for bus coupler.																					
	BUSBARS																					
	2500 Amp TPN busbars of aluminium																					
	OUTGOING																					
	EACH OUTGOING FEEDER SHALL HAVE DIGITAL ENERGY																					



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	02 Nos. 800 Amp FP MDO Air Circuit Breaker.																					
	02 Nos. 800 Amp FP Moulded Case Circuit Breaker.																					
	11 Nos. 630 Amp FP Moulded Case Circuit Breaker.																					
	05 Nos.400 Amp FP Moulded Case Circuit Breaker.																					
	07 Nos. 250 Amp FP Moulded Case Circuit Breaker.																					
	01 Nos. 160 Amp FP Moulded Case Circuit Breaker.																					
	09 Nos. 125 Amp FP Moulded Case Circuit Breaker.																					
	01 Nos. 63 Amp FP Moulded Case Circuit Breaker.																					
	Notes: (PTTA Type panels are considered)																					
	All outgoing feeders shall have suitable range Digital amMetre with selector switch, CTs and phase indicating light protected by 2 amps MCBs except capacitor feeders.																					
	All breakers shall be electrically/ mechanically interlocked as per schematic diagram.																					
	All outgoing shall be suitable for provision of shunt trip coil in future.																					
	All outgoing/incoming feeder shall have the provision for internal lighting.																					
	CT's on R/Y phase for PFCR for each I/C feeder.																					
	Digital electronic MFM Metre (modbus output protocol to BAS for energy management (Potential free contacts or remote indication).shall be provided all incoming as well as outgoing feeder																					
	All incoming as well as outgoing air circuit breaker shall be compatible with BAS system.																					
	All incoming / outgoing ACB/MCCB shall be suitable for minimum 50 KA (ICS) breaking capacity and as per the detailed specification																					
958	Space heater with thermostate shall be provided in the above panel.	Set	1	1	0	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply, Erection, Testing & Commissioning of Main LT panel. this will be floor mounted, free standing, compartmentalized, indoor duty, dust proof, vermin proof, front operated, electrical panel fabricated, painted and manufactured exactly as per specifications laid in this document and will be complete with the main and auxiliary bus bars, interconnection, earth terminals, earth bus and will be powdered coated finished. All the busbar joint shall be protected by clip on type sleeve. The DG control panel shall use all draw out 3 position withdrawn type breakers suitable for 415 V AC, 3 phase, 50 Hz, 4 wire supply system and will have fault level of 50 KA or as required as per consultant approval. The panel will be made as per detailed specifications and drawings forming part of this document. (Under no case temperature of LT Panel shall be more at any point of the panel, otherwise necessary exhaust fan shall be have to provided) Bus bar calculations considering temperature derating, enclosure derating, sleeving derating must be done and submitted for checking.																					
	Each incoming / outgoing breaker shall have microprocessor release with adjustable over current, short circuit & earth fault protection with instantaneous as mentioned in specification. The Panel will be made as per detailed specifications & drawings forming part of this document. Fault level of panel shall be 50 KA.																					

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	All the MCCB up to 250 Amp shall have thermal release with adustable overload, short circuit & earth fault protection and above shall have microprocessor release with adjustable overload, short circuit & earthfault protection. The panel shall be manufactured as per BOQ, tech specification and drawing. Fault level of panel shall be 50 KA.																					
	One set of PLC with required accessories for AMF, Load Management, Interlocking and synchronizing through synchronizing relay. PLC shall be with PC, Monitor, required software to monitoring the all parameters for Synchronizing Panel & Main L.T. Panel.																					
	INCOMER:																					
	2 NO. INCOMER AND EACH INCOMER BREAKER FEEDER SHALL HAVE FOLLOWING FOR EACH BREAKER: (FOR 630 KVA D.G. SET)-																					
	1000 Amp TP Electrically operated horizontal drawout type Air Circuit Breaker microprocessor based releases for O/C, S/C & earth fault protection with instantaneous including 200 Amps TP Neutral Contactor. (50 KA)																					
	One set of Generator control relay for Each D.G. Set with accessories for AMF, Synchronizing.																					
	1 No. digital ammeter, ammeter selector switch, digital voltmeter, Voltmeter selector switch.																					
	1 No. Load Manager EM 6400 with RS 485 port Suitable for BMS compatible																					
	1 no. REF relay																					
	Annunciation window to cover LLOP, HWT, OIL Pressure, U/V, O/V, U/F, O/F, O/C, E/F, REF relay faults shall be provided. 2 nos phase reversal relay shall be provided.																					
	Engine should trip on LLOP, HWT, oil temp, O/V, O/F and breaker should trip on other faults.																					
	Initially U/V & U/F will be bye passed till oil pressure is picked up.																					
	Indicating lights for ACB ON / OFF, ACB trip, neutral contactor ON, D.G. on mains, D.G. fails to start.																					
	Generator start /stop facility through push button from panel, necessary cranking relay shall be provided.																					
	Suitable battery charger for 24V 360 AH with d.c voltmeter & d.c ammeter. D.C voltmeter and ammeter will be analouge type.																					
	Whenever D.G. stop through PB, load shall be disconnected first.																					
	2 NO. INCOMER AND EACH INCOMER BREAKER FEEDER SHALL HAVE FOLLOWING: (FOR 630 KVA TRANSFORMER)-																					
	1000 Amp FP Electrically operated horizontal drawout type Air Circuit Breaker microprocessor based releases for O/C, S/C & earth fault protection with instantaneous. (50 KA)																					
	3 No. Indicating lamps to show the incoming power along with 2A SP MCB.																					
	1 No. digital ammeter, ammeter selector switch, digital voltmeter, Voltmeter selector switch.																					
	1 No. Maximum Demand Controller with RS 485 port																					
	INSTRUMENTS																					
	4 Nos. Digital Multifunction Meter with inbuilt Selector Switch & Protective SP MCB (96mm square) (one for each Incoming Breaker) Suitable for BMS compatible.																					
	4 Sets of phase indicating lights (RYB) with 2A MCB (one set for each incoming breaker).																					

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	4 Sets breaker 'ON' & 'OFF' indicating lamp (one set for each incoming breaker).																					
	4 Sets trip circuit healthy indicating lamp (one set for each incoming breaker).									-	-	-	-	-	-	-	-	-	-	-	-	-
	4 Sets auto trip indicating lamp (one set for each incoming breaker).																					
	2 Set of CT's one of 1000/ 5Amp ratio for APFC relay.																					
	4 Nos. over & under frequency relay									-	-	-	-	-	-	-	-	-	-	-	-	-
	4 Nos of Undervoltage & Overvoltage Protection.									-	-	-	-	-	-	-	-	-	-	-	-	-
	4 Nos Reverse power relay.									-	-	-	-	-	-	-	-	-	-	-	-	-
	4 Nos 6 window annunciator with complete accessories.									-	-	-	-	-	-	-	-	-	-	-	-	-
	4 Nos TVSS (Type I + II) with required earthing.									-	-	-	-	-	-	-	-	-	-	-	-	-
	4 Nos's,phase sequence relay									-	-	-	-	-	-	-	-	-	-	-	-	-
	4 Nos's,Maximum demand controller									-	-	-	-	-	-	-	-	-	-	-	-	-
	2 set of 2Amps MCB									-	-	-	-	-	-	-	-	-	-	-	-	-
	BUSCOUPLER									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. 1000Amp FP Electrically operated horizontal drawout type Air Circuit Breaker as buscoupler with interlocking arrangement with incomers. (50 KA)									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 Sets of indicating lamps for ON & OFF for bus coupler.									-	-	-	-	-	-	-	-	-	-	-	-	-
	BUSBARS									-	-	-	-	-	-	-	-	-	-	-	-	-
	1000 Amp TPN busbars of aluminium									-	-	-	-	-	-	-	-	-	-	-	-	-
	OUTGOING									-	-	-	-	-	-	-	-	-	-	-	-	-
	EACH OUTGOING FEEDER SHALL HAVE DIGITAL ENERGY Metre									-	-	-	-	-	-	-	-	-	-	-	-	-
	07 Nos. 630 Amp FP Moulded Case Circuit Breaker.									-	-	-	-	-	-	-	-	-	-	-	-	-
	12 Nos.400 Amp FP Moulded Case Circuit Breaker.									-	-	-	-	-	-	-	-	-	-	-	-	-
	05 Nos. 250 Amp FP Moulded Case Circuit Breaker.									-	-	-	-	-	-	-	-	-	-	-	-	-
	01 Nos. 200 Amp FP Moulded Case Circuit Breaker.									-	-	-	-	-	-	-	-	-	-	-	-	-
	07 Nos. 125 Amp FP Moulded Case Circuit Breaker.									-	-	-	-	-	-	-	-	-	-	-	-	-
	07 Nos. 63 Amp FP Moulded Case Circuit Breaker.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Notes: (PTTA Type panels are considered)									-	-	-	-	-	-	-	-	-	-	-	-	-
	All outgoing feeders shall have suitable range Digital amMetre with selector switch, CTs and phase indicating light protected by 2 amps MCBs except capacitor feeders.									-	-	-	-	-	-	-	-	-	-	-	-	-
	All breakers shall be electrically/ mechanically interlocked as per schematic diagram.									-	-	-	-	-	-	-	-	-	-	-	-	-
	All outgoing shall be suitable for provision of shunt trip coil in future.									-	-	-	-	-	-	-	-	-	-	-	-	-
	All outgoing/incoming feeder shall have the provision for internal lighting.									-	-	-	-	-	-	-	-	-	-	-	-	-
	CT's on R/Y phase for PFCR for each I/C feeder.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Digital electronic MFM Metre (modbus output protocol to BAS for energy management (Potential free contacts or remote indication).shall be provided all incoming as well as outgoing feeder									-	-	-	-	-	-	-	-	-	-	-	-	-
	All incoming as well as outgoing air circuit breaker shall be compatible with BAS system.									-	-	-	-	-	-	-	-	-	-	-	-	-
	All incoming / outgoing ACB/MCCB shall be suitable for minimum 50 KA (ICS) breaking capacity and as per the detailed specification									-	-	-	-	-	-	-	-	-	-	-	-	-
959	Space heater with thermostate shall be provided in the above panel.	Set	0	0	1	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	APFC Panel (350 KVAR +40 KVAR - 100 + 4x50 + 25 +2x20 + 15 + 10 +- 8 step)									-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19				
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Supplying, installation, testing and commissioning of automatic power factor correction panels (Fabricated out of 2/1.6mm thick (Gland plate shall be 2mm) CRCA sheet steel enclosure) of following size(KVAR) of capacitors suitable for 440 Volts 3 phase,50Hz, floor mounted & having MPP (Metallized Polypropylene) type with 7% Detuned harmonic block reactor, self fusing, low loss, self healing, resin bonded without oil, single phase delta connected capacitors (confirming to IS13341:1992 & IS 13440:1993 ) housed in alluminum cans & having current limiting contacts circuit to suppress switching in rush current & having 4 to 8 step microprocessor based APFC relay with digital display controlling capacitors of following rating for improvement of targeted P.F ( 0.8 to 0.95). of the system.The APFC Panel shall be fully type tested at an Independent Laboratory and shall comply with IEC 61439-1&2 and IEC 61921 Or IS-16636-2017. The degree of protection of enclosures system of the APFC Panel shall be min. IP42 indoor type front access in accordance with IEC 60529 .Average daily temperature: +35°C max, Ambient temperature: -5°C to 40°C, Maximum altitude: 1500 m above sea level. The OEM's specified cannot authorize any other partners / sub vendors to manufacture APFC Panels on their behalf.									-	-	-	-	-	-	-	-	-	-	-	-	-
	The APFC Panel manufactured by OEM's only will be accepted & factory acceptance test ( FAT ) will be carried out at OEM's plant only.									-	-	-	-	-	-	-	-	-	-	-	-	-
	INCOMING									-	-	-	-	-	-	-	-	-	-	-	-	-
	800 amps FP ACB with following accessories.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 Nos. 0 to 500 Volt digital voltMetre with VoltMetre Selector Switch & Protective SP MCB (96mm square).									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. 0 to 800 Amp digital amMetre (96mm square) with CT's.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 Sets of phase indicating lights (RYB) with protection fuses.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 Sets breaker 'ON' & 'OFF' indicating lamp.									-	-	-	-	-	-	-	-	-	-	-	-	-
	08 Step Automatic Power Factor Correction relay (APFC relay).									-	-	-	-	-	-	-	-	-	-	-	-	-
										-	-	-	-	-	-	-	-	-	-	-	-	-
	BUSBARS									-	-	-	-	-	-	-	-	-	-	-	-	-
	800 Amp TPN busbars of aluminium alloy									-	-	-	-	-	-	-	-	-	-	-	-	-
										-	-	-	-	-	-	-	-	-	-	-	-	-
	OUTGOING									-	-	-	-	-	-	-	-	-	-	-	-	-
	2 Nos. 200 Amp TP MCCB.									-	-	-	-	-	-	-	-	-	-	-	-	-
	8 Nos. 125 Amp TP MCCB.									-	-	-	-	-	-	-	-	-	-	-	-	-
	6 Nos. 63 Amp TP MCCB.									-	-	-	-	-	-	-	-	-	-	-	-	-
	4 Nos. 32 Amp TP MCCB.									-	-	-	-	-	-	-	-	-	-	-	-	-
	2 Nos. capacitor duty contactor (one for each 100KVAR capacitor unit).									-	-	-	-	-	-	-	-	-	-	-	-	-
	8 Nos. capacitor duty contactor (one for each 50KVAR capacitor unit).									-	-	-	-	-	-	-	-	-	-	-	-	-
	2 Nos. capacitor duty contactor (one for each 25KVAR capacitor unit).									-	-	-	-	-	-	-	-	-	-	-	-	-
	2 Nos. capacitor duty contactor (one for each 15KVAR capacitor unit).									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>2 Nos. capacitor duty contactor (one for each 10KVAR capacitor unit).</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	4 Nos. capacitor duty contactor (one for each 20KVAR capacitor unit).									-	-	-	-	-	-	-	-	-	-	-	-	-
	2 Nos. 100 KVAR Capacitor Bank with 7% reactor.									-	-	-	-	-	-	-	-	-	-	-	-	-
	8 Nos. 25 KVAR Capacitor Bank with 7% reactor.									-	-	-	-	-	-	-	-	-	-	-	-	-
	2 Nos. 25 KVAR Capacitor Bank with 7% reactor..									-	-	-	-	-	-	-	-	-	-	-	-	-
	2 Nos. 15 KVAR Capacitor Bank with 7% reactor.									-	-	-	-	-	-	-	-	-	-	-	-	-
	2 Nos. 10 KVAR Capacitor Bank with 7% reactor.									-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	<b>08 sets of push button stations Red and Green for manual operation of capacitor units with auto/manual selector switches.</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. Indicating lamp for each 50 / 25/20/10/5 KVAR capacitor unit to indicate that the unit is 'ON'.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. Toggle switch for changing automatic to manual operation of capacitor units.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Power factor Metre.									-	-	-	-	-	-	-	-	-	-	-	-	-
	01 Set of 100 Amps Active Harmonic Filter:									-	-	-	-	-	-	-	-	-	-	-	-	-
	Active Filter shall have the following components.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Required IGBTs									-	-	-	-	-	-	-	-	-	-	-	-	-
	IGBT base active technology									-	-	-	-	-	-	-	-	-	-	-	-	-
	Gate driver, Interfacing and other control cards									-	-	-	-	-	-	-	-	-	-	-	-	-
	Heat Sinks									-	-	-	-	-	-	-	-	-	-	-	-	-
	Heavy duty cooling blowers/ fans with protection									-	-	-	-	-	-	-	-	-	-	-	-	-
	Voltage Sensing Cards & circuitry									-	-	-	-	-	-	-	-	-	-	-	-	-
	Current Transducers									-	-	-	-	-	-	-	-	-	-	-	-	-
	SMPS									-	-	-	-	-	-	-	-	-	-	-	-	-
	Solid State Relay									-	-	-	-	-	-	-	-	-	-	-	-	-
	Choke coil for interfacing IGBT with grid									-	-	-	-	-	-	-	-	-	-	-	-	-
	High Frequency & D C bus capacitors									-	-	-	-	-	-	-	-	-	-	-	-	-
	All required hardware's, softwares, protections, cards, inscription plates, Danger notice board etc., as required to be provided to complete the system									-	-	-	-	-	-	-	-	-	-	-	-	-
	MCCB, contactor and fuses of applicable rating and protections shall be provided for the active filter									-	-	-	-	-	-	-	-	-	-	-	-	-
	Programmable Microprocessor controller									-	-	-	-	-	-	-	-	-	-	-	-	-
	Instantaneous corrections of leading & lagging power factor & to keep the power factor nearer to unity									-	-	-	-	-	-	-	-	-	-	-	-	-
	Instantaneous corrections in current THD levels & maintain las per IEEE 519-92									-	-	-	-	-	-	-	-	-	-	-	-	-
	Three phase (non-neutral) unbalance compensation									-	-	-	-	-	-	-	-	-	-	-	-	-
	Reduction in voltage distortions as a result of reduction in ITHD									-	-	-	-	-	-	-	-	-	-	-	-	-
	Reduction in surges caused by switching of Heavy Load reduce tripping effect on electronic devices									-	-	-	-	-	-	-	-	-	-	-	-	-
960	Capacitor Panel describe as above (PTTA Type panels are considered)	Set	2	2	0	4.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	APFC Panel (200 KVAR)-2SET-(EACH CAPACITOR PANEL SHALL HAVE FOLLOWING)-									-	-	-	-	-	-	-	-	-	-	-	-	-



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			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19				
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Supplying, installation, testing and commissioning of automatic power factor correction panels (Fabricated out of 2/1.6mm thick (Gland plate shall be 2mm) CRCA sheet steel enclosure) of following size(KVAR) of capacitors suitable for 440 Volts 3 phase,50Hz, floor mounted & having MPP (Metallized Polypropylene) type with 7% Detuned harmonic block reactor, self fusing, low loss, self healing, resin bonded without oil, single phase delta connected capacitors (confirming to IS13341:1992 & IS 13440:1993 ) housed in alluminum cans & having current limiting contacts circuit to suppress switching in rush current & having 4 to 8 step microprocessor based APFC relay with digital display controlling capacitors of following rating for improvement of targeted P.F ( 0.8 to 0.95). of the system.The APFC Panel shall be fully type tested at an Independent Laboratory and shall comply with IEC 61439-1&2 and IEC 61921 Or IS-16636-2017. The degree of protection of enclosures system of the APFC Panel shall be min. IP42 indoor type front access in accordance with IEC 60529 .Average daily temperature: +35°C max, Ambient temperature: -5°C to 40°C, Maximum altitude: 1500 m above sea level. The OEM's specified cannot authorize any other partners / sub vendors to manufacture APFC Panels on their behalf. The APFC Panel manufactured by OEM's only will be accepted & factory acceptance test ( FAT ) will be carried out at OEM's plant only.																					
	INCOMING																					
	630 amps FP MCCB with following accessories.																					
	1 Nos. 0 to 500 Volt digital voltMetre with VoltMetre Selector Switch & Protective SP MCB (96mm square).																					
	1 No. 0 to 630 Amp digital amMetre (96mm square) with CT's.																					
	1 Sets of phase indicating lights (RYB) with protection fuses.																					
	1 Sets breaker 'ON' & 'OFF' indicating lamp.																					
	12 Step Automatic Power Factor Correction relay (APFC relay).																					
	BUSBARS																					
	630 Amp TPN busbars of aluminium alloy																					
	OUTGOING																					
	1 Nos. 125 Amp TP MCCB.																					
	5 Nos. 63 Amp TP MCCB.																					
	3 Nos. 32 Amp TP MCCB.																					
	1 Nos. capacitor duty contactor (one for each 50KVAR capacitor unit).																					
	3 Nos. capacitor duty contactor (one for each 25KVAR capacitor unit).																					
	2 Nos. capacitor for Transformer compansation (one for each 20KVAR capacitor unit).																					
	4 Nos. capacitor duty contactor (one for each 10/5KVAR capacitor unit).																					
	1 Nos. 50 KVAR Capacitor Bank with 7% reactor.																					
	3 Nos. 25 KVAR Capacitor Bank with 7% reactor.																					
	3 Nos. 10 KVAR Capacitor Bank with 7% reactor.																					
	1 Nos. 5 KVAR Capacitor Bank with 7% reactor.																					
	10 sets of push button stations Red and Green for manual operation of capacitor units with auto/manual selector switches.																					
	1 No. Indicating lamp for each 50 / 25/20/10/5 KVAR capacitor unit to indicate that the unit is 'ON'.																					
	1 No. Toggle switch for changing automatic to manual operation of capacitor units.																					
	Power factor Metre.																					
	01 Set of 100 Amps Active Harmonic Filter: Active Filter shall have the following components.																					
	Required IGBTs																					
	IGBT base active technology																					
	Gate driver, Interfacing and other control cards																					
	Heat Sinks																					

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Heavy duty cooling blowers/ fans with protection									-	-	-	-	-	-	-	-	-	-	-	-	-
	Voltage Sensing Cards & circuitry									-	-	-	-	-	-	-	-	-	-	-	-	-
	Current Transducers									-	-	-	-	-	-	-	-	-	-	-	-	-
	SMPS									-	-	-	-	-	-	-	-	-	-	-	-	-
	Solid State Relay									-	-	-	-	-	-	-	-	-	-	-	-	-
	Choke coil for interfacing IGBT with grid									-	-	-	-	-	-	-	-	-	-	-	-	-
	High Frequency & D C bus capacitors									-	-	-	-	-	-	-	-	-	-	-	-	-
	All required hardware's, softwares, protections, cards, inscription plates, Danger notice board etc., as required to be provided to complete the system									-	-	-	-	-	-	-	-	-	-	-	-	-
	MCCB, contactor and fuses of applicable rating and protections shall be provided for the active filter									-	-	-	-	-	-	-	-	-	-	-	-	-
	Programmable Microprocessor controller									-	-	-	-	-	-	-	-	-	-	-	-	-
	Instantaneous corrections of leading & lagging power factor & to keep the power factor nearer to unity									-	-	-	-	-	-	-	-	-	-	-	-	-
	Instantaneous corrections in current THD levels & maintain las per IEEE 519-92									-	-	-	-	-	-	-	-	-	-	-	-	-
	Three phase (non-neutral) unbalance compensation									-	-	-	-	-	-	-	-	-	-	-	-	-
	Reduction in voltage distortions as a result of reduction in ITHD									-	-	-	-	-	-	-	-	-	-	-	-	-
	Reduction in surges caused by switching of Heavy Load reduce tripping effect on electronic devices									-	-	-	-	-	-	-	-	-	-	-	-	-
961	Capacitor Panel describe as above (PTTA Type panels are considered)	Set	0	0	2	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply & Laying including end termination with brass compression gland and copper lugs of following sizes of 1.1KV grade multicore copper conductor PVC insulated and PVC sheathed armoured control cable conforming to IS:7098 (Part-I) 1988, including end termination with brass compression gland and copper lugs.									-	-	-	-	-	-	-	-	-	-	-	-	-
962	4 core, 1.5 sq.mm	Metre	399	394	362	1155.00				-	-	-	-	-	-	-	-	-	-	-	-	-
963	8 core, 1.5 sq.mm	Metre	441	431	399	1271.00				-	-	-	-	-	-	-	-	-	-	-	-	-
964	12 core, 1.5 sq.mm	Metre	546	530	505	1581.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	11 KV H.T. CABLE:									-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying of 11 KV grade aluminium conductor, cross linked polyethylene (XLPE) insulated individual core screened, flat steel/strip armoured PVC sheathed cable complete as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
965	3C x 300 Sqmm, 11 KV XLPE	Metre	159	66	0	225.00				-	-	-	-	-	-	-	-	-	-	-	-	-
966	3C x 240 Sqmm, 11 KV XLPE	Metre	48	59	60	167.00				-	-	-	-	-	-	-	-	-	-	-	-	-
966A	3C x 185 Sqmm, 11 KV XLPE	Metre	0	0	69	69.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and making indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
967	300 sq. mm	Each	5	5	0	10.00				-	-	-	-	-	-	-	-	-	-	-	-	-
968	240 sq. mm	Each	5	5	2	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
968A	185 sq. mm	Each	0	0	5	5.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	HT CABLE LAYING:									-	-	-	-	-	-	-	-	-	-	-	-	-
	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Upto 120 sq. mm	Metre								-	-	-	-	-	-	-	-	-	-	-	-	-
969	Above 120 sq. mm and upto 400 sq. mm	Metre	113	93	21	227.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size direct in ground in the same trench in one tier horizontal formation including excavation, sand cushioning, protective covering and refilling the trench etc as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Upto 120 sq. mm	Metre	0		0	0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
970	Above 120 sq. mm and upto 400 sq. mm	Metre	30	30	32	92.00				-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Laying of one number XLPE power cable of 11 KV grade of following size in the existing RCC/ HUME/ METAL pipe as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Upto 120 sq. mm	Metre	0		0					-	-	-	-	-	-	-	-	-	-	-	-	-
971	Above 120 sq. mm and upto 400 sq. mm	Metre	12	12	16	40.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size in the existing masonry open duct as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
	Upto 120 sq. mm	Metre	0		0	0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Above 120 sq. mm and upto 400 sq. mm	Metre	0		0	0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
972	Providing and fixing H.T. danger notice plate of 250 mm X 200 mm, made of mild steel, at least 2 mm thick, and vitreous enameled white on both sides, and with inscription in single red colour on front side as required.	Each	9	9	7	25.00				-	-	-	-	-	-	-	-	-	-	-	-	-
973	Providing and fixing M.V. danger notice plate of 200 mm X 150 mm, made of mild steel at least 2 mm thick, vitreous enameled white on both sides, and with inscription in single red colour on front side as required.	Each	17	10	20	47.00				-	-	-	-	-	-	-	-	-	-	-	-	-
						0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
974	Supplying and fixing cable route marker with 10 cm X 10 cm X 5 mm thick G.I. plate with inscription there on, bolted /welded to 35 mm X 35 mm X 6 mm angle iron, 60 cm long and fixing the same in ground as required.	Each	24	24	36	84.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Constructing brick masonry chamber for underground C.I. inspection chamber and bends with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg), R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand), finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete as per standard design :									-	-	-	-	-	-	-	-	-	-	-	-	-
975	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	20	20	10	50.00				-	-	-	-	-	-	-	-	-	-	-	-	-
976	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	20	20	10	50.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Extra for depth beyond 45 cm of brick masonry chamber									-	-	-	-	-	-	-	-	-	-	-	-	-
977	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Metre	8	8	4	20.00				-	-	-	-	-	-	-	-	-	-	-	-	-
978	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Metre	8	8	4	20.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete.									-	-	-	-	-	-	-	-	-	-	-	-	-
979	150 mm dia. R.C.C. pipe	Metre	370	243	130	743.00				-	-	-	-	-	-	-	-	-	-	-	-	-
980	250 mm dia. R.C.C. pipe	Metre	10	10	10	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
981	300 mm dia. R.C.C. pipe	Metre	180	23	112	315.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	HDPE PIPE FOR LV SERVICES									-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc. in the existing trench, complete as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
982	200 mm dia (OD-200 mm & ID-175 mm nominal)	Metre	10	10	10	30.00				-	-	-	-	-	-	-	-	-	-	-	-	
983	160 mm dia (OD-160 mm & ID-135 mm nominal)	Metre	10	10	10	30.00				-	-	-	-	-	-	-	-	-	-	-	-	
984	90 mm dia (OD-90 mm & ID-76 mm nominal)	Metre	10	10	10	30.00				-	-	-	-	-	-	-	-	-	-	-	-	
985	60 mm dia (OD-90 mm & ID-76 mm nominal)	Metre	0	107	97	204.00				-	-	-	-	-	-	-	-	-	-	-	-	
986	Preparation of necessary drawings getting approval arranging rule - 63 inspection and obtaining safety certificate for from CEIG	LS	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	
	Any other government approval and certificate / clearance if required	LS	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	
										-	-	-	-	-	-	-	-	-	-	-	-	
	<b>Sub Head 43 : External Lighting Work</b>									-	-	-	-	-	-	-	-	-	-	-	-	
987	Bollard LED 8-10 Watt Architectural bollard LED 3000K 230-240Vac 50-60Hz CRI > 80 Input power: 8W Height 800mm, Electronic driver ON/OFF CE and RoHS compliance TYPE: Bollard, IP rating IP65, impact resistance IK10. MATERIAL CHARACTERISTICS : Extruded aluminium bottom pipe Ø100 x H800mm with polycarbonate diffuser and integral base plate Ø180 with PG gland. Luminaire contains built in LED modules. Operating ambient temperature range is from -20°C to +40°C. Lumen output 300 lm, light source 96 power LEDs. Resistance to heat and fore for plasticpart should be 850 degree celcius. Housing Color Dark grey RAL 7043. CCE, CE and RoHS compliance. LM 79 and LM80 reports need to be submitted.	Each	93	87	34	214.00				-	-	-	-	-	-	-	-	-	-	-	-	
										-	-	-	-	-	-	-	-	-	-	-	-	
988	Gate Light shall havecircular LED post having housing made of pressure die-cast aluminium (including top canopy & pole mounting piece) with integrated optics & having Polyester powder coating in addition to a specific weathering resistance treatment. The dia of the post top shall be of the post top shall be minimum 450mm & height of minimum 200mm (including the pole mounting piece). The colour shall be RAL 7011 textured. The post top shall have Non-yellowing transparent and textured polycarbonate diffuser, 1.5mm thick. It should have concentric circular radial pattern for reduced glare & even light distribution. The luminaire must have round symmetrical optics/distribution. The luminaire shall be IP66 rated (without any glue) & shall have IK10 rating. The luminaire shall use high performance LEDs having CCT of 3000K/4000K/5700K/6500K, CRI ≥ 70 & SDCM ≤ 5. The luminaire shall deliver initial system lumen output of minimum 5000lumens & must have system luminous efficacy ≥110lm/w. The luminaire shall have Class-I electrical insulation & Serviceability of Class-B. The luminaire shall use BIS registered electronic driver having voltage range of 122V-277V with in-built surge protection of 4KV, THD≤10%. The driver shall have high cut-off (>325V±15V) & auto restart. The luminaire shall have in-built additional SPD of 10KV. The pole mounting piece shall be suitable for mounting on pole dia of 60mm.	Each	2	2	6	10.00				-	-	-	-	-	-	-	-	-	-	-	-	
	The luminaire shall be BIS registered. Luminaire manufacturer shall have In-house NABL accredited lab to conduct LM79, Type test as per IS10322 & "FAT" before dispatch as per IS 10322.									-	-	-	-	-	-	-	-	-	-	-	-	
989	Supply and fixing LED 10W Post top lantern Gate light fitting Philips cat. No. BGP151 LED2000/WW PSU 220-240V 7043 or equivalent with 4MMetre height with 60mm dia pole.	Each	42	3	2	47.00				-	-	-	-	-	-	-	-	-	-	-	-	
										-	-	-	-	-	-	-	-	-	-	-	-	
	12 Mtrs HIGH MAST									-	-	-	-	-	-	-	-	-	-	-	-	

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			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Supply and erection of "METAL COATS", High Mast Lighting, 12 Mtrs., continuously tapered, polygonal cross section, proven in-tension design conforming to the standards, mast fabricated out of special steel conforming to BS-EN 1-025 or equivalent, cut and									-	-	-	-	-	-	-	-	-	-	-	-	-
	i) An inspection door with cover arrangement, vandal resistant, provided at the bottom housing the winch, cables, plug and socket.									-	-	-	-	-	-	-	-	-	-	-	-	-
	ii) A lantern carriage designed for mounting 6 nos. flood light with associate control gear boxes and lamps.									-	-	-	-	-	-	-	-	-	-	-	-	-
	iii) Raising / Lowering mechanism of lantern carriage assembly both mechanical and electrical by built-in control and double drum winch, self-sustaining type.									-	-	-	-	-	-	-	-	-	-	-	-	-
	iv) Head frame designed as a capping unit of the mast, welded steel construction, galvanized both internally and externally, pulley blocks made out of die cast aluminium alloy (LM-6) self lubricating bearings with SS shaft to facilitate smooth and maintain									-	-	-	-	-	-	-	-	-	-	-	-	-
	v) 3 point suspension systems by means of stainless steel wire rope AISI-316 grades 8mm, without any intermediate joint.									-	-	-	-	-	-	-	-	-	-	-	-	-
	vi) Electrical system with plug and socket.									-	-	-	-	-	-	-	-	-	-	-	-	-
	vii) Lighting finial.									-	-	-	-	-	-	-	-	-	-	-	-	-
	viii)Supply of template for casting foundation and foundation hardwares.									-	-	-	-	-	-	-	-	-	-	-	-	-
	ix)Supply of complete set of drawings for casting foundation including supply of service manual on completion of work.									-	-	-	-	-	-	-	-	-	-	-	-	-
	x) M.S. Control Box, weather proof design, with all electrics pre-wired including provision of timer device for automatic switching on / switching off the lights, system designed for operation on 3 – phase 400/440V A/C									-	-	-	-	-	-	-	-	-	-	-	-	-
	xi)Foundation Cost for standard soil.									-	-	-	-	-	-	-	-	-	-	-	-	-
	xii)1x150W LED integrated flood light 06Nos (included).									-	-	-	-	-	-	-	-	-	-	-	-	-
	xiii)TwinAviation light with GLS lamp (included).									-	-	-	-	-	-	-	-	-	-	-	-	-
	SUPPORTS									-	-	-	-	-	-	-	-	-	-	-	-	-
	i) Fan down rod-HEAVY DUTY									-	-	-	-	-	-	-	-	-	-	-	-	-
	ii) FAN CLAMP									-	-	-	-	-	-	-	-	-	-	-	-	-
	AVIATION OBSTRUCTION LIGHT									-	-	-	-	-	-	-	-	-	-	-	-	-
990	Supply and fixing of AVIATION OBSTRUCTION LED TYPE LIGHT FITTING (K-LITE 6649)	Each	1	3	2	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply and erection of 6 metre height Hot-dip galvanized Tubler street light pole with following arm with top dia 70 mm and bottom dia A/F 130 mm, made of 3mm thick sheet along with base plate of size 220 X 220 X 12 mm , small door opening for junction box mounting with MCB & connector, cement concrete of 1:3:6 including excavation, refilling and suitable size foundation bolts with template and all complete job as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
991	6m Single arm pole	Each	45	23	24	92.00				-	-	-	-	-	-	-	-	-	-	-	-	-
992	6m Double arm pole	Each	9	19	12	40.00				-	-	-	-	-	-	-	-	-	-	-	-	-
993	Supplying and fixing 70 watt LED type street light with a nominal system lumen output of 5400 lumens and a minimum system efficacy of 100 lumen/watt. The luminaire shall have rated system lifetime of 50,000 burning hours at L70B50. The luminaire should have CCT 3000K/4000K/5700K/6500K and a CRI>70, SDCM<5. The luminaire shall meet IP66 and IK07 rating with THD<10% at full load, Wide operating Voltage(CLO) 100-270VAC, & PF>0.95 at full load and PF>0.9 at half load, electrical insulation class 1, interface to mains should be via 3C 1 .0sq.mm,0.5m- fying cable, T ambient 35°C. Inbuilt surge protection 4KV. The luminaire housing should be made of pressure die cast aluminium, lens and optical cover should be made of PC window. The total power consumption should not exceed 54W (including driver). The luminaire should have HV Cut off @ 325V/440V protection for 8 hrs. LM 79 and LM80 reports need to be submitted from a NABL/UL accredited lab to verify above paraMetres	Each	63	61	48	172.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	FEEDER PILLAR (OUTDOOR TYPE)									-	-	-	-	-	-	-	-	-	-	-	-	-



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			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
994	FEEDER PILLAR (OUTDOOR TYPE)-Design, Manufacturing, Supply, Receiving, Unloading, Shifting, installation, testing & commissioning of cubicle type totally enclosed free standing type moisture, dust, vermin & weather proof outdoor type Floor Distribution Panel made out of 2.0 mm thick & front cover 1.6 mm thick CRCA sheet complete with following equipments, including digital amMetre with inbuilt amMetre selector switch, digital voltMetre with inbuilt voltMetre selector switch, indicating lamps, CT's, internal wiring with suitable size wires / cable, MS Angle stand for installation, RCC foundation, interconnection, painting complete as per specification & drawing.	Each	2	2	2	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
995	Glatt a high-performance floodlight(200watts) with pressure die cast IP66 housing,secondary lens with 120 lm/W efficacy and superior aesthetics suitable for various application.	Each	7	2	10	19.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Total External Lighting system Carried over to Summary									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 44 : Earthing &amp; Lightning Protection</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
996	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required.	Set	47	24	24	95.00				-	-	-	-	-	-	-	-	-	-	-	-	-
						0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
997	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	Set	47	17	14	78.00				-	-	-	-	-	-	-	-	-	-	-	-	-
						0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
998	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	Set	49	45	41	135.00				-	-	-	-	-	-	-	-	-	-	-	-	-
										-	-	-	-	-	-	-	-	-	-	-	-	-
999	Supplying and laying 6 SWG G.I. wire at 0.50 metre below ground level for conductor earth electrode, including connection/ termination with GI thimble etc. as required.	Metre	50	44	40	134.00				-	-	-	-	-	-	-	-	-	-	-	-	-
										-	-	-	-	-	-	-	-	-	-	-	-	-
1000	Providing and fixing 25 mm x 5 mm copper strip on surface or in recess for connections etc. as required.	Metre	1216	1489	1080	3785.00				-	-	-	-	-	-	-	-	-	-	-	-	-
										-	-	-	-	-	-	-	-	-	-	-	-	-
1001	Providing and fixing earth bus of 50 mm x 5 mm copper strip on surface for connections etc. as required.	Metre	273	173	147	593.00				-	-	-	-	-	-	-	-	-	-	-	-	-
										-	-	-	-	-	-	-	-	-	-	-	-	-
1002	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required	Metre	3380	3192	2978	9550.00				-	-	-	-	-	-	-	-	-	-	-	-	-
										-	-	-	-	-	-	-	-	-	-	-	-	-
1003	Providing and fixing 50 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required	Metre	184	262	142	588.00				-	-	-	-	-	-	-	-	-	-	-	-	-
										-	-	-	-	-	-	-	-	-	-	-	-	-
1004	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing along with existing surface/ recessed conduit/ submain wiring/ cable as required.	Metre	420	420	210	1050.00				-	-	-	-	-	-	-	-	-	-	-	-	-
										-	-	-	-	-	-	-	-	-	-	-	-	-
1005	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing etc. as required.	Metre	1349	1842	994	4185.00				-	-	-	-	-	-	-	-	-	-	-	-	-
										-	-	-	-	-	-	-	-	-	-	-	-	-
1006	Providing and fixing 4.00 mm dia copper wire on surface or in recess for loop earthing as required.	Metre	505	401	218	1124.00				-	-	-	-	-	-	-	-	-	-	-	-	-
										-	-	-	-	-	-	-	-	-	-	-	-	-

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			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1007	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	2	2	2	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1008	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)	Metre	378	489	452	1319.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1009	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)	Metre	210	84	84	378.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1010	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	50	18	15	83.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1011	Providing and laying G.I. tape 32 mm X 6 mm from earth electrode directly in ground as required.	Metre	420	168	168	756.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1012	Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	Set	52	48	27	127.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1013	Providing and fixing 6.00 mm dia copper wire on surface or in recess for loop earthing as required.	Set	101	66	58	225.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1014	Providing and fixing 10.00 mm dia copper wire on surface or in recess for loop earthing as required.	Set	51	33	29	113.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1015	Supply, Installation, Testing & Commissioning of Earthing Junction Box size - 400mm x 300mm x 80mm made out of 16 SWG CRCA sheet with seven tank process & powder coating, earthing link (32mm x 6mm copper strip with suitable knockout holes) front door with glass as complete as required.	Set	2	2	2	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Total Earthing & Lightning Protection Carried over to Summary																					
	<b>Sub Head 45 : Photo Voltaic On Grid Solar Work</b>																					
1016	Supply, Installation, Testing and Commissioning of ongrid Solar Photovoltaic Power Plant conforming to MNRE specifications as amended, consisting of Mono/Poly Crystalline silicon solar cells, net Metreing facility, necessary protections, earthing, mounted on Aluminium/GI structure of suitable strength with following components complete as required:- a) Solar Photovoltaic Module of capacity 330 Wp or above, manufactured in India, conforming to IS 14286/IEC 61215, IS/IEC 61730-Part-1, IS/IEC 61730-Part-2. Solar Photovoltaic Module conversion efficiency shall not be less than 16.5%. PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years. b) Power Conditioning Unit (PCU) of 350-800 V DC Input voltage range and 400 V AC, three phase, 4 wire, 50Hz +/- 2.5 Hz, output voltage suitable to generate AC Power with efficiency not less than 97%, total harmonic distortion less than 3% and suitable for ambient temperature from 0 to 50 degree C. The PCU shall adjust the voltage and frequency level to suit the Grid Voltage Frequency. c) Data Monitoring System complete with accessories.	KWp	125	125	40	290.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	d) Fixing of Array junction box & Main junction box with IP 65 protection and termination arrangement for incoming and outgoing cable along with glands, lugs and other accessories etc. as required. e) Lightning and surge voltage protection. f) Connections & Interconnections by supplying & fixing required size XLPE insulated copper conductor 1.1 kV grade armoured power and control cables between solar modules, main power cable to grid supply PCU unit along with supplying & fixing of necessary channel/conduit lugs and other accessories etc. as required. Total solar photo voltaic rooftop power generation system Carried over to Summary																					
	<b>INTERNAL ELECTRIFICATION</b>																					
	<b>Sub Head 46 : Internal Electrification</b>																					
	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 medium Class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
1017	Group C	Point	2249	1897	963	5109.00				-	-	-	-	-	-	-	-	-	-	-	-	
1018	Wiring for twin control light point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium Class PVC conduit, 2 way 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.	Point	46	36	46	128.00				-	-	-	-	-	-	-	-	-	-	-	-	
	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 PVC conduit, and earthing the point with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable etc. as required.																					
1019	Group C	Point	2168	2260	1184	5612.00				-	-	-	-	-	-	-	-	-	-	-	-	
1020	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	444	235	199	878.00				-	-	-	-	-	-	-	-	-	-	-	-	
1021	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).	Each	405	254	147	806.00				-	-	-	-	-	-	-	-	-	-	-	-	
1022	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 5/6 & 15/16 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	Each	1399	848	661	2908.00				-	-	-	-	-	-	-	-	-	-	-	-	
1023	Supplying & fixing suitable size GI box with modular plate and cover in front on surface or in recess including providing and fixing 25 A modular socket outlet and 25 A modular SP MCB, "C" curve including connections, painting etc. as required.	Each	2	2	2	6.00				-	-	-	-	-	-	-	-	-	-	-	-	
1024	Supplying and fixing 20 A, 240 V, SPN Industrial type socket outlet, with 2 pole and earth, metal enclosed plug top alongwith 20 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	4	4	14.00				-	-	-	-	-	-	-	-	-	-	-	-	
1025	Supplying and fixing 30 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 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	5	5	5	15.00				-	-	-	-	-	-	-	-	-	-	-	-	

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1026	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel/PVC conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	10	10	10	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1027	Wiring for light/ power plug with 4X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel/PVC conduit alongwith 2 Nos. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	536	536	536	1608.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required									-	-	-	-	-	-	-	-	-	-	-	-	-
	CIRCUIT / SUBMAIN WIRING																					
1028	2x1.5 sq mm + 1x1.5 sq mm earth wire	Metre	7079	6221	4196	17496.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1029	2x2.5 sq mm + 1x2.5 sq mm earth wire	Metre	18220	14451	11873	44544.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1030	2x4 sq mm + 1x4 sq mm earth wire	Metre	51152	49491	28764	129407.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1031	2x6 sq mm + 1x6 sq mm earth wire	Metre	877	337	962	2176.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1032	2x10 sq mm + 1x6 sq mm earth wire	Metre	200	200	200	600.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1033	2x16 sq mm + 1x6 sq mm earth wire	Metre	10	10	10	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1034	4x2.5 sq mm + 2x2.5 sq mm earth wire	Metre	65	65	65	195.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1035	4 X 4 sq. mm + 2 X 4 sq. mm earth wire	Metre	510	510	510	1530.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1036	4 X 6 sq. mm + 2 X 6 sq. mm earth wire	Metre	700	700	700	2100.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1037	4x10 sq mm + 2x6 sq mm earth wire.	Metre	510	510	510	1530.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1038	4x16 sq mm + 2x6 sq mm earth wire.	Metre	20	20	20	60.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.																					
1039	5/6 A switch	Each	135	95	81	311.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1040	2 way 5/6 A switch	Each	72	54	46	172.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1041	15/16 A switch	Each	954	560	282	1796.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1042	3 pin 5/6 A socket outlet	Each	150	95	81	326.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1043	6 pin 15/16 A socket outlet	Each	580	560	113	1253.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1044	Telephone socket outlet	Each	127	75	60	262.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1045	TV antena Socket Outlet	Each	34	16	12	62.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1046	Bell push	Each	15	8	6	29.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and fixing following size/ modules, GI box along with modular base and cover plate for modular switches in recess etc as required.																					
1047	1 or 2 Module (75mmX75mm)	Each	167	157	138	462.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1048	3 Module (100mmX75mm)	Each	318	469	376	1163.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1049	4 Module (125mmX75mm)	Each	10	10	10	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1050	6 Module (200mmX75mm)	Each	583	570	123	1276.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1051	8 Module (125mmX125mm)	Each	5	5	5	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1052	12 Module (200mmX150mm)	Each	8	5	4	17.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1053	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	137	136	36	309.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1054	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	759	573	573	1905.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1055	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.	Metre	5000	5000	4850	14850.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1056	20 mm dia	Metre	7892	7892	7598	23382.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1057	25 mm dia	Metre	1285	1285	1250	3820.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1058	32 mm dia	Metre																				
1058	Supplying and fixing call bell/ buzzer suitable for single phase, 230 V, complete as required.	Each	14	8	6	28.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1059	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	Each	510	600	517	1627.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1060	Providing and fixing circular/ Hexagonal cast iron or M.S. sheet box for ceiling fan clamp, of internal dia 140 mm, 73 mm height, top lid of 1.5 mm thick M.S. sheet with its top surface hacked for proper bonding, top lid shall be screwed into the cast iron/ M.S. sheet box by means of 3.3 mm dia round headed screws, one lock at the corners. Clamp shall be made of 12 mm dia M.S. bar bent to shape as per standard drawing.	Each	137	136	36	309.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1061	Supplying and fixing of following sizes of STEEL conduit along with the 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.	Metre	50	50	50	150.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1062	20mm dia	Metre	40	40	40	120.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1063	25mm dia	Metre	40	40	40	120.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	32mm dia	Metre																				
	<b>Sub Head 47 : Distribution Board</b>																					
	MCB DB									-	-	-	-	-	-	-	-	-	-	-	-	-
1064	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)	Each	15	13	4	32.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	8 way Double Door	Each																				
	12 way Double Door	Each																				
	16 way, Double door	Each																				
1065	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 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)	Each	7	4	1	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	4 way ( 4 + 12 ), double door	Each																				



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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1066	6 Way (4+18), Double Door	Each	0	15	4	19.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1067	8 Way (4+24), Double Door	Each	65	25	10	100.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	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 . (Note : Vertical type MCB TPDB is normally used where 3 phase outlets are required.)																					
1068	12 way ( 4 + 36 ), Double door	Each	36	31	23	90.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.																					
1069	Single pole	Each	2904	2298	1236	6438.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1070	Triple pole and neutral	Each	2	2	2	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1071	Double pole	Each	3	42	42	87.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1072	Triple pole	Each	2	2	2	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and fixing following rating, double pole, 240 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.																					
1073	40 Amp Double Pole	Each	2	2	2	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1074	63 Amp Double Pole	Each	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.																					
1075	40 A	Each	2	2	2	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1076	63 A	Each	2	2	2	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuit breaker (RCCB), having a sensitivity current upto 30 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.																					
1077	25 Amps	Each	3	3	3	9.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1078	40 Amps	Each	333	261	129	723.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1079	63 Amps	Each	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and fixing following rating, four pole, (three phase and neutral), 415 volts, residual current circuit breaker (RCCB), having a sensitivity current upto 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.																					
1080	25 Amps	Each	2	2	2	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1081	40 Amps	Each	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1082	63 Amps	Each	107	87	43	237.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTRIBUTION PANEL (L.T. PANEL)																					

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Design, Manufacturing, Supply, Receiving, Unloading, Shifting, installation, testing & commissioning of cubicle type totally enclosed free standing type moisture, dust and vermin proof Distribution Panel made out of 2.0 mm thick & front cover 1.6 mm thick CRCA sheet complete with following equipments including internal wiring with suitable size wires / cable, interconnection, painting complete as per specification & drawing. All the incoming and outgoing MCCB shall have 36 KA Ics. All the MCCB up to 250 Amp shall have thermal release with adjustable overload and short circuit protection and above shall have microprocessor release with adjustable overload, short circuit & earthfault protection.																					
	P + AHU PANEL																					
	INCOMING																					
	1 No 400 Amp FP Moulded Case Circuit Breaker																					
	2 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.																					
	2 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.																					
	1 No. 400 Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 400/5 amps 15 VA, CL 1 secondary CTs to measure and display.																					
	1 Nos Fixed type Automatic transfer switch 630 Amp rating in open frame with live to live transfer. The ATS should have complete switching neutral with zero position having positive isolation and on load manual operation complying to IEC 60947-3 and IEC 60947-6-1. The control unit shall be integral part of the ATS.																					
	BUS BAR																					
	400 Amp TPN aluminium bus bar with heat shrinkable insulation sleeve..																					
	OUTGOING																					
	06 Nos 63 Amp FP Moulded Case Circuit Breaker																					
	12 Nos63 Amp TPN Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 Lot of control / power wiring.																					
	(PTTA Type panels are considered)																					
	All MCCB's shall be of 35 KA breaking capacity.																					
1083	P + AHU Panel described as above	Set	1	1	0	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	INCOMING																					
	1 No 400 Amp FP Moulded Case Circuit Breaker																					
	2 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.																					
	2 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.																					
	1 No. 400 Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 400/5 amps 15 VA, CL 1 secondary CTs to measure and display.																					
	1 Nos Fixed type Automatic transfer switch 630 Amp rating in open frame with live to live transfer. The ATS should have complete switching neutral with zero position having positive isolation and on load manual operation complying to IEC 60947-3 and IEC 60947-6-1. The control unit shall be integral part of the ATS.																					
	BUS BAR																					

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	400 Amp TPN aluminium bus bar with heat shrinkable insulation sleeve. OUTGOING																					
	06 Nos 63 Amp FP Moulded Case Circuit Breaker																					
	16 Nos63 Amp TPN Moulded Case Circuit Breaker																					
	1 Lot of control / power wiring. (PTTA Type panels are considered)									-	-	-	-	-	-	-	-	-	-	-	-	-
	All MCCB's shall be of 35 KA breaking capacity.																					
1084	P + AHU Panel described as above	Set	1	1	0	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	INCOMING																					
	1 No 250 Amp FP Moulded Case Circuit Breaker																					
	2 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.																					
	2 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.																					
	1 No. 250 Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 250/5 amps 15 VA, CL 1 secondary CTs to measure and display.																					
	1 Nos Fixed type Automatic transfer switch 250 Amp rating in open frame with live to live transfer. The ATS should have complete switching neutral with zero position having positive isolation and on load manual operation complying to IEC 60947-3 and IEC 60947-6-1. The control unit shall be integral part of the ATS.																					
	BUS BAR																					
	250 Amp TPN aluminium bus bar with heat shrinkable insulation sleeve. OUTGOING																					
	04 Nos 63 Amp FP Moulded Case Circuit Breaker																					
	08 Nos63 Amp TPN Moulded Case Circuit Breaker																					
	1 Lot of control / power wiring. (PTTA Type panels are considered)									-	-	-	-	-	-	-	-	-	-	-	-	-
	All MCCB's shall be of 35 KA breaking capacity.																					
1085	P + AHU Panel described as above	Set	1	1	0	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	INCOMING																					
	1 No 200 Amp FP Moulded Case Circuit Breaker																					
	2 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.																					
	2 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.																					
	1 No. 200 Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 250/5 amps 15 VA, CL 1 secondary CTs to measure and display.																					
	1 Nos Fixed type Automatic transfer switch 200 Amp rating in open frame with live to live transfer. The ATS should have complete switching neutral with zero position having positive isolation and on load manual operation complying to IEC 60947-3 and IEC 60947-6-1. The control unit shall be integral part of the ATS.																					

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	BUS BAR																					
	200 Amp TPN aluminium bus bar with heat shrinkable insulation sleeve.																					
	OUTGOING																					
	4 Nos 63 Amp FP Moulded Case Circuit Breaker																					
	06 Nos 63 Amp TPN Moulded Case Circuit Breaker																					
	1 Lot of control / power wiring. (PTTA Type panels are considered)																					
	All MCCB's shall be of 35 KA breaking capacity.																					
1086	P + AHU Panel described as above	Set	2	1	2	5.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	INCOMING																					
	1 No 200 Amp FP Moulded Case Circuit Breaker																					
	2 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.																					
	2 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.																					
	1 No. 200 Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 250/5 amps 15 VA, CL 1 secondary CTs to measure and display.																					
	1 Nos Fixed type Automatic transfer switch 200 Amp rating in open frame with live to live transfer. The ATS should have complete switching neutral with zero position having positive isolation and on load manual operation complying to IEC 60947-3 and IEC 60947-6-1. The control unit shall be integral part of the ATS.																					
	BUS BAR																					
	200 Amp TPN aluminium bus bar with heat shrinkable insulation sleeve.																					
	OUTGOING																					
	04 Nos 63 Amp FP Moulded Case Circuit Breaker																					
	04 Nos 63 Amp TPN Moulded Case Circuit Breaker																					
	1 Lot of control / power wiring. (PTTA Type panels are considered)																					
	All MCCB's shall be of 35 KA breaking capacity.																					
1087	P + AHU Panel described as above	Set	2	1	3	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	LIFT WELL, LIFT LOBBY & STAIRCASE PRESSU. PANEL																					
	INCOMING																					
	1 No 125 Amp FP Moulded Case Circuit Breaker																					
	2 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.																					
	2 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.																					
	1 No. 125 Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 125/5 amps 15 VA, CL 1 secondary CTs to measure and display.																					

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	1 Nos Fixed type Automatic transfer switch 125 Amp rating in open frame with live to live transfer. The ATS should have complete switching neutral with zero position having positive isolation and on load manual operation complying to IEC 60947-3 and IEC 60947-6-1. The control unit shall be integral part of the ATS.																					
	BUS BAR																					
	125 Amp TPN aluminium bus bar with heat shrinkable insulation sleeve.																					
	OUTGOING																					
	10 Nos 32 Amp TPN Moulded Case Circuit Breaker																					
	02 Nos 63 Amp TPN Moulded Case Circuit Breaker																					
	1 Lot of control / power wiring. (PTTA Type panels are considered)																					
	All MCCB's shall be of 35 KA breaking capacity.																					
1088	Lift Pressu Panel described as above	Set	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	LIGHTING PANEL-1 to 5																					
	INCOMING																					
	1 No 125 Amp FP Moulded Case Circuit Breaker																					
	2 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.																					
	2 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.																					
	1 No. 125 Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 125/5 amps 15 VA, CL 1 secondary CTs to measure and display.																					
	1 Nos Fixed type Automatic transfer switch 125 Amp rating in open frame with live to live transfer. The ATS should have complete switching neutral with zero position having positive isolation and on load manual operation complying to IEC 60947-3 and IEC 60947-6-1. The control unit shall be integral part of the ATS.																					
	BUS BAR																					
	125 Amp TPN aluminium bus bar with heat shrinkable insulation sleeve.																					
	OUTGOING																					
	06 Nos 63 Amp TPN Moulded Case Circuit Breaker																					
	1 Lot of control / power wiring. (PTTA Type panels are considered)																					
	All MCCB's shall be of 35 KA breaking capacity.																					
1089	Lighting Panel described as above	Set	5	4	3	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	LIGHTING PANEL-G & 6 FLOOR																					
	INCOMING																					
	1 No 125 Amp FP Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-	-
	2 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-	-



SL. no	Description of Item	Unit	Quantity				Rate			Amount											
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total		
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
	2 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-
	1 No. 125 Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 125/5 amps 15 VA, CL 1 secondary CTs to measure and display.									-	-	-	-	-	-	-	-	-	-	-	-
	1 Nos Fixed type Automatic transfer switch 125 Amp rating in open frame with live to live transfer. The ATS should have complete switching neutral with zero position having positive isolation and on load manual operation complying to IEC 60947-3 and IEC 60947-6-1. The control unit shall be integral part of the ATS.									-	-	-	-	-	-	-	-	-	-	-	-
	BUS BAR									-	-	-	-	-	-	-	-	-	-	-	-
	125 Amp TPN aluminium bus bar with heat shrinkable insulation sleeve..									-	-	-	-	-	-	-	-	-	-	-	-
	OUTGOING																				
	10 Nos 63 Amp TPN Moulded Case Circuit Breaker																				
	04 Nos 32 Amp TPN Moulded Case Circuit Breaker																				
	1 Lot of control / power wiring. (PTTA Type panels are considered)									-	-	-	-	-	-	-	-	-	-	-	-
	All MCCB's shall be of 35 KA breaking capacity.									-	-	-	-	-	-	-	-	-	-	-	-
1090	Lighting Panel described as above	Set	2	0	0	2.00				-	-	-	-	-	-	-	-	-	-	-	-
	UPS PANEL																				
	INCOMING																				
	1 No 400 Amp FP Moulded Case Circuit Breaker																				
	2 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.																				
	2 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-
	1 No. 400 Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 125/5 amps 15 VA, CL 1 secondary CTs to measure and display.									-	-	-	-	-	-	-	-	-	-	-	-
	1 Nos Fixed type Automatic transfer switch 400 Amp rating in open frame with live to live transfer. The ATS should have complete switching neutral with zero position having positive isolation and on load manual operation complying to IEC 60947-3 and IEC 60947-6-1. The control unit shall be integral part of the ATS.									-	-	-	-	-	-	-	-	-	-	-	-
	BUS BAR																				
	400 Amp TPN aluminium bus bar with heat shrinkable insulation sleeve..																				
	OUTGOING									-	-	-	-	-	-	-	-	-	-	-	-
	07 Nos 63 Amp TPN Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	07 Nos 63 Amp TPN Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	1 Lot of control / power wiring. (PTTA Type panels are considered)									-	-	-	-	-	-	-	-	-	-	-	-
	All MCCB's shall be of 35 KA breaking capacity.																				
1091	Lighting Panel described as above	Set	0	1	0	1.00				-	-	-	-	-	-	-	-	-	-	-	-
	UPS PANEL-GF to 6F									-	-	-	-	-	-	-	-	-	-	-	-
	INCOMING									-	-	-	-	-	-	-	-	-	-	-	-

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			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total		
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
	1 No 200 Amp FP Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	2 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-
	2 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-
	1 No. 200Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 200/5 amps 15 VA, CL 1 secondary CTs to measure and display.																				
	1 Nos Fixed type Automatic transfer switch 200 Amp rating in open frame with live to live transfer. The ATS should have complete switching neutral with zero position having positive isolation and on load manual operation complying to IEC 60947-3 and IEC 60947-6-1. The control unit shall be integral part of the ATS.																				
I	BUS BAR									-	-	-	-	-	-	-	-	-	-	-	-
III	200 Amp TPN aluminium bus bar with heat shrinkable insulation sleeve..																				
	OUTGOING									-	-	-	-	-	-	-	-	-	-	-	-
	06 Nos 63 Amp FP Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	02 Nos 63 Amp TPN Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	1 Lot of control / power wiring. (PTTA Type panels are considered)									-	-	-	-	-	-	-	-	-	-	-	-
	All MCCB's shall be of 35 KA breaking capacity.									-	-	-	-	-	-	-	-	-	-	-	-
1092	UPS Panel described as above	Set	5	1	1	7.00				-	-	-	-	-	-	-	-	-	-	-	-
	INCOMING									-	-	-	-	-	-	-	-	-	-	-	-
	1 No 250 Amp FP Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	2 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.																				
	2 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.																				
	1 No. 200 Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 250/5 amps 15 VA, CL 1 secondary CTs to measure and display.									-	-	-	-	-	-	-	-	-	-	-	-
	1 Nos Fixed type Automatic transfer switch 250 Amp rating in open frame with live to live transfer. The ATS should have complete switching neutral with zero position having positive isolation and on load manual operation complying to IEC 60947-3 and IEC 60947-6-1. The control unit shall be integral part of the ATS.																				
	BUS BAR									-	-	-	-	-	-	-	-	-	-	-	-
	250 Amp TPN aluminium bus bar with heat shrinkable insulation sleeve..									-	-	-	-	-	-	-	-	-	-	-	-
	OUTGOING									-	-	-	-	-	-	-	-	-	-	-	-
	05 Nos 63 Amp FP Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	05 Nos 63 Amp TPN Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	1 Lot of control / power wiring. All MCCB's shall be of 35 KA breaking capacity. (PTTA Type panels are considered)									-	-	-	-	-	-	-	-	-	-	-	-
1093	UPS Panel described as above	Set	2	2	1	5.00				-	-	-	-	-	-	-	-	-	-	-	-
	LIFT PANEL - TERRECE FLOOR (MAIN BLOCK)									-	-	-	-	-	-	-	-	-	-	-	-
	INCOMING									-	-	-	-	-	-	-	-	-	-	-	-
	2 No. 250 Amp FP Moulded Case Circuit Breaker.									-	-	-	-	-	-	-	-	-	-	-	-
	2 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-
	2 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.																				

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	1 No. 250 Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 160/5 amps 15 VA, CL 1 secondary CTs to measure and display.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 Nos Fixed type Automatic transfer switch 250 Amp rating in open frame with live to live transfer. The ATS should have complete switching neutral with zero position having positive isolation and on load manual operation complying to IEC 60947-3 and IEC 60947-6-1. The control unit shall be integral part of the ATS.																					
	BUS BAR									-	-	-	-	-	-	-	-	-	-	-	-	-
	250 Amp TPN aluminium bus bar with heat shrinkable insulation sleeve.									-	-	-	-	-	-	-	-	-	-	-	-	-
	OUTGOING									-	-	-	-	-	-	-	-	-	-	-	-	-
	10 Nos 63 Amp TPN Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 Lot of control / power wiring.									-	-	-	-	-	-	-	-	-	-	-	-	-
	(PTTA Type panels are considered)									-	-	-	-	-	-	-	-	-	-	-	-	-
	All MCCB's shall be of 35 KA breaking capacity.									-	-	-	-	-	-	-	-	-	-	-	-	-
1094	Lift Panel described as above	Set	1	1	0	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
IV	BASEMENT FLOOR PANEL (WALL MOUNTED)																					
	INCOMING																					
	1 No 125 Amp FP Moulded case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. 125 Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 125/5 amps 15 VA, CL 1 secondary CTs to measure and display.									-	-	-	-	-	-	-	-	-	-	-	-	-
	BUS BAR									-	-	-	-	-	-	-	-	-	-	-	-	-
	125 Amp FP copper busbar with heat shrinkable insulation sleeve.									-	-	-	-	-	-	-	-	-	-	-	-	-
	OUTGOING																					
	02 No. 63 Amp TPN Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-	-
	10 No. 25 Amp FP Miniature Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 Lot of control / power wiring.									-	-	-	-	-	-	-	-	-	-	-	-	-
	(PTTA Type panels are considered)									-	-	-	-	-	-	-	-	-	-	-	-	-
	All MCCB's shall be of 35 KA breaking capacity.									-	-	-	-	-	-	-	-	-	-	-	-	-
1095	Emergency Light Panel described as above	Set	1	1	0	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	EMERGENCY LIGHT PANEL- (MAIN BLOCK)									-	-	-	-	-	-	-	-	-	-	-	-	-
	INCOMING									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No 63 Amp FP Moulded case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-	-
	1 No. 63 Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 63/5 amps 15 VA, CL 1 secondary CTs to measure and display.									-	-	-	-	-	-	-	-	-	-	-	-	-
	BUS BAR									-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount											
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total		
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
	100 Amp FP copper busbar with heat shrinkable insulation sleeve.									-	-	-	-	-	-	-	-	-	-	-	-
	OUTGOING									-	-	-	-	-	-	-	-	-	-	-	-
	24 No. 25 Amp DP Miniature Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	1 Lot of control / power wiring. (PTTA Type panels are considered)									-	-	-	-	-	-	-	-	-	-	-	-
	All MCCB's shall be of 35 KA breaking capacity.																				
1096	Emergency Light Panel described as above	Set	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-
	MAIN UPS PANEL- (2 x 160 KVA) - MAIN BLOCK									-	-	-	-	-	-	-	-	-	-	-	-
	INCOMING									-	-	-	-	-	-	-	-	-	-	-	-
	04 No. 630Amp FP Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	2 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-
	2 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-
	2 No. 630 Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 630/5 amps 15 VA, CL 1 secondary CTs to measure and display.									-	-	-	-	-	-	-	-	-	-	-	-
	BUS BAR									-	-	-	-	-	-	-	-	-	-	-	-
	800 Amp TPN Copper bus bar with heat shrinkable insulation sleeve.									-	-	-	-	-	-	-	-	-	-	-	-
	OUTGOING									-	-	-	-	-	-	-	-	-	-	-	-
	03 Nos 800 Amp FP Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	06 Nos 63 Amp FP Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	1 Lot of control / power wiring. (PTTA Type panels are considered)																				
	All MCCB's shall be of 50 KA breaking capacity.									-	-	-	-	-	-	-	-	-	-	-	-
1097	Main UPS Panel described as above	Set	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-
	UPS PANEL- SERVER ROOM									-	-	-	-	-	-	-	-	-	-	-	-
	INCOMING									-	-	-	-	-	-	-	-	-	-	-	-
	01 No. 63 Amp FP Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	1 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-
	1 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-
	1 No. 63 Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 63/5 amps 15 VA, CL 1 secondary CTs to measure and display.									-	-	-	-	-	-	-	-	-	-	-	-
	BUS BAR									-	-	-	-	-	-	-	-	-	-	-	-
	100 Amp FP Copper bus bar with heat shrinkable insulation sleeve.									-	-	-	-	-	-	-	-	-	-	-	-
	OUTGOING									-	-	-	-	-	-	-	-	-	-	-	-
	02 Nos 63 Amp FP Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount											
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total		
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
	01 No.25 Amp DP Miniature Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	01 No.40 Amp DP Miniature Circuit Breaker																				
	1 Lot of control / power wiring.																				
	All MCCB's shall be of 35 KA breaking capacity.									-	-	-	-	-	-	-	-	-	-	-	-
	UPS Panel - (Server) described as above	Set																			
	RADIOLOGIST PANEL									-	-	-	-	-	-	-	-	-	-	-	-
	INCOMING									-	-	-	-	-	-	-	-	-	-	-	-
	2 No. 630 Amp FP Moulded Case Circuit Breaker.																				
	2 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.																				
	2 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-
	1 No. 630 Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 630/5 amps 15 VA, CL 1 secondary CTs to measure and display.									-	-	-	-	-	-	-	-	-	-	-	-
	1 Nos Fixed type Automatic transfer switch630 Amp rating in open frame with live to live transfer. The ATS should have complete switching neutral with zero position having positive isolation and on load manual operation complying to IEC 60947-3 and IEC 60947-6-1. The control unit shall be integral part of the ATS.									-	-	-	-	-	-	-	-	-	-	-	-
	BUS BAR									-	-	-	-	-	-	-	-	-	-	-	-
	630 Amp TPN aluminium bus bar with heat shrinkable insulation sleeve.									-	-	-	-	-	-	-	-	-	-	-	-
	OUTGOING									-	-	-	-	-	-	-	-	-	-	-	-
	02 Nos 160 Amp FP Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	04 Nos 125 Amp FP Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	1 Lot of control / power wiring.									-	-	-	-	-	-	-	-	-	-	-	-
	(PTTA Type panels are considered)									-	-	-	-	-	-	-	-	-	-	-	-
	All MCCB's shall be of 35 KA breaking capacity.									-	-	-	-	-	-	-	-	-	-	-	-
1098	RADIOLOGIST PANEL described as above	Set	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-
	UTILITY PANEL									-	-	-	-	-	-	-	-	-	-	-	-
	INCOMING									-	-	-	-	-	-	-	-	-	-	-	-
	1 No 160 Amp FP Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	1 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-
	1 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-
	1 No. 160 Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 160/5 amps 15 VA, CL 1 secondary CTs to measure and display.									-	-	-	-	-	-	-	-	-	-	-	-
	BUS BAR									-	-	-	-	-	-	-	-	-	-	-	-
	160 Amp TPN aluminium busbar with heat shrinkable insulation sleeve.									-	-	-	-	-	-	-	-	-	-	-	-
	OUTGOING									-	-	-	-	-	-	-	-	-	-	-	-
	08 No 125 Amp FP Moulded Case Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	1 Lot of control / power wiring.									-	-	-	-	-	-	-	-	-	-	-	-



SL. no	Description of Item	Unit	Quantity				Rate			Amount											
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total		
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
	(PTTA Type panels are considered)									-	-	-	-	-	-	-	-	-	-	-	-
	All MCCB's shall be of 35 KA breaking capacity.									-	-	-	-	-	-	-	-	-	-	-	-
1099	Utility Panel described as above	Set	1	0	1	2.00				-	-	-	-	-	-	-	-	-	-	-	-
	EXTERNAL LIGHTING PANEL																				
	INCOMING									-	-	-	-	-	-	-	-	-	-	-	-
	1 No. 63 Amp FP ( 10 KA Ics) Moulded Case Circuit Breaker.									-	-	-	-	-	-	-	-	-	-	-	-
	1 No. 0 to 500 Volt digital voltmeter with inbuilt selector switch.									-	-	-	-	-	-	-	-	-	-	-	-
	1 No. 63 Amp digital Ammeter with inbuilt selector switch and CT's.									-	-	-	-	-	-	-	-	-	-	-	-
	1 Set of phase indicating lamps with Single Pole MCB.									-	-	-	-	-	-	-	-	-	-	-	-
	1 Set of ON / OFF indicating lamps with Single Pole MCB.									-	-	-	-	-	-	-	-	-	-	-	-
	1 Set 24 Hrs TSQ Timer									-	-	-	-	-	-	-	-	-	-	-	-
	1 Set 63 Amp, 4P Contactor & A/M switch and Push Button.																				
	BUS BARS									-	-	-	-	-	-	-	-	-	-	-	-
	100 Amp TPN aluminium busbar.									-	-	-	-	-	-	-	-	-	-	-	-
	OUTGOING									-	-	-	-	-	-	-	-	-	-	-	-
	03 No. 25 Amp DP MCB.									-	-	-	-	-	-	-	-	-	-	-	-
	04 No. 40 Amp DP MCB.									-	-	-	-	-	-	-	-	-	-	-	-
	05 No. 40 Amp FP MCB.									-	-	-	-	-	-	-	-	-	-	-	-
1100	Panel described as above	Set	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-
V	PHE PANEL																				
	INCOMING																				
	1 No. 125 Amp FP Moulded Case Circuit Breaker.									-	-	-	-	-	-	-	-	-	-	-	-
	2 Set of phase indicating lamps (R, Y & B) and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-
	2 Set of ON / OFF indicating lamps and shall be protected by 2 amps SP MCB's.									-	-	-	-	-	-	-	-	-	-	-	-
	1 No. 125 Amps Digital MFM Metre with CT's Metre with RS 485 port and should communicate on Modbus RTU with 3 Nos. 125/5 amps 15 VA, CL 1 secondary CTs to measure and display.									-	-	-	-	-	-	-	-	-	-	-	-
	1 Nos Fixed type Automatic transfer switch 125 Amp rating in open frame with live to live transfer. The ATS should have complete switching neutral with zero position having positive isolation and on load manual operation complying to IEC 60947-3 and IEC 60947-6-1. The control unit shall be integral part of the ATS.									-	-	-	-	-	-	-	-	-	-	-	-
	BUS BAR																				
	125 Amp TPN aluminium bus bar with heat shrinkable insulation sleeve.									-	-	-	-	-	-	-	-	-	-	-	-
	OUTGOING									-	-	-	-	-	-	-	-	-	-	-	-
	10 Nos 25 Amp TPN Moulded Circuit Breaker									-	-	-	-	-	-	-	-	-	-	-	-
	10 Nos 25 Amps DOL Starter									-	-	-	-	-	-	-	-	-	-	-	-
	1 No. 25 Amp digital Ammeter with inbuilt selector switch and CT's.																				
	1 Set of phase indicating lamps with Single Pole MCB.																				

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			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
VI	1 Set of ON / OFF indicating lamps with Single Pole MCB. 1 Lot of control / power wiring.																					
	All MCCB's shall be of 15 KA breaking capacity.																					
1101	Fire PHE Panel described as above	Set	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	
	MCCB BOXES																					
	Supply, installation, testing & commissioning of MCCB in Sheet Steel enclosure made out of 2 mm thick CRCA sheet suitable for 3 phase 4 wire 50Hz AC system complete with four pole Moulded Case Circuit Breaker suitable for incoming & outgoing termination including power coating etc. complete as per specification & as required.																					
1102	630 Amp FP MCCB	Set	2	5	4	11.00				-	-	-	-	-	-	-	-	-	-	-	-	
1103	400 Amp FP MCCB	Set	2	2	6	10.00				-	-	-	-	-	-	-	-	-	-	-	-	
1104	250 Amp FP MCCB	Set	2	4	2	8.00				-	-	-	-	-	-	-	-	-	-	-	-	
1105	160 Amp FP MCCB	Set	1	1	2	4.00				-	-	-	-	-	-	-	-	-	-	-	-	
1106	125 Amp FP MCCB	Set	4	1	3	8.00				-	-	-	-	-	-	-	-	-	-	-	-	
1107	100 Amp FP MCCB	Set	3	1	1	5.00				-	-	-	-	-	-	-	-	-	-	-	-	
1108	63 Amp FP MCCB	Set	5	5	1	11.00				-	-	-	-	-	-	-	-	-	-	-	-	
1109	50 Amp FP MCCB	Set	2	1	1	4.00				-	-	-	-	-	-	-	-	-	-	-	-	
	RISING MAINS & BUSDUCT																					
	RISING MAIN-																					
	Supplying, installing by suspension on ceiling, testing and commissioning of following capacity Sandwich Type Rising Mains for use on 3 phase 4 wire 415 volts, 50Hz A.C. supply with metal clad enclosure having IP-54 rating after fixing the tap off boxes and all accessories, made of 1.6mm thick steel sheet duly powder coated in convenient sections complete with 4 Nos aluminium bus bars having current density of 130 A/ sq cm at nominal current rating, necessary joints, elbow joints & expansion joints and bends, fire barrier at each floor, provision of tapping at every metre, adopter box and copper flexible for joints, continuous earthing with 2 Nos aluminium strip of suitable size (one on each side) including, G.I. clamping brackets, suspenders, angle iron bracket, steel fasteners, connecting to earthing system etc. as required. Wherever End Feed Unit not proposed, the Rising Main shall be suitable for bus bar link for connecting directly to the Panel/Equipment located in same Electrical Room/Substation. (The Rising Main shall be comply with NIT specification)																					
1110	400 A, I <sub>sc</sub> = 25kA for 1 sec	Metre	70	40	16	126.00				-	-	-	-	-	-	-	-	-	-	-	-	
1111	800 A, I <sub>sc</sub> = 50kA for 1 sec	Metre	70	80	40	190.00				-	-	-	-	-	-	-	-	-	-	-	-	
1112	1000 A, I <sub>sc</sub> = 50kA for 1 sec	Metre	70	0	0	70.00				-	-	-	-	-	-	-	-	-	-	-	-	
	END FEED UNIT-																					
	Supplying, installation, testing & commissioning of following capacity End Feed Unit for the existing Air Insulated Compact Type bus trunking/ rising mains for use on 3 phase 4 wire 415 volts, 50Hz A.C. supply made with 1.6mm thick steel sheet enclosure (IP54) duly powder coated with provision of MCCB/ACB (but without MCCB/ACB) complete with necessary joints including clamping brackets, angle iron bracket, steel fasteners, connecting to earthing system etc. as required.																					
1113	400 A, I <sub>sc</sub> = 30kA for 1 sec	Set	2	2	2	6.00				-	-	-	-	-	-	-	-	-	-	-	-	
1114	800 A, I <sub>sc</sub> = 50kA for 1 sec	Set	2	4	2	8.00				-	-	-	-	-	-	-	-	-	-	-	-	
1115	1000 A, I <sub>sc</sub> = 50kA for 1 sec	Set	2		0	2.00				-	-	-	-	-	-	-	-	-	-	-	-	

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	TAP OFF UNIT																					
	Supplying, installation, testing & commissioning of following capacity Plug In/ tap off box on the existing Air Insulated Compact Type bus trunking/ rising mains for use on 3 phase 4 wire 415 volts, 50Hz A.C. supply made with 1.6mm thick sheet steel enclosure (IP54) duly powder coated with provision of MCCB/ACB (but without MCCB/ACB) complete etc. as required.																					
1116	125 A, lsc= 15kA for 1 sec	Each	20	12	10	42.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1117	200 A, lsc= 25kA for 1 sec	Each	18	4	10	32.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1118	250 A, lsc= 30kA for 1 sec	Each	0	8	4	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1119	400 A, lsc= 35kA for 1 sec	Each	10	8	0	18.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	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.																					
1120	100 A, 16 KA,FP MCCB	Each	0	7	3	10.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1121	125 A, 16 KA,FP MCCB	Each	20	13	3	36.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1122	150 A, 16 KA,TPMCCB	Each	0	1	0	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1123	200 A.36KA.FPMCCB	Each	18	1	2	21.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1124	250 A.36KA.FPMCCB	Each	0	12	0	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1125	250 A.50KA.FPMCCB	Each	0	1	2	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1126	400 A.50KA.FPMCCB	Each	10	10	6	26.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1127	630 A.50KA.FPMCCB	Each	0	5	4	9.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1128	800 A.50KA.TPMCCB	Each	4	4	0	8.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	BUSDUCT																					
1129	Supply and erection of Busbar Trunking-3 Ph, 4-wire, 415V, 50-Hz. Busduct shall be fabricated out of 14 SWG CRCA Sheet with adequate sizing, double earthing and ventilation grills, vermin proof Degree of protection IP-55 Busbar Rating - Electrolytic grade Aluminium 2500A.TPN (From TRANSFORMER & DG to MV panel)	Metre	70	75	0	145.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Total Distribution Board Carried over to Summary																					
	<b>Sub Head 48 : Light Fixtures &amp; Fans</b>																					
1130	Supplying and fixing brass batten/ angle holder including connection etc. as required.	Each	36	33	29	98.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1131	Installation, testing and commissioning of ceiling fan, including wiring the down rods of standard length (upto 30 cm) with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable, including providing and fixing phenolic laminated sheet cover on the fan box etc as required.	Each	137	137	31	305.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Installation of exhaust fan upto 450mm in the existing opening, including making the hole to suit the size of the above fan, making good the damage, connection, testing, commissioning etc as required.	Nos	0		0																	
1132	Extra for fixing the louvers/ shutters complete with frame for a exhaust fan of all sizes.	Each	129	138	46	313.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1133	Supply, Testing & Commissioning of 300 mm, 230 v A.C. exhaust fan in the existing opening including making good the damage, connection testing, commissioning etc as required.	Nos	42	23	15	80.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1134	Supply, Testing & Commissioning of 150 mm, 230 v A.C. exhaust fan in the existing opening including making good the damage, connection testing, commissioning etc as required.	Nos	87	115	31	233.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)
4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19			
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CMM/W) minimum 6.85, Air delivery minimum 215 CMM, 350 RPM (tolerance as per IS : 374-2019), THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.																				
1135	1200 mm	Nos	137	137	36	310.00				-	-	-	-	-	-	-	-	-	-	-	-
1136	Supply, Installation, Testing & Commissioning of 400 mm, 230 v A.C.wall/cabin fan including fixing the bracket, making connection etc as required.	Nos	437	426	205	1068.00				-	-	-	-	-	-	-	-	-	-	-	-
1137	Supply, Installation, Testing & Commissioning of IP20 Recessed 10W LED Downlighter made of pressure die cast aluminum housing, Fixture should have minimum efficacy at System level (Not Chip Level) >=110 lumens/watt with Minimum system Lumens 1000 with maximum system wattage of 9W. Life of fixture (Including Driver) : 50000 burning Hrs. @ L70B50 Lumen maintenance, CCT of 300K/4000K/5700K/6500K (SDCM<5), CRI >80, PF >0.95, working temp range - 0°C < Ta < 45°C, and operating Voltage Range of 240 VAC. It should has a Minimum Internal Surge Protection of 2.5KV. Electronic Switchable ballast. The fixture design should comply with EMC / EMI compliance along with BIS certification for LED Driver & Luminaire.Luminaire manufacture shall provide LM79report from NABL accredited lab & LM80 report issued by LED manufacturer.	Nos	173	119	33	325.00				-	-	-	-	-	-	-	-	-	-	-	-
1138	Supply Installation, testing & comissioning of Integral Mirror light LED 2 ft luminaire made of CRCA housing and PC diffuser (Diffuser-Non yellowing type). The luminaire should have a LEDs with colour consistency SDCM ≤ 5, CRI ≥ 80 and CCT of 3000K/400K/5700K/6500K. Luminaire shall be designed to emit at least minimum 2000 system lumens at a system efficacy of at-least 120 lumen/watt. Power consumption should not be more than 12W (±5%). The Life of fixture (Including Driver):50000 burning Hrs. @ L70B50 Lumen maintenance @ design ambient temp 45 deg C. The electronic driver used shall have a power factor ≥0.95 and THD ≤10%, suitable for an operating voltage range of 140-270V AC, Current Ripple ≤5%, Internal surge protection should be minimum 4KV, electrical insulation class should be Class I & driver should be of Class B serviceability. The luminaire shall be IP20 & IK02 compliant. The minimum dimensions (±5mm) of the batten shall be 44mm(±5mm) X 51mm (±5mm)X 585mm(±5mm). Luminaire manufacturer must have NABL accredited lab to conduct LM79, Type test as per IS10322 & "FAT" before dispatch as per IS 10322. The the successful bidder must submit the NABL accreditation certificate for Luminaire manufacturer along with Technical bid. The LED Luminaire & it's driver both should be BIS registered.	Nos	98	89	35	222.00				-	-	-	-	-	-	-	-	-	-	-	-
1139	Supply, Installation, Testing & Commissioning of 18W to 22W LED downlight recess IP20 Downlighter made of pressure die cast aluminum housing, Fixture should have minimum efficacy at System level (Not Chip Level) >=110 lumens/watt with Minimum system Lumens 1500 with maximum system wattage of 13.5W. Life of fixture (Including Driver) : 50000 burning Hrs. @ L70B50 Lumen maintenance, CCT of 3000K/4000K/5700K/6500K (SDCM<5), CRI >80, PF >0.95, working temp range - 0°C < Ta < 45°C, and operating Voltage Range of 240 VAC. It should has a Minimum Internal Surge Protection of 2.5KV. Electronic Switchable ballast. The fixture design should comply with EMC / EMI compliance along with BIS certification for LED Driver & Luminaire.Luminaire manufacture shall provide LM79report from NABL accredited lab & LM80 report issued by LED manufacturer.	Nos	253	454	246	953.00				-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1140	Supply, Installation, Testing & Commissioning of surface mounted Linear Batten 40W 4ft luminaire of CRCA housing and PC diffuser (Diffuser-Non yellowing type). The luminaire should have a color consistency SDCM ≤ 5, CRI ≥ 80 and CCT of 3000K/4000K/5700K/6500K. The luminaire shall be compliant with IP20 classification. Luminaire shall be designed to emit at least 4000 nominal lumens at a system efficacy of minimum 120 lumen/watt. Power consumption should not be more than 36W. The luminaire shall have CRI≥80. The Life of fixture (Including Driver):50000 burning Hrs. @ L70B50 Lumen maintenance @ design ambient temp 45 deg C. The electronic driver used shall have a power factor ≥0.95 @ full load and THD ≤10% @ full load and suitable for an operating voltage range of 140-270V AC. Ripple ≤5% and surge protection should be minimum 4KV, electrical insulation class should be Class I & driver should be of Class B serviceability. Driver should have high & low voltage cut off with auto restart @140-270V. 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, CISPR 15/ EN 55015 (9 KHz to 30MHz) for RFI, EMI/EMC, IEC 62384 for driver performance test. The luminaire driver shall be of the same make/manufacturer/brand as that of LED luminaires. The luminaire driver shall have efficiency of ≥85%. The LED luminaire manufacturer should have NABL accredited lab to conduct type test, factory acceptance test.	Each	703	672	342	1717.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1141	Supply, Installation, Testing & Commissioning of 36W to 40W 2X2 LED flat panel for surface mounting which provides soft-light and glare free symmetrical illumination. CRCA powder coated white after phosphochromate treatment and High transmittance polystyrene opal diffuser. High efficiency long life LED package in integral module with system lumen efficacy of >110 lm/W and viewing angle of 120° to ensure better uniformity. Powered by built-in Isolated, SELV Output electronic LED driver (SMPS based constant current supply) with Output Short-circuit protection, Surge protection & other reliability test. CRI >80, Color temperature 3000K/4000K/5700K/6500K, THD <20% and PF >0.95. IP20, IK03. Lumen output of 4650 lumens. Life class of 50,000 hrs @ L70, Operating Temperature:-10 TO +45 DEG.C; Input Supply Voltage Range:140-270 V, Frequency :50-60 HZ; Internal Surge Protection:3 KV. The luminaire shall be designed so as to ensure L70B50 @ 30K Hrs. @ 45 Degree Ambient. The electronic driver used shall have a power factor >0.95 and THD <10% The fixture should comply with the parameters as per IS10322. Similar to SM367 LED42S-6500 G6 L54W54 PSU OD	Each	964	883	644	2491.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1142	Supply, Installation, Testing and Commissioning of integral driver LED 5W wall light with a system lumen output of 40 lumens and a minimum system efficacy of 10 lm/W. The luminaire shall have a rated system lifetime of 25,000 burning hours at L70. The luminaire should have a color temperature of 3000K/4000K/5700K/6500K and CRI > 75. The luminaire shall meet IP67 rating with THD < 20% and PF > 0.9. The luminaire shall have polycarbonate diffuser.	Each	38	7	22	67.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1143	Supply, Installation, Testing & Commissioning of 20W wall mounted 4ft luminaire of CRCA housing and PC diffuser (Diffuser-Non yellowing type). The luminaire should have LEDs with colour consistency SDCM ≤ 5, CRI ≥ 80 and CCT of 3000K/4000K/5700K/6500K. Luminaire shall be designed to emit at least 2000 nominal lumens at a system efficacy of at-least 120 lumen/watt. Power consumption should not be more than 16W (±5%). The Life of fixture (Including Driver):50000 burning Hrs. @ L70B50 Lumen maintenance @ design ambient temp 45 deg C. The electronic driver used shall have a power factor ≥0.95 and THD ≤10%, suitable for an operating voltage range of 140-270V AC, Current Ripple ≤5%, Internal surge protection should be minimum 4KV, electrical insulation class should be Class I & driver should be of Class B serviceability. The luminaire should be at least IP20 & IK02 rated. Luminaire manufacturer must have In-house NABL accredited lab to conduct LM79, Type test as per IS10322 & "FAT" before dispatch as per IS 10322. The LED Luminaire & it's driver both should be BIS registered.	Nos	340	309	162	811.00				-	-	-	-	-	-	-	-	-	-	-	-	-



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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1144	Supply, Installation, Testing & Commissioning of 20W 2X2 Recess LED flat panel for which provides soft-light and glare free symmetrical illumination..CRCA powder coated white after phosphochromate treatment and High transmittance polystyrene opal diffuser. High efficiency long life LED package in integral module with system lumen efficacy of >95 lm/W and viewing angle of 120° to ensure better uniformity.Powered by built-in Isolated, SELV Output electronic LED driver (SMPS based constant current supply) with Output Short-circuit protection, Surge protection & other reliability test. CRI >80, Color temperature 3000K/4000K/5700K/6500K, THD <20% and PF >0.95,IP20, IK03.Lumen output of 2400 lumens.Life class of 50,000 hrs @ L70, Operating Temperature:-10 TO +45 DEG.C; Input Supply Voltage Range:140-270 V, Frequency :50-60 HZ; Internal Surge Protection:3 KV.	Nos	790	728	403	1921.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1145	Supply, Installation, Testing & Commissioning of Surface mounted 10/12 watt LED type Bulk-head fitting 1100lm made up of pressure die-cast aluminium housing and Polyester Powder coated with High quality polycarbonate diffuser in opal finish for glare free light distribution.High efficiency long life LED module with SMD LED package efficacy of >110 lm/W. Powered by integral electronic LED driver with CCT 3000K/4000K/5700K/6500K, CRI>80,THD<10%, PF>0.9, IP66, IK 09, Life class of 50,000 hrs @ L70, Operating Temperature: 0 TO +45 DEG.C; Input Supply Voltage Range:140-270 V, Frequency :50-60 HZ. Driver Safety requirement standards:IS 15885, Test Report to be submitted, Photobiological Safety Norms: IS 16108, test Certificate to be submitted, Certification: LM79 for Luminaire, Lm80 for LED Source.	Nos	103	75	48	226.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1146	Supply, Installation, Testing & Commissioning of Surface mounted 10 watt LED vertical downlighter having dia of 130mm(± 3mm) & height of 60mm(± 3mm) delivering minimum system lumen output of 1000 lumens (±5%) and system wattage of 10W (±5%) & with a minimum system efficacy of 100 lm/W. The luminaire should have a color temperature of 3000K/4000K/5700K/6500°K, CRI≥80 and SDCM≤5. The driver shall have THD≤10% (@full Load) and PF ≥ 0.95 (@full load). The luminaire housing should made of pressure die-cast aluminum. The fixture should comply with the paraMetres as per IS10322. The luminaire shall have impact resistance of IK02 & ingress protection of IP20. Luminaire manufacturer must have In-house NABL accredited lab to conduct LM79, Type test as per IS10322 & "FAT" before dispatch as per IS 10322. The the successful bidder must submit the NABL accreditation certificate for Luminaire manufacturer along with Technical bid. The LED Luminaire should be BIS registered.	Nos	128	97	21	246.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1147	Supply, Installation, Testing & Commissioning of Recess mounted 70 watt LED High bay vertical downlighter complete with all accessories and replaceable electronic driver, directly on false ceiling including connection with 1.5 sq.mm FR PVC insulated copper conductor cable and earthing the body etc. as required.	Each	32	26	11	69.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying, Installation, Testing and Commissioning of Microwave technology based occupancy sensor having high performance, non regulating programmable type, suitable for connected load upto 10Amp , for mounting height up to 2.6 mtr and for 5m X 20m coverage area along with necessary fixing arrangements i/c programming at site etc. complete as required.	Each	0		0	0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1148	Supply, Installation, Testing & Commissioning of Aviation obstruction light with Light Emitting Diodes (LEDs) similar to Bajaj make cat no. BGAV 302 LED or its equivalent as per approved list of make complete with all accessories as required.	Each	4	4	4	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Total Light Fixtures & Fan Carried over to Summary									-	-	-	-	-	-	-	-	-	-	-	-	-

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
	<b>Sub Head 49 : Cable, Cable Tray &amp; Termination</b>									-	-	-	-	-	-	-	-	-	-	-	-
	Supply, Installation, Testing & Commissioning of following sizes of 1.1KV grade multistranded copper conductor PVC insulated cable including termination complete as required in existing cable tray / existing conduit.																				
1149	1C x 6 sq.mm PVC Insulated cu wire including termination etc.	Metre	42	42	17	101.00				-	-	-	-	-	-	-	-	-	-	-	-
1150	1C x 10 sq.mm PVC Insulated cu wire including termination etc.	Metre	70	70	53	193.00				-	-	-	-	-	-	-	-	-	-	-	-
1151	1C x 16 sq.mm PVC Insulated cu wire including termination etc.	Metre	80	80	95	255.00				-	-	-	-	-	-	-	-	-	-	-	-
1152	1C x 25 sq.mm PVC Insulated cu wire including termination etc.	Metre	428	428	71	927.00				-	-	-	-	-	-	-	-	-	-	-	-
1153	1C x 50 sq.mm PVC Insulated cu wire including termination etc.	Metre	101	101	48	250.00				-	-	-	-	-	-	-	-	-	-	-	-
1154	1C x 95 sq.mm PVC Insulated cu wire including termination etc.	Metre	40	40	336	416.00				-	-	-	-	-	-	-	-	-	-	-	-
1155	1C x 120 sq.mm PVC Insulated cu wire including termination etc.	Metre	405	405	27	837.00				-	-	-	-	-	-	-	-	-	-	-	-
	Supply of following sizes of 1.1KV grade copper conductor XLPE insulated PVC sheathed (Heavy duty) armoured cable conforming to relevant IS. (Cable shall be purchased only after approval of cable schedule by architect / consultant).									-	-	-	-	-	-	-	-	-	-	-	-
1156	4 core, 16 sq. mm. Cu. Armoured Cable	Metre	1754	2004	1249	5007.00				-	-	-	-	-	-	-	-	-	-	-	-
1157	4 core, 10 sq. mm. Cu. Armoured Cable	Metre	602	630	923	2155.00				-	-	-	-	-	-	-	-	-	-	-	-
1158	4 core, 6 sq. mm. Cu. Armoured Cable	Metre	2261	2519	1786	6566.00				-	-	-	-	-	-	-	-	-	-	-	-
						0.00				-	-	-	-	-	-	-	-	-	-	-	-
	Supply of following sizes of 1.1KV grade aluminium conductor XLPE insulated PVC sheathed (Heavy duty) armoured cable conforming to relevant IS. (Cable shall be purchased only after approval of cable schedule by architect / consultant).									-	-	-	-	-	-	-	-	-	-	-	-
1159	4C x 2.5 Sq.mm.	Metre	893	344	551	1788.00				-	-	-	-	-	-	-	-	-	-	-	-
1160	4C x 4 Sq.mm.	Metre	1379	1439	449	3267.00				-	-	-	-	-	-	-	-	-	-	-	-
1161	4C x 6 Sq.mm	Metre	2074	2114	1095	5283.00				-	-	-	-	-	-	-	-	-	-	-	-
1162	4C x 10 Sq.mm	Metre	2056	1993	1113	5162.00				-	-	-	-	-	-	-	-	-	-	-	-
1163	4C x 16 Sq.mm	Metre	1470	794	48	2312.00				-	-	-	-	-	-	-	-	-	-	-	-
1164	3.5C x 25 Sq.mm	Metre	5604	6065	1704	13373.00				-	-	-	-	-	-	-	-	-	-	-	-
1165	3.5C x 35 Sq.mm	Metre	83	136	111	330.00				-	-	-	-	-	-	-	-	-	-	-	-
1166	3.5C x 50 Sq.mm.	Metre	1208	1029	871	3108.00				-	-	-	-	-	-	-	-	-	-	-	-
1167	3.5C x 70 Sq.mm.	Metre	413	531	561	1505.00				-	-	-	-	-	-	-	-	-	-	-	-
1168	3.5C x 95 Sq.mm.	Metre	1780	3193	129	5102.00				-	-	-	-	-	-	-	-	-	-	-	-
1169	3.5C x 120 Sq.mm.	Metre	626	173	976	1775.00				-	-	-	-	-	-	-	-	-	-	-	-
1170	3.5C x 150 Sq.mm.	Metre	841	1086	42	1969.00				-	-	-	-	-	-	-	-	-	-	-	-
1171	3.5C x 185 Sq.mm.	Metre	1024	1631	977	3632.00				-	-	-	-	-	-	-	-	-	-	-	-
1172	3.5C x 240 Sq.mm.	Metre	2415	1882	1343	5640.00				-	-	-	-	-	-	-	-	-	-	-	-
1173	3.5C x 300 Sq.mm.	Metre	3107	3980	1406	8493.00				-	-	-	-	-	-	-	-	-	-	-	-
	Supply & making end termination with brass compression gland & aluminium lugs for following size of FRLS insulated and FRLS sheathed aluminium conductor cable of 1.1KV grade as required.																				
1174	2 X 6 sq. mm (19mm) For copper armoured cable	Set	40	4	4	48.00				-	-	-	-	-	-	-	-	-	-	-	-
1175	4 X 6 sq. mm (25mm) For copper armoured cable	Set	92	166	50	308.00				-	-	-	-	-	-	-	-	-	-	-	-
1176	4 X 10 sq. mm (25mm) For copper armoured cable	Set	20	64	10	94.00				-	-	-	-	-	-	-	-	-	-	-	-
1177	4 X 16 sq. mm (28mm) For copper armoured cable	Set	16	60	28	104.00				-	-	-	-	-	-	-	-	-	-	-	-
1178	4 X 25 sq. mm (28mm) For aluminium armoured cable	Set	200	168	74	442.00				-	-	-	-	-	-	-	-	-	-	-	-
1179	3.5 X 35 sq.mm (32 mm) For aluminium armoured cable	Set	2	4	6	12.00				-	-	-	-	-	-	-	-	-	-	-	-
1180	3.5 X 50 sq.mm (35 mm) For aluminium armoured cable	Set	30	32	30	92.00				-	-	-	-	-	-	-	-	-	-	-	-
1181	3½ X 70 sq. mm (38mm) For aluminium armoured cable	Set	10	10	16	36.00				-	-	-	-	-	-	-	-	-	-	-	-
1182	3½ X 95 sq. mm (45mm) For aluminium armoured cable	Set	44	24	8	76.00				-	-	-	-	-	-	-	-	-	-	-	-
1183	3½ X 120 sq. mm (45mm) For aluminium armoured cable	Set	24	14	18	56.00				-	-	-	-	-	-	-	-	-	-	-	-
1184	3.5 X 150 sq.mm (50 mm) For aluminium armoured cable	Set	12	12	4	28.00				-	-	-	-	-	-	-	-	-	-	-	-
1185	3½ X 185 sq. mm (57mm) For aluminium armoured cable	Set	14	24	20	58.00				-	-	-	-	-	-	-	-	-	-	-	-
1186	3½ X 240 sq. mm (63mm) For aluminium armoured cable	Set	26	38	16	80.00				-	-	-	-	-	-	-	-	-	-	-	-
1187	3½ X 300 sq. mm (70mm) For aluminium armoured cable	Set	36	68	40	144.00				-	-	-	-	-	-	-	-	-	-	-	-
	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on cable tray as required.																				
1188	Upto 35 sq. mm (clamped with 1mm thick saddle)	Metre	10760.00	11848.00	4839.00	27447.00				-	-	-	-	-	-	-	-	-	-	-	-

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4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19			
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
1189	Above 35 sq. mm and upto 95 sq. mm (clamped with 25x3mm MS flat clamp)	Metre	1065.00	2390.00	541.00	3996.00				-	-	-	-	-	-	-	-	-	-	-	-
1190	Above 95 sq. mm and upto 185 sq. mm (clamped with 25/40x3mm MS flat clamp)	Metre	717.00	698.00	584.00	1999.00				-	-	-	-	-	-	-	-	-	-	-	-
1191	Above 185 sq. mm and upto 400 sq. mm (clamped with 40x3mm MS flat clamp)	Metre	2626.00	824.00	666.00	4116.00				-	-	-	-	-	-	-	-	-	-	-	-
	Fixing for laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on wall surface as required.																				
1192	Upto 35 sq. mm	Metre	890.00	1394.00	145.00	2429.00				-	-	-	-	-	-	-	-	-	-	-	-
1193	Above 35 sq. mm and upto 95 sq. mm	Metre	429.00	163.00	42.00	634.00				-	-	-	-	-	-	-	-	-	-	-	-
1194	Above 95 sq. mm and upto 185 sq. mm	Metre	150.00	32.00	110.00	292.00				-	-	-	-	-	-	-	-	-	-	-	-
1195	Above 185 sq. mm and upto 400 sq. mm	Metre	90.00	0.00	0.00	90.00				-	-	-	-	-	-	-	-	-	-	-	-
	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.																				
1196	Upto 35 sq. mm	Metre	1900.00	3242.00	2782.00	7924.00				-	-	-	-	-	-	-	-	-	-	-	-
1197	Above 35 sq. mm and upto 95 sq. mm	Metre	650.00	221.00	559.00	1430.00				-	-	-	-	-	-	-	-	-	-	-	-
1198	Above 95 sq. mm and upto 185 sq. mm	Metre	250.00	75.00	0.00	325.00				-	-	-	-	-	-	-	-	-	-	-	-
1199	Above 185 sq. mm and upto 400 sq. mm	Metre	0.00	499.00	595.00	1094.00				-	-	-	-	-	-	-	-	-	-	-	-
	Laying of one number additional PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground in the same trench in one tier horizontal formation including excavation, sand cushioning, protective covering and refilling the trench etc. as required.																				
1199(A)	Upto 35 sq. mm	Metre	0.00	0.00	0.00	0.00				-	-	-	-	-	-	-	-	-	-	-	-
1200	Above 35 sq. mm and upto 95 sq. mm	Metre	390.00	1680.00	231.00	2301.00				-	-	-	-	-	-	-	-	-	-	-	-
1201	Above 95 sq. mm and upto 185 sq. mm	Metre	600.00	1839.00	1233.00	3672.00				-	-	-	-	-	-	-	-	-	-	-	-
1202	Above 185 sq. mm and upto 400 sq. mm	Metre	1680.00	3515.00	1242.00	6437.00				-	-	-	-	-	-	-	-	-	-	-	-
	Laying and fixing 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.																				
1203	Upto 35 sq. mm	Metre	280.00	1406.00	1211.00	2897.00				-	-	-	-	-	-	-	-	-	-	-	-
1204	Above 35 sq. mm and upto 95 sq. mm	Metre	755.00	84.00	104.00	943.00				-	-	-	-	-	-	-	-	-	-	-	-
1205	Above 95 sq. mm and upto 185 sq. mm	Metre	584.00	53.00	158.00	795.00				-	-	-	-	-	-	-	-	-	-	-	-
1206	Above 185 sq. mm and upto 400 sq. mm	Metre	1000.00	672.00	162.00	1834.00				-	-	-	-	-	-	-	-	-	-	-	-
	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing masonry duct as required.																				
1207	Upto 35 sq. mm	Metre	0.00	173.00	52.00	225.00				-	-	-	-	-	-	-	-	-	-	-	-
1208	Above 35 sq. mm and upto 95 sq. mm	Metre	112.00	215.00	84.00	411.00				-	-	-	-	-	-	-	-	-	-	-	-
1209	Above 95 sq. mm and upto 185 sq. mm	Metre	140.00	193.00	110.00	443.00				-	-	-	-	-	-	-	-	-	-	-	-
1210	Above 185 sq. mm and upto 400 sq. mm	Metre	126.00	357.00	84.00	567.00				-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray (Galvanisation 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.																				
1211(A)	100 mm wide x 50 mm depth x 1.6 mm thickness.	Metre	0.00	0.00	0.00	0.00				-	-	-	-	-	-	-	-	-	-	-	-
1211	150 mm wide x 50 mm depth x 1.6 mm thickness.	Metre	351.00	164.00	119.00	634.00				-	-	-	-	-	-	-	-	-	-	-	-
1212	225 mm wide x 50 mm depth x 1.6 mm thickness.	Metre	464.00	350.00	136.00	950.00				-	-	-	-	-	-	-	-	-	-	-	-
1213	300 mm wide x 50 mm depth x 1.6 mm thickness.	Metre	794.00	492.00	280.00	1566.00				-	-	-	-	-	-	-	-	-	-	-	-
1214	450 mm wide x 50 mm depth x 2.0 mm thickness.	Metre	434.00	100.00	99.00	633.00				-	-	-	-	-	-	-	-	-	-	-	-
1215	600 mm wide x 50 mm depth x 2.0 mm thickness.	Metre	455.00	408.00	314.00	1177.00				-	-	-	-	-	-	-	-	-	-	-	-
1216	750 mm wide x 62.5 mm depth x 2.0 mm thickness.	Metre	84.00	84.00	74.00	242.00				-	-	-	-	-	-	-	-	-	-	-	-
1216(A)	900 mm wide x 62.5 mm depth x 2.0 mm thickness.	Metre	0.00	0.00	0.00	0.00				-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray "bends" (galvanisation 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.																				
1217(A)	100 mm wide x 50 mm depth x 1.6 mm thickness.	nos	0.00	0.00	0.00	0.00				-	-	-	-	-	-	-	-	-	-	-	-
1217	150 mm wide x 50 mm depth x 1.6 mm thickness.	nos	31.00	4.00	5.00	40.00				-	-	-	-	-	-	-	-	-	-	-	-
1218	225 mm wide x 50 mm depth x 1.6 mm thickness.	nos	37.00	7.00	1.00	45.00				-	-	-	-	-	-	-	-	-	-	-	-
1219	300 mm wide x 50 mm depth x 1.6 mm thickness.	nos	44.00	11.00	10.00	65.00				-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1220	450 mm wide x 50 mm depth x 2.0 mm thickness.	nos	8.00	2.00	2.00	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1221	600 mm wide x 50 mm depth x 2.0 mm thickness.	nos	8.00	18.00	11.00	37.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1222	750 mm wide x 62.5 mm depth x 2.0 mm thickness.	nos	4.00	4.00	3.00	11.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1222(A)	900 mm wide x 62.5 mm depth x 2.0 mm thickness.	nos	0.00	0.00	0.00	0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray "Tee" (galvanisation 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.																					
1223(A)	100 mm wide x 50 mm depth x 1.6 mm thickness.	nos	0.00	0.00	0.00	0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1223	150 mm wide x 50 mm depth x 1.6 mm thickness.	nos	4.00	4.00	12.00	20.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1224	225 mm wide x 50 mm depth x 1.6 mm thickness.	nos	7.00	5.00	8.00	20.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1225	300 mm wide x 50 mm depth x 1.6 mm thickness.	nos	16.00	12.00	7.00	35.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1226	450 mm wide x 50 mm depth x 2.0 mm thickness.	nos	2.00	2.00	1.00	5.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1227	600 mm wide x 50 mm depth x 2.0 mm thickness.	nos	17.00	16.00	11.00	44.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1228	750 mm wide x 62.5 mm depth x 2.0 mm thickness.	nos	2.00	2.00	2.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1228(A)	900 mm wide x 62.5 mm depth x 2.0 mm thickness.	nos	0.00	0.00	0.00	0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray "Cross member"(galvanisation 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.																					
1229	100 mm wide x 50 mm depth x 1.6 mm thickness.	nos	2.00	0.00	0.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1230	150 mm wide x 50 mm depth x 1.6 mm thickness.	nos	2.00	4.00	11.00	17.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1231	225 mm wide x 50 mm depth x 1.6 mm thickness.	nos	2.00	6.00	9.00	17.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1232	300 mm wide x 50 mm depth x 1.6 mm thickness.	nos	2.00	4.00	12.00	18.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1233	450 mm wide x 50 mm depth x 2.0 mm thickness.	nos	3.00	3.00	10.00	16.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1234	600 mm wide x 50 mm depth x 2.0 mm thickness.	nos	3.00	4.00	22.00	29.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1235	750 mm wide x 62.5 mm depth x 2.0 mm thickness.	nos	3.00	2.00	2.00	7.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1235(A)	900 mm wide x 62.5 mm depth x 2.0 mm thickness.	nos	0.00	0.00	0.00	0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray "Reducer"(galvanisation 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.																					
1236	100 mm wide x 50 mm depth x 1.6 mm thickness.	nos	2.00	0.00	0.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1237	150 mm wide x 50 mm depth x 1.6 mm thickness.	nos	2.00	0.00	0.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1238	225 mm wide x 50 mm depth x 1.6 mm thickness.	nos	1.00	5.00	14.00	20.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1239	300 mm wide x 50 mm depth x 1.6 mm thickness.	nos	1.00	17.00	20.00	38.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1240	450 mm wide x 50 mm depth x 2.0 mm thickness.	nos	9.00	7.00	18.00	34.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1241	600 mm wide x 50 mm depth x 2.0 mm thickness.	nos	2.00	12.00	15.00	29.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1242	750 mm wide x 62.5 mm depth x 2.0 mm thickness.	nos	4.00	2.00	2.00	8.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1242(A)	900 mm wide x 62.5 mm depth x 2.0 mm thickness.	nos	0.00	0.00	0.00	0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 50 : Raceway &amp; Junction Board</b>																					
	Supply & fixing of following size underfloor/ceiling suspended, compartmentalized (GP RACEWAY- Fabricated from GP Sheet) race ways for electrical & LV wiring including neoprene gasket in joints, cutting the floor & jaming the race way / hanging in ceiling, supporting arrangement as approved by consultant / architect with all necessary hard ware (including civil work) as per site requirement. The thickness of raceway & cover shall be as per technical specification.																					
1243	100 mm wide x 40 mm deep x 2 mm thick.	Metre	795.00	777.00	456.00	2028.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1244	150 mm wide x 40 mm deep x 2 mm thick.	Metre	695.00	751.00	291.00	1737.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1245	200 mm wide x 40 mm deep x 2 mm thick.	Metre	240.00	384.00	203.00	827.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1246	250 mm wide x 40 mm deep x 2 mm thick.	Metre	303.00	1142.00	741.00	2186.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1247	300 mm wide x 40 mm deep x 2 mm thick.	Metre	394.00	472.00	256.00	1122.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply & fixing of following size of Raceway Junction Box made out of 2 mm thick GP Sheet with 3 mm thick stainless steel cover for electrical & LV wiring including, cutting the floor & jaming the junction box / hanging in ceiling, supporting arrangement as approved by consultant / architect with all necessary hard ware (including civil work).(Junction box to be provided as per drawing/ as per site requirement & as per specification). The thickness of junction box shall be as per technical specification.																					



SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1248	150 mm wide x 50 mm deep.	Set	12.00	17.00	10.00	39.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1249	200 mm wide x 50 mm deep.	Set	10.00	29.00	14.00	53.00				-	-	-	-	-	-	-	-	-	-	-	-	
1250	250 mm wide x 50 mm deep.	Set	7.00	14.00	9.00	30.00				-	-	-	-	-	-	-	-	-	-	-	-	
1251	300 mm wide x 50 mm deep.	Set	7.00	31.00	20.00	58.00				-	-	-	-	-	-	-	-	-	-	-	-	
1252	350 mm wide x 50 mm deep.	Set	12.00	21.00	12.00	45.00				-	-	-	-	-	-	-	-	-	-	-	-	
	<b>Sub Head 51 : UPS System</b>																					
	Supply, Installation, Testing & Commissioning of 160 KVA UPS in paralleling mode at 0.99 input power factor from 25% to 100% load with SNMP card with external/inbuilt isolation transformer before static switch with bypass arrangement as per specification given in the document with following broad features.																					
	THD(i) shall be less than 3%.																					
	Input power factor shall be more than 0.99. from 25% to 100% load.																					
	UPS shall carry design output at 40 deg.																					
	Shall have soft start and hold of for incoming supply.																					
	Invertor capability to supply 150% load for 1 minute.																					
	Three Phase Input and Three Phase Output. (Input - 340V - 470V, Three Phase, 4 wire. / Output - 400-415 Volt, Three Phase, 4 Wire.)																					
	Shall not allow deep discharge of the battery and shall not go to 10.5 volts in case of 12 volt cells.																					
	Battery shall be external type with rack and suitable for 30 minute backup on 100% load.																					
	Suitable Size of Cables between battery bank and UPS and battery breaker with fuse protection.																					
	UPS shall be compatible for minimum 4 nos unit in parallel operation. (Synchronize). Parallel operation kit shall be supplied with UPS.																					
	Input phase sequence correction to be builtin in the system.																					
1253	UPS described as above	Set	2.00	2.00	2.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	
	Supply, Installation, Testing & Commissioning of 20 KVA UPS in paralleling mode at 0.99 input power factor from 25% to 100% load with SNMP card with external/inbuilt isolation transformer before static switch as per specification given in the document with following broad features.																					
	THD(i) shall be less than 3%.																					
	Input power factor shall be more than 0.99 from 25% to 100% load.																					
	UPS shall carry design output at 40 deg.																					
	Shall have soft start and hold of for incoming supply.																					
	Invertor capability to supply 150% load for 1 minute.																					
	Three Phase Input and Three Phase Output. (Input - 340V - 470V, Three Phase, 4 wire. / Output - 400-415 Volt, Three Phase, 4 Wire.)																					
	Shall not allow deep discharge of the battery and shall not go to 10.5 volts in case of 12 volt cells.																					
	Battery shall be external type with rack and suitable for 90 minute backup on 100% load.																					
	Suitable Size of Cables between battery bank and UPS and battery breaker with fuse protection.																					
	UPS shall be compatible for minimum 4 nos unit in parallel operation. (Synchronize). Parallel operation kit shall be supplied with UPS.																					
	Input phase sequence correction to be builtin in the system.																					
1254	UPS described as above	Set	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	
	<b>PA SYSTEM</b>																					
	<b>PUBLIC ADDRESS SYSTEM</b>																					



SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	Supply,Installation, Testing & Commissioning of ENS4-16 compliant IP Based Digital Public Address & Voice Alarm system. The selected system devices like controllers and Paging Microphones, should use the TCP/IP technologies and build on the standard network platform to ensure expandability. The individual systems should be able to play 4 simultaneous audio messages and also be able to be networked over IP.																					
1255	Supply,Installation, Testing & Commissioning of 8 zone IP based, digital Voice Alarm controller expandable upto 128 zones. The voice alarm controller should be able to connect directly over Ethernet. It should have functions like the audio playing, zone control, fault monitoring, log recording, volume control and amplifier switchover. The Voice alarm controller should also have the following functions: .255 Priorities . Time schedule broadcasts . Its own PTT microphone . Capable of amplifier redundancy . 8 trigger inputs/outputs	Set	3.00	3.00	2.00	8.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1256	Supply,Installation, Testing & Commissioning of IP based Networkable touch screen paging station for selection of zones, supervision of system status, setting of scheduled broadcasts with the following functions: . Built-in monitoring loudspeaker . Detachable goose-neck microphone . LCD touchscreen display . Audio input	Set	3.00	3.00	2.00	8.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1257	Supply,Installation, Testing & Commissioning of minimum 1x250W or nearest higher level Class-D Amplifier with 4 independent channels and can provide automatic re-settable overcurrent, overload, overheating, overvoltage, under-voltage and DC protection	Set	2.00	2.00	2.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1258	Supply, Installation, Testing & Commissioning of minimum 1x500W or nearest higher level Class-D Amplifier with 4 independent channels and can provide automatic re-settable overcurrent, overload, overheating, overvoltage, under-voltage and DC protection	Set	3.00	3.00	2.00	8.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1259	Supply, Installation, Testing & Commissioning of Network Resource Interface, 4 channels network audio source, 32 dry contacts in and 8 try contacts out for Fire Alarm Interface	Set	5.00	5.00	3.00	13.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1260	Supplying, installation, testing & commissioning of 1.5/3/6W ceiling speaker complete as required.	Each	149.00	150.00	81.00	380.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1261	Supplying, installation, testing & commissioning of 1.5/3/6W metal box ceiling/wall speakers complete as required.	Each	132.00	109.00	82.00	323.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1262	Supplying, installation, testing & commissioning of ceiling/wall mounted loud speaker, 3/1.5 Watt in ABS enclosure complete as required.	Each	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1263	Supply, Installation, Testing and Commissioning of 12 Watt volume controller with G.I. Box, modular plate etc as complete as required.	Set	5.00	5.00	5.00	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying and drawing of cable Fire Retardant PVC insulated copper conductor cable in the existing surface / recessed steel conduit of following pairs, cores and size including connections and interconnections etc. as required.																					
1264	speaker cable Single pair, 2-core, 1.5 sqmm	Metre	4732.00	3789.00	2197.00	10718.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1265	Supplying and fixing 25 mm dia MS flexible pipe with PVC coating along with all ancillaries and accessories like coupler etc. as required.	Each	1730.00	1249.00	667.00	3646.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1266	Supply, Installation, Testing and Commissioning of 42" MS Rack Suitable to house the above required equipments, With Glass Door, Side Openable, Cooling arrangement, Wheels and brakes and as per technical specification.	Set	9.00	6.00	4.00	19.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Total PA system Carried over to Summary																					
	ELV AND ICT SYSTEM																					
	<b>Sub Head 52 : Passive (Data, Wifi &amp; Networking System)</b>																					
1267	Supply, Insatllation, Testing & Commissioning of Category 6A cable as per Specification	Box 305mtrs	51.80	51.80	51.80	155.41				-	-	-	-	-	-	-	-	-	-	-	-	-

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1268	Supply, Insatllation, Testing & Commissioning of Category 6A UTP Patch Panel Blank Tool Less 24 Port	Nos	35.00	35.00	35.00	105.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1269	Supply, Insatllation, Testing & Commissioning of Category 6A UTP Keystone Jack Tool Less 180D	Nos	316.00	316.00	316.00	948.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1270	Supply, Installation, Testing and Commissioning of Category 6A U/UTP Patch Cord LSZH 01M	Nos	316.00	316.00	316.00	948.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1271	Supply, Installation, Testing and Commissioning of Category 6A U/UTP Patch Cord LSZH 02M	Nos	316.00	316.00	316.00	948.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1272	Supply, Insatllation, Testing & Commissioning of UK Face Plate Plain 01 Port	Nos	316.00	316.00	316.00	948.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1273	Supply, Insatllation, Testing & Commissioning of Category 6A UTP Keystone Jack Tool Less 180D	Nos	316.00	316.00	316.00	948.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1274	Supply, Insatllation, Testing & Commissioning of 6 Core Singlemode OS2 Central Loose Tube Armoured External Cable	Mtrs	3500.00	3500.00	3500.00	10500.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1275	Supply, Insatllation, Testing & Commissioning of Sliding Module Type Fibre Patch Panel Rack Mount	Nos	35.00	35.00	35.00	105.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1276	Supply, Insatllation, Testing & Commissioning of Blank Adaptor Plate	Nos	35.00	35.00	35.00	105.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1277	Supply, Insatllation, Testing & Commissioning of SC 3 Port Duplex Adaptor Plate	Nos	70.00	70.00	70.00	210.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1278	Supply, Insatllation, Testing & Commissioning of SC Singlemode Duplex Adaptor	Nos	70.00	70.00	70.00	210.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1279	Supply, Insatllation, Testing & Commissioning of SC/PC Singlemode OS2 1.5m LSZH Pigtail	Nos	70.00	70.00	70.00	210.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1280	Supply, Insatllation, Testing & Commissioning of SC/PC-LC/PC Singlemode OS2 3m Duplex LSZH Patch Cord	Nos	70.00	70.00	70.00	210.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1281	Supply, Insatllation, Testing & Commissioning of 42U Rack with 2000W Panel AC Solution with all accessories. Loaded with all Accessories like PDU ,Sliding Shelf, Cable Manager, Mounting Kits, Castor set.	Nos	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1282	Supply, Insatllation, Testing & Commissioning of 12U Rack with all accesories	Nos	35.00	35.00	35.00	105.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1283	Supply, Insatllation, Testing & Commissioning of 40mm PVC Conduit Pipe	Nos	5698.00	5698.00	5698.00	17094.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1284	Supply, Insatllation, Testing & Commissioning of 50mm PVC Flexible Pipe	Nos	100.00	100.00	100.00	300.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1285	Supply, Insatllation, Testing & Commissioning of HDPE Pipe 32mm	Nos	200.00	200.00	200.00	600.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 53 : Active ICT (Access Control, Display, IP Based CCTV Camera &amp; Telephone)</b>																					
1286	Supply, Insatllation, Testing & Commissioning of Latest 802.11ax Wi-Fi 6 Dual Band indoor AP, with 1.7 Gbps access throughput.	Nos	28.00	28.00	28.00	84.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1287	Supply, Insatllation, Testing & Commissioning of 24 X 1G RJ-45 PoE+ Ports with 370W power budget 2 x 10G Copper Ports and 4 x 10G SFP+ slots, upgradable to support up to 740watt PoE by additional power supply.	Nos	28.00	28.00	28.00	84.00				-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1288	Supply, Installation, Testing and Commissioning of 24 X 1/10G SFP+ Ports, RAM - 2GB, Flash 2 GB with 3 year warranty and support.	Nos	7.00	7.00	7.00	21.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1289	Supply, Insatllation, Testing & Commissioning of Next Generation Firewall with Anti-Virus, IPS, Anti-BOT & Anti-Spam, Application Control and URL Filtering features from Day-1 with 3 years manufacturer's warranty support, should be in leaders quadrant in Gartner report. The the quoted appliance should be in line with the technical specification with 3 years warranty.	Nos	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1290	Supply, Insatllation, Testing & Commissioning of Wireless access controller for Max 256 Access Points with high reliability.	Nos	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1291	Supply, Installation, Testing and Commissioning of 43" 4K UHD (3840x2160) commercial display, Ready resolution, Brightness- 400 Nits and operating Hours- 24x7 or better, with 2K HDR, Dolby Audio, Built in Wifi and Chromecast, Built in web browser, HDMI CEC, HDMI ARC, Built-in Bluetooth Ver.4, 20W built in speakers, HDMI 2.0 X 3, AV X 1, USB 2.0 X 1, RJ45 X 1, Headphone Out x 1, SPDIF Out x 1	Nos	21.00	21.00	21.00	63.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1292	Supply, Installation, Testing and Commissioning of 13th Generation Intel® Core™ i5 processor, Windows 11 Professional, Intel® UHD Graphics 730,8 GB DDR4 RAM,512 GB SSD Solid State Drive, 125 USB Black Wired Keyboard, 1 VGA; 1 HDMI-out 1.4b, 21.5 Inch display with 3 year Warranty and support.	Nos	176.00	176.00	176.00	528.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1293	Supply, Installation, Testing and Commissioning of Laser Jet/Ink jet colour office printer with 3 year warranty and support. Minimum print speed 40 perminute , processor speed 600 MHZ and more., network interface, wireless & wireline, usb port with redundant tray with 3 year warranty and support.	Nos	26.00	26.00	26.00	78.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1294	Supply, Installation, Testing and Commissioning of Dome 3 MP resolution; H.265 Codec; 1/2.8" CMOS ; Shutter Speed of 1/8s ~ 1/32,000s; 2.8mm Fix Lens; 3DNR;BLC;HLC;WDR 120 dB;40 Mtr IR, Analytics -Analytics - : Tampering, Motion Detect Aluminum housing; SD Card Slots 256GB; IP67; IK10; TLS1.2 only; AES- 256;SSH / Telnet closed; sFTP by default; PCIDSS compliance; ONVIF Profile S,T & G; Certificates- CE, FCC, RoHS, BIS,UL, 05 Yrs OEM Warranty, OEM Authorization, OEM should have factory in India since 2012	Nos	110.00	110.00	110.00	330.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1295	Supply, Installation, Testing and Commissioning of 64ch NVR with ARM Processor, Embedded Linux;8 SATA up to 80 TB inbuilt storage supported ,3 x USB, Mamimum 16 user;2 Way Audio;LAN x 1, WAN x 1, 2 x HDMI, 1 VGA;RAID 5, Network throughput 160 Mbps ,Support redundancy Failover N+1, 16ch PoE, RS485 Supported,RS232 Supported,e-SATA Supported,Certificates - CE,FCC,RoHS,BIS,UL	Nos	2.00	2.00	2.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1296	Supply, Installation, Testing and Commissioning of IP Based voice Communication System with 04 Port Voicemail ,04 Port FXS ,04 Port FXO ,4 PRI Trunk lines (30x4 Ch) Circuit with CLIP Facility, 200 IP users, 01 Nos. Conference facility, Speed Dial, Music on Hold, Internal/ External ring difference ,Call Barring, Call Pickup-Redundant server in Active-Active or Active -Standby mode with 3 Year Warranty and support.	Nos	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1297	Supply, Installation, Testing and Commissioning of IP Phone with 128X48 with 2 line Keys, 4 menu keys, 2 SIP accounts, supporting temperature from -5 C to 45 C With 3 year Warranty and support. (Make: Tadiran/ Cisco/ Aeonix/ Polycom)	Nos	30.00	30.00	30.00	90.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Bill no-6 Electrical system</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
7	<b>Sub Head 54 : LIFT SYSTEM</b>																					
1298	Supplying, installation, testing & commissioning of 26 Passenger lift cum Bed Lift with Machine Room having speed of 1 MPS in the existing lift shaft at the site. The Size of Lift Well (2500 X 3050 mm) Lift Car Inside Size (1400xx2550mm ).Pit depth 1600mm with Stainless steel -Hairline finish for Lift & Car ceiling and floor.The type of the car entrance and Landing entrance production is power operated two panel centre opening sliding door with stainless steel ( hairline finish).The type of Landing door frame is Stainless Steel(hairline finish).The clear opening of door is 1200mm x 2000mm.The control system are Microprocessor based simplex selective collective control with /without attendant of AC 415 V 3 PHASE 50 Hz WITH VOLTAGE VARIATION OF + 5 ~ - 10 % of Power supply for traction & 220 V 1 PHASE 50 Hz OF + 5 ~ - 10 % for Cabin lighting The rate shall include Necessary Labour,fitings, annual maintainance ,etc to complete. including cost and conveyance of all material, accessories, labour charges, transportation, lead & lift ,tax,erection at site complete for finished item of work.	each	2.00	0.00	0.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1299	26 Passenger cum Bed Lift Gearless with Machine Room having speed of 1 MPS - (G+6)	each	4.00	0.00	0.00	4.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1300	26 Passenger cum Bed Lift Gearless with Machine Room having speed of 1 MPS - (B+G+3)	each	0.00	1.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1301	26 Passenger cum Bed Lift Gearless with Machine Room having speed of 1 MPS - (G+3)	each	0.00	6.00	0.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1302	26 Passenger cum Bed Lift Gearless with Machine Room having speed of 1 MPS - (UG+G+2)	each	0.00	0.00	2.00	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1303	26 Passenger cum Bed Lift Gearless with Machine Room having speed of 1 MPS - (G+2)	each	0.00	0.00	1.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1304	Supplying, installation, testing & commissioning of Service lift Gearless with Machine Room having speed of 1.5 MPS in the existing lift shaft at the site. The Size of Lift Well (2500 X 3050 mm) Lift Car Inside Size (1600xx1600mm ).Pit depth 1600mm with Stainless steel -Hairline finish for Lift & Car ceiling and floor.The type of the car entrance and Landing entrance production is power operated two panel centre opening sliding door with stainless steel ( hairline finish).The type of Landing door frame is Stainless Steel(hairline finish).The clear opening of door is 1500mmX2000mm.The control system are Microprocessor based simplex selective collective control with /without attendant of AC 415 V 3 PHASE 50 Hz WITH VOLTAGE VARIATION OF + 5 ~ - 10 % of Power supply for traction & 220 V 1 PHASE 50 Hz OF + 5 ~ - 10 % for Cabin lighting The rate shall include Necessary Labour,fitings, annual maintainance ,etc to complete. including cost and conveyance of all material, accessories, labour charges, transportation, lead & lift ,tax,erection at site complete for finished item of work.	each	1.00	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1305	Service Lift Gearless with Machine Room having speed of 1.5 MPS - (B+G+6) - 1 Ton	each	1.00	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Service Lift Gearless with Machine Room having speed of 1.5 MPS - (G+3) - 1 Ton	each	0.00	1.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1306	Service Lift Gearless with Machine Room having speed of 1.5 MPS - (UG+G+2) - 1 Ton	each	0.00	0.00	1.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Total Bill no-7 Lift works</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
8	<b>Bill no-8 Allied works</b>																					
	<b>Sub Head 55 : Medical Gas Pipeline System</b>																					
	<b>OXYGEN SYSTEM</b>																					
1307	Supplying, installation and commissioning of 2 x 10 size manifold extendable type complete with middle frame with chain for individual cylinder along with non Return Valves for every cylinder and copper pig tail pipes.	set	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1308	Supplying, installation and commissioning of 3 Sources of Fully automatic control panel for Oxygen Having a min. flow out put of over 1650 lpm at 4.2 bar pressure complying to HTM 02-01/NFPA/DIN std.	set	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1309	Supplying, installation and commissioning of 2+2 Cylinder Emergency Oxygen arrangement using a high flow Regulator and quick release and adopt mechanism using O2 outlet and NRV	set	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1310	Supplying, installation and commissioning of Surface mounted Gas Outlets- Front loading complying to HTM- 02-01 / NFPA / DIN standard with matching probe (suitable for F/M or hose pipe).	nos.	294	276	120	690.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1311	Supplying, installation and commissioning of Oxygen flow metres (metal body) with reusable humidifier with Pr relief valve 0-15 LPM (Indigenous)	nos.	256	240	94	590.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1312	Supplying, installation and commissioning of Oxygen Conversion Kit with Hose Assembly	nos.	5	5	5	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>NITROUS OXIDE SYSTEM</b>																					
1313	Supplying, installation and commissioning of 2 x 4 size manifold extendable type complete with middle frame with chain for individual cylinder along with non Return Valves for every cylinder and copper pig tail pipes.	set	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1314	Supplying, installation and commissioning of Fully Automatic control panel for N2O having a min. flow out put of 250 lpm or more at 4.2 bar pressure (Indigenous)	set	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1315	Supplying, installation and commissioning of Single cylinder Emergency N2O arrangement using a high flow Regulator and quick release and adopt mechanism using N2O outlet and NRV	set	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1316	Supplying, installation and commissioning of Surface mounted Gas Outlets- Front loading complying to HTM- 02-01 / NFPA 99/ DIN standard with matching in Probe	nos.	9	9	8	26.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1317	Supplying, installation and commissioning of H.P. tubing having anti static core as per ISO	metre.	40	40	40	120.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1318	Supplying, installation and commissioning of N2O Conversion Kit with Hose Assembly	nos.	5	5	5	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>CARBON DI OXIDE SYSTEM</b>																					
1319	Supplying, installation and commissioning of 2 x 4 size manifold extendable type complete with middle frame with chain for individual cylinder along with non Return Valves for every cylinder and copper pig tail pipes.	set	1	1	0	2.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1320	Supplying, installation and commissioning of 1 + 1 size manifold extendable type complete with middle frame with chain for individual cylinder along with Non Return Valves for every cylinder and copper pig tail pipes.	set	0	0	1	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1321	Supplying, installation and commissioning of Fully Automatic control panel for CO2 having a min. flow out put of 250 lpm or more at 4.2 bar pressure (Indigenous)	set	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-



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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1322	Supplying, installation and commissioning of Single cylinder Emergency CO2 arrangement using a high flow Regulator and quick release and adopt mechanism using CO2 outlet and NRV	set	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1323	Supplying, installation and commissioning of Surface mounted Gas Outlets- Front loading complying to HTM- 02-01 / NFPA 99/ DIN standard with matching probe.	nos.	7	8	6	21.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1324	Supplying, installation and commissioning of CO2 Conversion Kit with Hose Assembly	nos.	2	2	2	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
<b>VACUUM SYSTEM</b>																						
1325	Supplying, Installaing and commissioning of Duplex Rotary vane vacuum pump each having over 300m3/h capacity with suitable sized Bacterial Filter, interconnecting pipes, NRV, Exhaust, Silencer and Two Receiver of 2*2000 liters capacity.	set	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1326	Supplying, Installaing and commissioning of Surface mounted Gas Outlet Complying to HTM- 2022/ NFPA 99/ DIN standard with matching probe for vacuum.	nos.	288	270	115	673.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1327	Supplying, Installaing and commissioning of Ward Vacuum Unit with Regulator, Collection Jar of 600 ml with Bracket (Indigenous).	nos.	256	240	94	590.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1328	Supplying, Installaing and commissioning of Theatre Suction Unit, trolley mounted with 2 no 2000 ml Collection Jars (Indigenous)	nos.	6	6	5	17.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1329	Supplying, Installaing and commissioning of High Pressure color coded yellow Tube	metre	200	200	75	475.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1330	Supplying, Installaing and commissioning of Low Pressure Tube (Transparent)	metre	150	150	150	450.00				-	-	-	-	-	-	-	-	-	-	-	-	-
<b>COMPRESSED MEDICAL AIR SYSTEM</b>																						
1331	Supplying, Installaing and commissioning of Duplex 113CFM each Capacity Screw / Scroll type Air Compressor with 8bar pressure with 02nos 1000Ltrs Vertical Mounted Air Receiver complete with auto / manual drain valves , pressure gauge, safety valve, Air Receiver suitably with facility for statutory inspection, by pass arrangement. The vessels should have Manufacturer's Test Certificate with 01nos of Duplex 120cfm Dessiccant Medical Air Dryer should deliver Medical Air with water content not exceeding 67vpm (volume parts per million—equivalent to a dew point -46°C at atmospheric pressure). So, it should incorporate suitable Dessiccant Dryers of requisite capacity with Dew Point Hygrometre and CO Monitor to display with a minimum accuracy of +_3°C in a range from -20°C to -60°C atmospheric dew point with a set point of -46°C along with 4 stage filters particle content removal up to 0.5mg/cum & 0.01mg/cum, 0.003mg/cum	set	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1332	Supplying, Installaing and commissioning of Surface mounted Gas Outlet Complying to HTM- 02-01/ NFPA 99 standard with probe for MA 4.	nos.	67	67	51	185.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1333	Supplying, Installaing and commissioning of Surface mounted Gas Outlet Complying to HTM- 02-01/ NFPA 99 standard with probe for SA 7.	nos.	8	7	7	22.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1334	Supplying, Installaing and commissioning of HP colour coded black Tubing	metre	100	100	75	275.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1333	Supplying, installation and commissioning of Compressed Air Conversion Kit with Hose Assembly	nos.	5	5	5	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
<b>AGSS (SCAVANGING) SYSTEM</b>																						
1334	AGSS Outlet Venturi type	set	4	4	4	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
<b>COPPER PIPELINES</b>																						
1335	Supplying, Installaing and commissioning of Medical Grade Copper Pipes conforming to BS: EN13348:2014 duly certified by third party Lloyds Register with Test Certificates.	metre	100	205	0	305.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1336	54*1.2mm OD Lloyds Certified Copper pipes BS: EN13348:2014	metre	120	100	60	280.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1336	42*1.2mm OD Lloyds Certified Copper pipes BS: EN13348:2014	metre	400	350	100	850.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1337	35*0.9mm OD Lloyds Certified Copper pipes BS: EN13348:2014	metre	380	300	300	980.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1338	28*0.9mm OD Lloyds Certified Copper pipes BS: EN13348:2014	metre	1000	1100	400	2500.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1339	22*0.9mm OD Lloyds Certified Copper pipes BS: EN13348:2014	metre	2900	3000	1800	7700.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1340	15*0.9mm OD Lloyds Certified Copper pipes BS: EN13348:2014	metre	3000	3100	2000	8100.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1341	12*1.0mm OD Lloyds Certified Copper pipes BS: EN13348:2014	metre	700	650	350	1700.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>MISCELLANEOUS ITEMS</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
1342	Supplying, Installaing and commissioning of Master Electrical Control Panel - Supplying, Installaing and commissioning of A dedicated electrical control panel for Air Compressors and Vacuum pumps & Air Dryers, Auto Drain Valves, starter, MCB, amrm, hours run rm, hand/auto switch, sensors contacts. Under normal conditions the capacity of the plant should be 100% system design flow with one compressor / pump running another one set compressor/pump stand by basis. Integrated with BMS Compatibility and Cabable of cummunicating Master Alarm. Along with automtic sequencing and cascading facility	nos.	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1343	Bed Head Panel Units are designed and manufactured as per EN 13485 Medical Devices – QMS. The panels are designed and built with a view to provide a stylish finish and pleasing aesthetics in order to blend into the room decoration. All bed head panel are manufactured using individually heat treated extruded aluminium sections. The bed head panel provides separate compartment for medical gases and electrical services. Aluminium extruded Separate provision for gas and electricals Easy assembly with push/slide/screw type assembly with no visible screws. Outlet points – Double Locking Indigenous type as per customer requirement. Cut Out Provision for Electricals – 6/16A as per customer requirement Cut Out Provision of LED Light with On Off control can be made as per customer requirement Cut Out Provision of Nurse call system can be made as per customer requirement Supplied pre-piped and fully tested. Complies with HTM 02-01 and NFPA 99. Electrostatic Powder Paint finish on all exterior.Colour code as per customer requirement	nos.	162	166	33	361.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1344	The Hospital Bed Head Panel - 900mm	nos.	35	37	29	101.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1345	The Hospital Bed Head Panel - 1200mm	nos.	30	24	16	70.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1346	The Hospital Bed Head Panel - 1500mm	nos.	5	6	4	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1347	Anaesthetic Rigid Pendant	nos.	4	4	4	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1347	Surgeon Pendant - Doubel Arm	nos.								-	-	-	-	-	-	-	-	-	-	-	-	-
1348	Digital Area Alarms - Supplying and commissioning of Meeical Gas Area Alarms, Microprocessor based, LCD Touch Screen,Wifi enabled, monitoring of real time Gas, Vacuum Pressure, audi-visual alarms for each gas, settable alarms limits, display the name of the area installed (like Ward/ICU/OT Etc..) must be cabale of communicating with master alarm, BMS Compatible, Optionally Temprature, Humidity Monitoring enabled, System complainning with HTM 02-02 & NFPS 99	nos.	10	7	2	19.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1349	2 Gases Alarm	nos.	7	6	4	17.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1350	3 Gases Alarm	nos.	2	2	2	6.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1351	4 Gases Alarm	nos.	0	0	0	0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1352	5 Gases Alarm (Rate Only)	nos.	4	5	4	13.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1352	6 Gases Alarm	nos.								-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1353	Master Alarm with BMS Compatibility The master alarms shall be capable to monitor minimum 40 Point. each point represents an alarm condition that the source equipment might have. When an alarm condition exists, a red light flashes and the audible alarm sounds. If several alarm conditions occur simultaneously, the most recent alarm light shall flash, while the other alarm lights shall remain lit. When an alarm condition is created, an audible alarm+ shall be actuated. The master alarm must be able to monitor the following source alarm conditions. Oxygen Source Empty/Fault Oxygen Cylinder Bank Empty/Fault (could be compatible supplied manufacturer of oxygen control panel) Oxygen Emergency Bank Empty/Fault - (could be compatible supplied manufacturer of oxygen control panel) Air Compressor Faulty/Operation - (could be compatible supplied manufacturer of electrical control panel) Vacuum Pump Faulty/Operational - (could be compatible supplied manufacturer of electrical control panel) Vacuum Deficiency Vacuum Reservoir And Other MGPS Signals & Alarms Master alarm shall be integrated with BMS/HIS	nos.	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supplying, Installaing and commissioning of Area Valve Service Unit (AVSU) - The Area Valve Service Unit (AVSU) shall conform to BS EN 739:1998, HTM 02-01 and BS EN ISO 7396-1:2007. The AVSU shall provide a zone isolation facility, for use either in an emergency or for maintenance purposes. The valves shall be operated by a quarter turn handle with over-travel prevention in both directions. A door shall lock in the closed position and AVSU's installed adjacent to each other shall be operated by different key/lock combinations. A blank zone identification label shall be provided with each AVSU fix assembly.									-	-	-	-	-	-	-	-	-	-	-	-	-
1354	2 Gases AVSU	nos.	23	16	7	46.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1355	3 Gases AVSU	nos.	11	8	11	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1356	4 gases AVSU	nos.	4	3	4	11.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1357	5 Gases AVSU	nos.	0	0	0	0.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1358	6 Gases AVSU	nos.	4	5	4	13.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Isolation Valves</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
1359	For 76 mm	nos.	5	5	0	10.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1360	For 54 mm	nos.	5	7	3	15.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1361	For 42 mm	nos.	8	9	8	25.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1362	For 35 mm	nos.	12	7	11	30.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1363	For 28 mm	nos.	16	15	13	44.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1364	For 22 mm	nos.	30	45	31	106.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1365	For 15 mm	nos.	100	120	80	300.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>CAMC (Comprehensive Annual Maintenance Contract)</b> Comprehensive Maintenance of the complete Medical Gas Pipeline System installation for 2 years after completion of Defect Liability Period / Warranty Period of Five Years as per terms and conditions of comprehensive maintenance described in the NITs per following. The Comprehensive Maintenance of MGPS Installations includes complete MGPS Installations, Labour, Spares, all consumables etc. as required including the following. a.All MGPS Equipments in the NIT. b.Preventive Maintenance Including Testing & Calibration as per Technical / Service / Operational Manual of the Manufacturer. c.MGPS Installation inside the MGPS Plant Room									-	-	-	-	-	-	-	-	-	-	-	-	-
1366	1st Year	nos.	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1367	2nd Year	nos.	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount											
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total		
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
										-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
	<b>Sub Head 56 : Nurse Call System</b>																					
	<b>Nurse call system shall have products certified/ approval by VDE 0834/ UL/ International Standards</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Controller</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Supply and Installation of VDE 0834 compliant/Zone Controller</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
1368	The controller (with SMPS power supply) forms a decentralised communications node for exchanging data between the connected system devices and the rest of the communications system, consisting of : 1 x RJ45 socket, 100Mb IP Port, galvanically isolated conforming to EN 60950 and VDE 0834; which is connected to the hospital V lan POE port- 3 x RJ45 sockets, for connecting all system modules connecting communications, bedside, overdoor light and pull cord and for connection of the external data bus. The above entire unit shall be manufactured as per specifications ,Line Sketches & as per the approval of the Engineer-In-Charge.The rate including all material, labour, taxes, transportation etc to complete.	nos.	12	9	4	25.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Nurse station display</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
1369	Nurse Station shall comprises of minimum 10" large touch screen LC colour graphic display for displaying all details, a smash proof glass panel (to protect the sensitive display from unnecessary contact during cleaning and other processes). The ward terminal shall display date and time, indication of all presence, all set reminders, indication of all calls in accordance with VDE0834. All call indications follow the priority and must display the exact location of the calls. The above entire unit shall be manufactured as per specifications ,Line Sketches & as per the approval of the Engineer-In-Charge.The rate including all material, labour, taxes, transportation etc to complete.	nos.	17	16	10	43.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Nurse station display</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
1370	All errors and notifications are displayed on the information panel. Emergency codes, WC calls, nurse calls, and nurse presences can be monitored. All activities on the system are logged. All logs can be reported in detail.Panel to room communication, Panel to a group of rooms communication, General call from rooms or nurse stations, Full duplex, SIP protocol, PoE (Power Over Ethernet) The above entire unit shall be manufactured as per specifications ,Line Sketches & as per the approval of the Engineer-In-Charge.The rate including all material, labour, taxes, transportation etc to complete.	nos.	2	2	0	4.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>ROOM CONTROL UNIT</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
1371	Supply of Room Terminal with display & integrated functional components and operating membrane keypad with symbols; consisting of: It features a 5" touchscreen and built-in RFID card reader, which nurses use to verify their identity when responding to calls. All cards read by the unit are checked for authorization.The Room Control Unit can be used to initiate and terminate emergency code calls (Code Blue/Cardiac Arrest etc.), assist calls, consultation calls, and voice calls to the Nurse Control Panel. The above entire unit shall be manufactured as per specifications ,Line Sketches & as per the approval of the Engineer-In-Charge.The rate including all material, labour, taxes, transportation etc to complete.	nos.	25	25	0	50.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Bed side Unit and patient handset</b>									-	-	-	-	-	-	-	-	-	-	-	-	-



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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1372	consisting of a plastic case in antimicrobial finish having - Call button with nurse symbol with integrated finder and reassurance light on the top end of the unit, - Membrane keypad in antimicrobial finish with integrated LEDS for operation, consisting of: - 1 call key, - 2 lighting keys - 2.80 metre connection cable with auto-disconnecting RJ45 connector plug. It shall be supplied with cradle for holding patient terminals. The above entire unit shall be manufactured as per specifications ,Line Sketches & as per the approval of the Engineer-In-Charge.The rate including all material, labour, taxes, transportation etc to complete.	nos.	241	217	76	534.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Supply and Installation of VDE 0834 certified/ approved connection module for Patient Terminal</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
1373	Connection module for patient handset shall consist of: - 1 x RJ45 socket marked in colour and with measures to ensure that the push button is correctly connected, including auto disconnect mechanism, - 1 membrane keypad with: - 1 call button (red with nurse symbol) including a finder/ reassurance light, - 1 presence key/ cancel button (green) including a control LED, The above entire unit shall be manufactured as per specifications ,Line Sketches & as per the approval of the Engineer-In-Charge.The rate including all material, labour, taxes, transportation etc to complete.	nos.	241	217	76	534.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Toilet Units</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>VDE 0834 certified/ approved Pull Cord with cancel Button - For WC</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
1374	Pull cord for WC shall consist of: - 1 call button (pull cord) including a finder light & reassurance light, - 1 presence button (green) incl. control LED, - integrated finder lights or reassurance light - micro switch with a 2 metre pull cord and a luminous grip with a nurse call symbol, Pull cord characteristics: max. force at break: 120N (ca. 12 kg): for hygiene reasons it must also be possible to change the pull cord very easily using a snap hook; In an emergency, the patient makes an emergency call by pulling the cord. This appears as a WC Emergency Call on the Nurse Control Panel. - Moisture Protected The above entire unit shall be manufactured as per specifications ,Line Sketches & as per the approval of the Engineer-In-Charge.The rate including all material, labour, taxes, transportation etc to complete.	nos.	90	79	16	185.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Door Indicator with I/O</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Supply of VDE 0834 certified/ approved Loop Powered Lamp Module</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
1375	For optical indication of calls, presences and reminders in the relevant colours conforming to VDE0834 consisting of: 7 colors colors (red, green, blue, cyan, yellow, magenta, white) • Very low energy consumption thanks to environment-friendly LEDs • Made of high quality PC-ABS-FR Raw Materials The above entire unit shall be manufactured as per specifications ,Line Sketches & as per the approval of the Engineer-In-Charge.The rate including all material, labour, taxes, transportation etc to complete.	nos.	47	38	17	102.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Door Indicator</b>									-	-	-	-	-	-	-	-	-	-	-	-	-

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1376	For optical indication of calls, presences and reminders in the relevant colours conforming to VDE0834 consisting of: 7 colors colors (red, green, blue, cyan, yellow, magenta, white) • Very low energy consumption thanks to environment-friendly LEDs • Made of high quality PC-ABS-FR Raw Materials The above entire unit shall be manufactured as per specifications ,Line Sketches & as per the approval of the Engineer-In-Charge.The rate including all material, labour, taxes, transportation etc to complete.	nos.	25	25	0	50.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Networking &amp; Integration</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Supply and Installation of Management center - Nurse Call Server</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
1377	The server provides log reporting through a web interface and enables integration with other systems used throughout the building. Our servers have a Linux-based robust and reliable infrastructure.Linux Operating System ,Fully redundant structure, Troubleshooting and error notification of all modules connected to the system. The above entire unit shall be manufactured as per specifications ,Line Sketches & as per the approval of the Engineer-In-Charge.The rate including all material, labour, taxes, transportation etc to complete.	nos.	1	1	1	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Mifare card</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
1378	smart cards to verify the permissions of hospital personel who wish to initiate or terminate various calls. This allows custom permissions to be set for different type of card user, nurse , code blue team , Doctors etc The above entire unit shall be manufactured as per specifications ,Line Sketches & as per the approval of the Engineer-In-Charge.The rate including all material, labour, taxes, transportation etc to complete.	nos.	30	30	0	60.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Supply of Backbone Switch</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
1379	Floor Switch: Uplink connections: 2 x 1Gb uplink ports, RJ45 (GBIC capable, possibility for LWL) Connections downlink: 24 x 100Mb downlink ports, RJ45 Switch must have all the Layer 2 and Layer 3 function which is mentioned in the tender Document. The above entire unit shall be manufactured as per specifications ,Line Sketches & as per the approval of the Engineer-In-Charge.The rate including all material, labour, taxes, transportation etc to complete.	nos.	18	10	5	33.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Supply and fixing in position the following heavy duty ISI Marked PVC conduit in concealed or surface mounted 16 gauge ISI marked GI conduit including all accessories i.e. bends, junction boxes, outlet boxes with cover plates. The above entire unit shall be manufactured as per specifications ,Line Sketches & as per the approval of the Engineer-In-Charge.The rate including all material, labour, taxes, transportation etc to complete.									-	-	-	-	-	-	-	-	-	-	-	-	-
1380	25 mm dia heavy duty PVC conduit concealed. (in RM)	metre	10000	0	0	10000.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1381	Supply, laying, connecting, crimping and commissioning of UTP Cat-6 LSZH cable (in RM) in existing conduit , conductors should be 23 AWG solid copper and insulation, jacket should be of fluoropolymer. Temperature range should be -20 to 60 Deg C. Ethernet (POE) capability should be 100/1000 Base-T and Frequency 250MHz. The above entire unit shall be manufactured as per specifications ,Line Sketches & as per the approval of the Engineer-In-Charge.The rate including all material, labour, taxes, transportation etc to complete.	metre	15000	15000	10000	40000.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 57 : Hospital Cubical Curtain Track System,Wall Guard &amp; Column Guard System</b>									-	-	-	-	-	-	-	-	-	-	-	-	-

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1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1382	Supply and installation of Optitrac® Cubicle Curtain Track System™ heavy Duty Aluminium cubicle track made of Aluminum alloy (6063-T5) having minimum size 35mm wide x 19mm high x 1.52mm thick, made of aluminium Extruded with white powder coating having properties like Tensile Strength 195 MPa, Shear Strength 150 MPa, Corrosion resistance properties with 50-60 micron Standard white powder coating with seven stage processes, Tracks to have drill guide on the top. Runners shall be of Wheel Type Roller and made from Nylon, Deralin with SS 304 Hook. Roof suspender, wall support, bridge clamp all shall be made from Aluminum Powder coated. Shall Provide factory bent track sections with one-foot radius. End Cap: Provide thermoplastic end caps in a colour matching the track. End cap shall have a removable inner cap that allows carriers to be removed. Provide track aluminium splice to fit track section, with finish matching that of the track. Provide support sets, designed to receive attachment from track support. Provide brackets to mount to angle ceilings and receive attachment from track support. Unit includes durable hinge, latch and standard length. Acetal ipc ball and chain carriers with nonbinding nylon rollers accurately fit to track. Carriers to be fitted to curtain to prevent accidental curtain removal.	metre	645.00	557.50	481.00	1683.50				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>CUBICLE / PRIVACY CURTAIN :</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
1383	Supply and installation of 100% polyester cubical curtains. Fabric is to be opaque, water repellent, wrinkle free, shrink proof, Anti-odor, Anti-microbial, Anti-fungal with high strength 18" oval net nylon mesh on top and Fabric 7'6" (H) x 4' (W). Curtain Fabric shall be of 230GSM.	sqm	1290.00	1115.00	1010.00	3415.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>WALL GUARD :</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
1384	Providing and fixing superior impact resistance Wall Guard (MAKE IN INDIA) having Vinyl: Snap on cover of .080" (2mm) thickness shall be extruded from chemical and stain resistant polyvinyl chloride with the addition of impact modifiers. no plasticizers shall be added (plasticizers may aid in bacterial growth). Surface shall have a pebble texture for scratch resistant and Continuous aluminum retainer of .080" (2mm) thickness shall be fabricated from 6063-T5 aluminum, with a mill finish. Dimensions to be of 6" (152mm) height x 1" (25mm) depth. Inner snap-on vinyl impact bumper of .080" (2mm) thickness x 3.930" (100mm) width x 21mm height which shall be extruded from chemical and stain resistant unplasticized polyvinyl chloride (uPVC). The system shall resist an impact of 45.5 ft-lbs/inch while producing no visual blemishes upon the vinyl cover surface and no deformations in the aluminum retainers, as tested in accordance with applicable provisions of ASTM F 476-84, paragraph 18, Impact Test and shall not support fungal or bacterial growth in accordance with ASTM G-21 and G-22. The ipc system shall also conform to class A fire rating and ASTM D-543 for chemical and stain resistance. It shall include injection molded End Caps with black reveal strip.	metre	1427.00	1843.20	330.00	3600.20				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>CORNER GUARD :</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
1385	Providing and fixing series high impact surface mount IPS Corner Guard (MAKE IN INDIA) having Vinyl: Snap on cover of .080" (2mm) thickness shall be extruded from chemical and stain resistant polyvinyl chloride with the addition of impact modifiers no plasticizers shall be added (plasticizers may aid in bacterial growth). Surface shall have a pebble texture for scratch resistant. Continuous aluminum retainer of .070" (1.8mm) thickness shall be fabricated from 6063-T5 aluminum, with a mill finish. Dimensions to be of 2" (51mm) x 2" (51mm), 90 degree. The rigid vinyl profile shall resist an impact of 30.2 ft-lbs/inch as per ASTM D-256-90b and shall not support fungal or bacterial growth in accordance with ASTM G-21 and G-22. The ipc system shall also conform to class A fire rating and ASTM D-543 for chemical and stain resistance. It includes Top caps and bottom caps which shall be made of injection molded thermoplastics.	metre	510.00	253.20	93.00	856.20				-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1386	Providing and fixing IPC Handrail (MAKE IN INDIA) having rigid vinyl snap-on cover(lead free) of 080" (2mm) thick, Surface shall have a pebblette texture for scratch and stain resistant rigid vinyl cover mounted on a sturdy continuous aluminium retainer of .080" (2mm) thickness that shall be fabricated from 6063-T5 aluminium with a mill finish. 4-5/16" (110mm) height x 1-5/8" (41mm) gripping diam, extends 3-1/8" (79mm) from wall which has a oval gripping surface. The system shall resist an Impact Strength of 30.2 ft-lbs/inch of thickness as tested in accordance with the procedures specified in ASTM D-256-90b, Impact Resistance of Plastics. The rigid vinyl shall not support fungal or bacterial growth in accordance with ASTM G-21 and G-22. The system shall also conform to class A fire rating and ASTM D-543 for chemical and stain resistance. It includes Molded end returns with black reveal strip and mounting brackets.	metre	1355.00	1198.08	93.00	2646.08				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 58 : Kitchen Equipments</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
1387	<b>WORK TABLE FOR SUPPORT OF TWO BURNER RANGE</b> Size 1350x600x850mm	nos	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Top & undershelf of s.s.sheet on m.s.anlge frame work & s.s.tubular legs, with adjustable feet. Top to have sound deadning material lining as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
1388	<b>EXHAUST HOOD (Without Ducting, Fixing &amp; Extraction fan) FOR TWO BURNER RANGE</b> Size 1950x750x600mm	nos	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Made of s.steel sheet, 20G thick duly welded & pop rivetted as required. The hood will be complete with s.s.sheet removable type baffle filters. Complete with greese collection channel & greese collection cup/s.									-	-	-	-	-	-	-	-	-	-	-	-	-
1389	<b>JUICER (table top model)</b>	nos	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Cast Aluminum/CI body, duly polished / painted, with worm & perforated insert. Top feeding tray. Worm easily cleanable fitted with 1/2HP elect. motor.									-	-	-	-	-	-	-	-	-	-	-	-	-
1390	<b>CONVEYOR TOASTER</b> App. Cap. 100-125 Toasts/hr.	nos	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	S.S.Sheet body, having s.s.sheet conveyor belt. App.225mm wide. The unit will have heating elements on top & lower portion of conveyor belt with variable heat & speed control switch. (MADE IN ITALY)									-	-	-	-	-	-	-	-	-	-	-	-	-
1391	<b>WORK TABLE</b> Size 1500X600X850mm	nos	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	Top & undershelf of s.s.sheet on m.s.anlge frame work & s.s.tubular legs, with adjustable feet. Top to have sound deadning material lining as required.									-	-	-	-	-	-	-	-	-	-	-	-	-
1392	<b>FOOD TROLLEY WITH 4 ROUND PANS, 1 RICE TRAY &amp; STORAGE beneath</b> O/S 1350X750X900mm	nos	4.00	4.00	4.00	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	S.S.Sheet insulated body, Frame work of m.s.anlge of size 38x38x5mm, mounted on 4 castors (2 with brakes) of size 150mm top to have cutout for 4nos. Round pans for Dal, Subzi etc. with 1 rice tray & storage below. Three side covered with s.s.sheet with s.									-	-	-	-	-	-	-	-	-	-	-	-	-
1393	<b>TRAY CARRIER TROLLEY</b> Size 1200X600X1200mm	nos	4.00	4.00	4.00	12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
										-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount											
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total		
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19
	S.S.Bottom base shelf mount at 150mm with all four sides turned down 50mm in 12mm and secured to welded s.s.anlge frame work & PROVIDED WITH THREE nos. OF DETACHABLE TRAYS cum SHELFs UNIT WILL BE MOUNTED ON 4" PILLAR TYPE CASTORS WHEELS (2 nos. WITH BRAKE & 2 nos. WITHOUT BRAKE)									-	-	-	-	-	-	-	-	-	-	-	-
	<b>TRAY set UP COUNTER WITH BAIN MARIE &amp; DOUBLE OVERSHELVES</b>									-	-	-	-	-	-	-	-	-	-	-	-
1394	<b>Size 1800x600x850+375+225</b> Top of 16G s.s.sheet, Bain Marie water tank of 18G s.s.sheet, fitted with 3.0kw heating element with automatic temperature controller. Water outlet provision with drain valve, 3 sides covered with 20G s.s.sheet, Top to accommodate s.s.sheet Food Pans with GN pan 1x2x4" depth with lid 5 sets.	nos	1.00	1.00	1.00	3.00				-	-	-	-	-	-	-	-	-	-	-	-
1395	<b>STORAGE RACK</b> <b>Size 900X450X1800</b> Vertical of 32 mm dia stainless steel pipe with adjustable feet 4 nos of 18 S.S Sheet at equaly distance.	nos	2.00	2.00	2.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-
	SS MAKE CANTEEN DINING TABLE (SIX SEATER)	Per No.	6.00	6.00	4.00	16.00				-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 59 : Solid Waste Management</b>									-	-	-	-	-	-	-	-	-	-	-	-
1396	Supply of pvc 60 Lit capacity Waste bins Rectangular types.The Size of the bin is height -850mm and Top Dia - 350X350mm and Bottm dia - 250X250mm and handle with cover including tax or its equivalent of ISI make with Green,Blue,Red,Black,Yellow, colours as directed by the Engineer - in -charge.	nos	590.00	613.00	359.00	1562.00				-	-	-	-	-	-	-	-	-	-	-	-
1397	Supply of pvc 90 Lit capacity Waste bins Rectangular types.The Size of the bin is height -850mm and Top Dia - 510X510mm and Bottm dia - 380X400mm and handle with cover including tax or its equivalent of ISI make with Green,Blue,Red,Black,Yellow, colours as directed by the Engineer - in -charge.	nos	161.00	121.00	124.00	406.00				-	-	-	-	-	-	-	-	-	-	-	-
	Supply of pvc 21 Lit capacity Waste bin Rectangular types.The Size of the bin is height -420mm and handle with cover including tax or its equivalent of ISI make with directed by the Engineer - in -charge.									-	-	-	-	-	-	-	-	-	-	-	-
1398	Sanitary Napkin Waste Bin.	nos	18.00	17.00	14.00	49.00				-	-	-	-	-	-	-	-	-	-	-	-
1399	Supply of pvc 240 Lit capacity Two Wheeled Waste bin .The Size of the bin is height -1065 mm and Top Length 740mm and Top width 580mm and handle with cover including tax or its equivalent of ISI make with Green,Blue,Red,Black,Yellow, colours as directed by the Engineer - in -charge.	nos	14.00	12.00	12.00	38.00				-	-	-	-	-	-	-	-	-	-	-	-
1400	Collection of Soil Wast Wheel Capacity 100lit	nos	4.00	4.00	4.00	12.00				-	-	-	-	-	-	-	-	-	-	-	-
1401	Supply of pvc 120 Lit capacity Waste bin with Permanent structure .The Size of the bin is height -915 mm and width 410mm and handle with cover including tax or its equivalent of ISI make with Green,Blue colours as directed by the Engineer - in -charge.	nos	8.00	4.00	16.00	28.00				-	-	-	-	-	-	-	-	-	-	-	-
1402	Supply of pvc 660 Lit capacity Waste bin with Permanent structure .The Size of the bin is height -915 mm and width 410mm and handle with cover including tax or its equivalent of ISI make with Green,Blue colours as directed by the Engineer - in -charge.	nos	2.00	2.00	2.00	6.00				-	-	-	-	-	-	-	-	-	-	-	-
	<b>Sub Head 60 : Hospital Furniture</b>									-	-	-	-	-	-	-	-	-	-	-	-



SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1403	Supplying and fixing of Matrix Lounge Chair as per the following specifications. DIVANO LITE/TANDEM PUBLIC 4 SEATER/TANDEM SEATING/2290L X 720W X 800H, Seat Perfo - 1.2 mm thk, Seat Bracket - 1.2 mm, Back Perfo - 1.2 mm, Back Bracket- 1.2 mm, Seat Clamp & Back Clamp- 4.0 mm, Solid Center beam- 2.0 mm, Handle- 1.2 mm, Handle Bracket- 2.0 mm, Leg- 1.2 mm, Leg Plate- 4.0 mm, Leg Bush-2.0 mm, Leveller Cup - 0.6 mm. The above entire unit shall be manufactured as per specifications ,Line Sketches & as per the approval of the Engineer-In-Charge.The rate including all material, labour, taxes, transportation etc to complete.	nos	318.00	226.00	132.00	676.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1404	Supplying and fixing of Chair as per the following specifications.Nexa Chair with foam seating, pushback mechanism, fixed armrest and 50mm twin-wheel Nylon castors mounted on 600 dia Nylon base. Chair back is ergonomically designed , made of Hot pressed Plywood and PU foam of density 50-55 kg/m³and upholstered with 100% Polyester Fabric. The above entire unit shall be manufactured as per specifications ,Line Sketches & as per the approval of the Engineer-In-Charge.The rate including all material, labour, taxes, transportation etc to complete.	nos	209.00	197.00	95.00	501.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1405	Supplying and fixing of Table as per the following specifications. Main Table 1200Lx6000Dx750H, Pedestal - 400W x 450D x 675H, TABLETOP & GABLE END to be made of 25 mm thick Prelaminated particle board with machine pressed PVC edge band on all sides.MODESTY PANEL @725H to be made of 18 mm thick Prelaminated particle board with machine pressed PVC edge band on all sides. Pedestal - TOP: 18mm Thick Prelaminated Partical Board with 2MM PVC edge band on all edges. CARCASS (Body/ Shutter / Back) : 18MM thick Prelaminated Partical Board with PVC edge band on all exposed edges. HARDWARE : Hettich Hinges, Lock. The above entire unit shall be manufactured as per specifications, Line Sketches & as per the approval of the Engineer-In-Charge. The rate including all material, labour, taxes, transportation etc to complete.	nos	150	166.00	45.00	361.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1406	Supplying and fixing of Table as per the following specifications. Main Table 1200Lx750Dx750H, Side Combo Storage 1050Lx450Dx750H, TABLETOP & GABLE END to be made of 25 mm thick Prelaminated particle board with machine pressed PVC edge band on all sides.MODESTY PANEL @725H to be made of 18 mm thick Prelaminated particle board with machine pressed PVC edge band on all sides. STORAGE - TOP: 25mm Thick Prelaminated Partical Board with 2MM PVC edge band on all edges. CARCASS (Body/ Shutter / Back) : 18MM thick Prelaminated Partical Board with PVC edge band on all exposed edges. SHELF : made of 18MM thick Prelaminated Partical Board with PVC edge band on al edges SHUTTERS : Lockable Swing shutters with Flush Handle / Finger Groove handle. HARDWARE : Hettich Hinges, Lock The above entire unit shall be manufactured as per specifications, Line Sketches & as per the approval of the Engineer-In-Charge. The rate including all material, labour, taxes, transportation etc to complete.	nos	64	48.00	23.00	135.00				-	-	-	-	-	-	-	-	-	-	-	-	-

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			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1407	Supplying and fixing of Chairs as per the following specifications. MID BACK SIZE shall be in 60.0 cm. (L) x 60.0 cm (B) x 100.0 cm. (H) & SEAT HEIGHT shall be in 50.0 cm (SH) (Adjustable). The seat and back shall be made up of 1.2 cm. thick hot-pressed plywood, upholstered with fabric and moulded Polyurethane foam, together with moulded seat and back covers. The back foam is designed with contoured lumbar support for extra comfort. The Polyurethane foam is moulded with density of 45 +/- 2 kg/m and Hardness of 20 +/- 2 on Hampden machine at 25% compression. The armrest top should be made of moulded polyurethane (Polyurethane) and mounted on to a drop lift height adjustable type Mild Steel tubular armrest support chrome plated. The armrest height should be adjustable up to 6.5cm in 5 steps & also should have swivel adjustment on both sides. The Knee tilt synchro mechanism should be designed with the following features - 360° revolving type, Tilt tension adjustment, 4-position locking with anti-shock feature, Seat back tilting ratio of 1 :2 (11 ° Seat Tilt /22° back tilt).The backrest consists of a sliding up down mechanism, which should be adjusted in the range of 7.5 cm and should be locked in 4 positions for correct position of lumbar support.The pneumatic height adjustment has an adjustment stroke of 9.0 cm.The twin wheel castors shall be injection moulded in black Nylon. The above entire unit shall be manufactured as per specifications, Line Sketches & as per the approval of the Engineer-In-Charge. The rate including all material, labour, taxes, transportation etc to complete.	nos	102	55.00	28.00	185.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1408	<b>Supply and Fixing of Chair For Visitors</b> Dimensions: 60.90 Lx 64.20 D x 98.20 H x 44.80 seat Ht. in CM Frame Tubular Stain less Steel High Density Polyurethane Foam combined with Premium Leatherette, Sturdy PU Soft Arms. Seat and back rest with comfort cushion Legs with Nylon heavy duty bushes Certificates: ISO 9001, BIS/CE The above entire unit shall be manufactured as per specifications, Line Sketches & as per the approval of the Engineer-In-Charge. The rate including all material, labour, taxes, transportation etc to complete.	nos	242	216.00	80.00	538.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1409	Supplying and fixing of Writing Pad Chair as per the following specifications.The seat shall be made of moulded Polyurethane foam and 12mm thick Recycled composite board upholstered with replaceable fabric cover. The back shall be made of MS tubular frame insitu moulded with Polyurethane foam and upholstered with fabric/Leatherite cover. Chair size shall be in 55.0 cm. (B) x 60.0 cm (L) x 90.0 cm. (H) & SEAT HEIGHT shall be in 42.0 cm (SH) (Fixed). The Polyurethane foam is moulded with density = 45 ±2 kg/m3 and Hardness for back foam is 16 (+0/-2) & that for seat foam is 20 (+/-2) at 25% compression. Armrest has a two piece construction and is mounted on to the tubular frame structure. It is injection moulded in talc filled PP. The powder coated tubular frame structure shall be made of 48 mm x 18.5 mm x 2.5 mm thk M.S. ERW oblong tube. The above entire unit shall be manufactured as per specifications, Line Sketches & as per the approval of the Engineer-In-Charge. The rate including all material, labour, taxes, transportation etc to complete.	nos	136	216.00	24.00	376.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1410	Supplying and fixing of Waiting Saba 2 Seater as per the following specifications. Three seater Sofa Set size shall be in seat height 860 mm, Seat width 600mm, Length of seater 1300mm and seat height 400 mm. Base Frame shall be made of Dymetrol stretchable fabric (100 S), M.S. pipe Legs made of Rubber wood, P.U. Foam (Hardness 20, Density 45 kg/ cubic m) &18 mm thick partical board. armrest shall be made of Lining cloth cover placed on moulded P.U. Foam. (Hardness 20, Density 45 kg/cubic m) M.S. pipe, Recron fibre ( 200 grade-chemical bonded). Backrest shall be made up of Lining cloth cover placed on moulded P.U. Foam. (Hardness 14, Density 45 kg/cubic m) M.S. pipe - Recron fibre ( 200 gradechemical bonded). Seat shall be made up of cloth cover placed on moulded P.U. Foam. (Hardness 20, Density 45 kg/cubic m) Recron fibre (200 grade-chemical bonded). The above entire unit shall be manufactured as per specifications, Line Sketches & as per the approval of the Engineer-In-Charge. The rate including all material, labour, taxes, transportation etc to complete.	nos	4	8.00	9.00	21.00				-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
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										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1411	Supplying and fixing of Centre Table as per the following specifications. 600Lx600Dx420HT, Top: Table Top with rectilinear form with rounded boundaries and chamfered edges give it crisp and formal visual appearance. 12mm thick black tinted or toughened Glass top is scratch resistant.Understructure: 12mm MS rod or SS (202 GRADE) rod. Understructure provides structural stability with a lighter look to the entire product. The above entire unit shall be manufactured as per specifications ,Line Sketches & as per the approval of the Engineer-In-Charge.The rate including all material, labour, taxes, transportation etc to complete.	nos	3	3.00	8.00	14.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1412	Supplying and fixing of Table as per the following specifications. TABLETOP & GABLE END made of 25 mm thick Prelaminated particle board with machine pressed PVC edge band on all sides. MODESTY PANEL @725H made of 18 mm thick Prelaminated particle board with machine pressed PVC edge band on all sides.PRELAM 3 DRAWER (2B+1F) PEDESTAL UNIT 400Wx450Dx670H (With Castor) - madeup of 18mm thick Prelaminated Particle Board with PVC Edge band and the telescopic slides for mobility of drawers and filers. The drawer is made up of 0.7 mm thick CRCA steel. with Centre Locking Mechanism considered. Side Finger Groove Handle is considered. STORAGE - TOP: 25mm Thick Prelaminated Partical Board with 2MM PVC edge band on all edges. CARCASS (Body/ Shutter / Back) : 18MM thick Prelaminated Partical Board with PVC edge band on all exposed edges. SHELF : made of 18MM thick Prelaminated Partical Board with PVC edge band on al edges SHUTTERS : Lockable Swing shutters with Finger Groove handle. HARDWARE : Hettich Hinges, Lock The above entire unit shall be manufactured as per specifications, Line Sketches & as per the approval of the Engineer-In-Charge. The rate including all material, labour, taxes, transportation etc to complete.	nos	2	3.00	2.00	7.00				-	-	-	-	-	-	-	-	-	-	-	-	
1413	Supplying and fixing of Chairs as per the following specifications. MID BACK SIZE shall be in 60.0 cm. (L) x 60.0 cm (B) x 100.0 cm. (H) & SEAT HEIGHT shall be in 50.0 cm (SH) {Adjustable}. The seat and back shall be made up of 1.2 cm. thick hot-pressed plywood, upholstered with fabric and moulded Polyurethane foam, together with moulded seat and back covers. The back foam is designed with contoured lumbar support for extra comfort. The Polyurethane foam is moulded with density of 45 +/- 2 kg/m and Hardness of 20 +/- 2 on Hampden machine at 25% compression. The armrest top should be made of moulded polyurethane (Polyurethane) and mounted on to a drop lift height adjustable type Mild Steel tubular armrest support chrome plated. The armrest height should be adjustable up to 6.5cm in 5 steps & also should have swivel adjustment on both sides. The Knee tilt synchro mechanism should be designed with the following features - 360° revolving type, Tilt tension adjustment, 4-position locking with anti-shock feature, Seat back tilting ratio of 1 :2 (11 ° Seat Tilt /22° back tilt).The backrest consists of a sliding up down mechanism, which should be adjusted in the range of 7.5 cm and should be locked in 4 positions for correct position of lumber support.The pneumatic height adjustment has an adjustment stroke of 9.0 cm.The twin wheel castors shall be injection moulded in black Nylon.	nos	13	20.00	18.00	51.00				-	-	-	-	-	-	-	-	-	-	-	-	
	The above entire unit shall be manufactured as per specifications, Line Sketches & as per the approval of the Engineer-In-Charge. The rate including all material, labour, taxes, transportation etc to complete.																					

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1414	<b>Supply and Fixing of Chair For Visitors</b> Dimensions: 60.90 Lx 64.20 D x 98.20 H x 44.80 seat Ht. in CM Frame Tubular Stain less Steel High Density Polyurethane Foam combined with Premium Leatherette. Sturdy PU Soft Arms. Seat and back rest with comfort cushion Legs with Nylon heavy duty bushes Certificates: ISO 9001, BIS/ CE The above entire unit shall be manufactured as per specifications, Line Sketches & as per the approval of the Engineer-In-Charge. The rate including all material, labour, taxes, transportation etc to complete.	nos	37	0.00	5.00	42.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1415	Supplying and fixing of Meeting Table 15seater as per the following specifications. TABLETOP & GABLE END made of 25 mm thick Prelaminated particle board with machine pressed PVC edge band on all sides. MODESTY made of 18mm thick Prelaminated particle board with machine pressed PVC edge band on all sides. WIRE MANAGEMENT The Vertical (snake) & Horizontal(Switch mounting box) wire carriers are placed below worktop, made up of CRCA with Powder Coating & Fixed to the understructure with specially designed brackets. Provision of placing switch plates in the cable tray which is easily accessible through a Access Flap (450L) . The above entire unit shall be manufactured as per specifications, Line Sketches & as per the approval of the Engineer-In-Charge. The rate including all material, labour, taxes, transportation etc to complete.	nos	5	5.00	1.00	11.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1416	Supply and Fixing of Chair For Visitors Dimensions: 60.90 Lx 64.20 D x 98.20 H x 44.80 seat Ht. in CM Frame Tubular Stain less Steel High Density Polyurethane Foam combined with Premium Leatherette. Sturdy PU Soft Arms. Seat and back rest with comfort cushion Legs with Nylon heavy duty bushes Certificates: ISO 9001, BIS/ CE The above entire unit shall be manufactured as per specifications, Line Sketches & as per the approval of the Engineer-In-Charge. The rate including all material, labour, taxes, transportation etc to complete.	nos	12	0.00		12.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1417	<b>Supply and Fixing of L Angular Rack</b> Size: 2130 (H) X 1080 (W) X 380 (D) mm Rack with 5 Compartments of 6 nos. of shelves. Distance between each shelf will be 410 mm. These 6 shelves should be hanging arrangement (adjustable). Racks shall be manufactured from Slotted M.S angle 14 SWG. Shelves shall be manufactured from 18 SWG thick sheet. The rack shall be assembled with G I bolt, nuts and washers. Slotted angle and M.S sheet shall be made of cold rolled with anti-rust treated and shall be finished with powder coating (color: Prince Gray). H/D Rubber bushes shall be provided to the bottom of legs of slotted angle racks. The quality of M.S sheet which is used for racks shall be free from any defects, Undulations, and old paints and surface corrosion, etc. Certificates: ISO 9001, BIS/CE The above entire unit shall be manufactured as per specifications, Line Sketches & as per the approval of the Engineer-In-Charge. The rate including all material, labour, taxes, transportation etc to complete.	nos	393	239.00	158.00	790.00				-	-	-	-	-	-	-	-	-	-	-	-	-

SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1418	<b>Supply and Fixing of ALMIRAH SS</b> 1 Internal Size of Almirah: 1850 (H) X 900 (W) X 450 (D) mm 2 Leg Size of Almirah: 150 (H) X 120 (W) X 450 (D) mm 3 Rack with 5 Compartments. 4 Distance between each shelf will be 360 mm. 5 These 4 shelves should be hanging arrangement (adjustable). 6 One shelf should have internal door and lock 7 Standard lock and 2 sets of keys. 8 The thickness of the Almirah sheet shall be 18 SWG. 9 The body of the Almirah shall be manufactured from cold rolled MS sheet (C. R. Sheet) with Antirust treatment and shall be finished with powder coating The quality of used M.S sheet for making Almirah shall be free from any pitting and corrosion etc. 10 H/D Rubber bushes shall be provided to the bottom of legs of Almirah. Certificates : ISO 9001 and BIS/Notified CE The above entire unit shall be manufactured as per specifications, Line Sketches & as per the approval of the Engineer-In-Charge. The rate including all material, labour, taxes, transportation etc to complete.	nos	33	51.00	17.00	101.00				-	-	-	-	-	-	-	-	-	-	-	-	-
1419	<b>Supply and Fixing of Almirah with glass door</b> Steel almirah with Toughened Glass Size: Height 1980mm, Width 915mm, Depth 480mm Mmanufactured from CRCA sheet conforming to IS 513-1994 grade D material. The CRCA sheet of uniform thickness and of 22 gauge for the body, 20 gauge for doors duly cut and bend with the help of CNC machines. The almirah shall be equipped with four fixed shelves, manufactured from 22 gauge CRCA sheet, thereby making five compartments in the Almirah. The steel shelf shall be capable of carrying a uniformly distributed load of 70kgms. Certification: Manufacturer should have ISO: 9001, BIS/ CE The above entire unit shall be manufactured as per specifications, Line Sketches & as per the approval of the Engineer-In-Charge. The rate including all material, labour, taxes, transportation etc to complete.	nos	33	50.00	15.00	98.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>BILL OF QUANTITY (MEDICINE STORE)</b>									-	-	-	-	-	-	-	-	-	-	-	-	-
1420	<b>Supply and Fixing of Attender stool</b> Approx. size:- 300mm square 18G double bent top of MS Height 510mm. Framework of MS press bent 25mm x 25mm x 3mm angles and 'C' channe riveted to angles made from 18G. MS CRCA sheet superimposed press bent argon arc welded top made from 0.6mm thick 304 grade S.S. sheet riveted with MS Drive on MS. Top. Legs fitted with PVC angle shoe Certificates : Manufacturer should have ISO:900, notified CE/BIS The above entire unit shall be manufactured as per specifications, Line Sketches & as per the approval of the Engineer-In-Charge. The rate including all material, labour, taxes, transportation etc to complete.	nos	37	41.00	20.00	98.00				-	-	-	-	-	-	-	-	-	-	-	-	-



SL. no	Description of Item	Unit	Quantity				Rate			Amount												
			TMCH	JMCH	DMCH	Total Quantity	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	TMCH			JMCH			DMCH			Total			
										INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	INR (in Figures only)	JPY (in Figures only)	USD (in Figures only)	
1	2	3	4	5	6	7=4+5+6	8	9	10	11=4x8	12=4x9	13=4x10	14=5x8	15=5x9	16=5x10	17=6x8	18=6x9	19=6x10	20=11+14+17	21=12+15+18	22=13+16+19	
1421	Supply and fixing of Nurse station table as per the drawing & detail. The whole structure is formed of 19mm thick ply finished with approved laminate. Table top is formed out of 19mm thick ply finished with laminate cladding on both sides. The Table to have twin level table top at 750mm & 1050mm level of approved laminte finish as per approval of the architect. The depth of table top at 750mm level is 500mm deep and table top at 1050mm level is 600mm deep. below 750mm to be provided with openable storages Counter top to be formed out of 19mm thick ply finished with approved laminate The table to have a 1 Nos of fully extendable drawer pedestal unit at every 2m intervals on ball bearing drawer guides and finished with laminate of approved colour and shade as per details. Drawer to be complete with hardware installed as directed to consist of the following: 1 no multi purpose lock as specified,100mm SS handle, keyboard tray, Space for CPU unit etc complete as per details and Architect's approval.All internal surfaces to be finished with 0.8mm thick balancing laminate of approved shade. Cost to include Borer/Antitermite treatment for wood/plywood Hardware: All hardware shall be as per the approved model/make mentioned in finishing schedule.	nos	277	224.00	77.00	578.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	The above entire unit shall be manufactured as per specifications, Line Sketches & as per the approval of the Engineer-In-Charge. The rate including all material, labour, taxes, transportation etc to complete.																					
	<b>Portable Security Shed</b>																					
1422	Supply and fixing of the Portable PU Guard Cabin has dimensions of 6 ft in length, 7 ft in height, and 4 ft in width. The walls are made of 30 mm thick plain sandwich PU panels with a density of 40 kg/m³, both sides covered with 0.40 mm TCT PPGI sheets. The roof is constructed from 30 mm thick trapezoidal sandwich PU panels, also with a density of 40 kg/m³ and 0.40 mm TCT PPGI sheets on both sides. The base frame and corner posts/cross rails are made of SHS as per IS 2062 Grade A. Electrical fittings include 1 LED tube light, a high-speed cabin fan, and 2 sets of 5 Amp switches and sockets. The entry door is 6.5 ft by 2.5 ft, made of 30 mm thick plain sandwich PU panels with a density of 40 kg/m³ and covered by 0.40 mm TCT PPGI sheets on both sides. There are three aluminium sliding windows, each measuring 900 mm by 900 mm, fitted with 4 mm Saint Gobain glass, rain shades, and external safety steel grills. All steel sections are painted with ROZC and finished with two coats of enamel paint. Lifting hooks are provided at all four corners for easy transport. The flooring is made of 1.3 mm thick PVC vinyl over steel sheets for added durability. The above entire unit shall be manufactured as per specifications, Line Sketches & as per the approval of the Engineer-In-Charge. The rate including all material, labour, taxes, transportation etc to complete.	nos	1	0.00	0.00	1.00				-	-	-	-	-	-	-	-	-	-	-	-	-
	<b>Total Bill no-8 Allied works</b>									-	-	-	-	-	-	-	-	-	-	-	-	-

## LIST OF APPROVED MAKES FOR MEDICAL GAS PIPELINE SYSTEM

S.No.	Item Description	List of Makes
1.	Medical Grade Copper Pipe	SAB INDIA/HELIX INDIA/AMBA MEDI NEX / Mex flow / Metal Gem / Cubex / Janya/ or Equivalent
2.	Gas Outlet Points/Terminal Unit	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe/ Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) / Pneumatech or Equivalent
3.	Matching Probe/adopter	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe/ Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) or Equivalent
4.	Area Valve Box	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe/ Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) Wika or Equivalent
5.	Medical Gas Alarm	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe/ Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) Amico or Equivalent
6.	Fully Automatic Oxygen Control System	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe/ Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA), Pneumatech or Equivalent
7.	Oxygen Manifold	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe/ Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) or Equivalent

8.	Emergency Oxygen Supply System	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe/ Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) or Equivalent
9.	Oxygen Flow meter with Humidifier Bottle	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe / Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) or Equivalent
10.	Ward Vacuum Units	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe/ AMICO/ Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) or Equivalent
11.	Nitrous Oxide Manifold	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe/ Pneumatech/ Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) or Equivalent
12.	Emergency Nitrous Oxide Supply System	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe/ Pneumatech/ Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) or Equivalent
13.	Duplex Medical Vacuum Plant	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe/ Atlas Copco / Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) or Equivalent
14.	Bacterial Filter	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe/ Johnson & Johnson / Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) or Equivalent
15.	Receiver	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe/ Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) or Equivalent

16.	Triplex Medical Air Plant	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe / Pneumatech / Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) or Equivalent
17.	Air Dryer	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe/ Atlas Copco / Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) or Equivalent
18.	4Stage Air Filtration	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe / Atlas Copco / Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) or Equivalent
19.	Pressure Reducing Station	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe / Atlas Copco / Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) or Equivalent
20.	Receiver of 3000liter	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe / Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) or Equivalent
21.	Lockable line Medical valves	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe / Wika /Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) or Equivalent
22.	Horizontal/Vertical Bed Head Panel	SAB INDIA/HELIX INDIA/AMBA MEDI NEX /Nippon Engineering Company/MDD Medical system/MPS/Medfeshe/ / Tri-Tech (USA) / Reanimed (Turkey) / Allied (USA) or Equivalent
23.	Anesthesia Gas Scavenging System (AGSS) Plant (Simplex) 520lpm	SAB INDIA/HELIX INDIA/AMBA MEDI NEX / RB/RN/SIM/AUDCO/MEDILINE or Equivalent